Running Head: ATTRIBUTIONS OF BLAME IN ADOLESCENT AGGRESSION

Attributions of blame in adolescent aggression: Targets and perpetrators

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Abstract

Attribution theories of blame, and findings from their application to domestic violence, were used to develop a model for third-party attribution of blame in adolescent aggression. Target and perpetrator blame were examined using a repeated measures vignette design, with provocation, type of aggression, and effects of gender of the observer and of the actors as factors, with predictions based on research in domestic violence. Attitudes towards victims were also examined. Provocation significantly affected blame attributed to both the target and the perpetrator. Type of aggression, gender of the observer and sex of the characters also influenced target and perpetrator blame when interacting with each other. Attitudes toward victims did not significantly affect levels of overall blame, although those holding more positive attitudes toward victims attributed less blame to targets across levels of provocation. Links to attribution theory and explanations based on attribution biases were discussed.

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Attributions of blame in adolescent aggression: Targets and Perpetrators

Adolescent aggression has become an increasingly significant problem in high schools. Aggression has been defined as a behaviour that is intended to cause harm (Perry, Perry, & Kennedy, 1992). Prinstein and Cillessen (2003) further broke down this definition of adolescent aggression to include various forms, including overt aggression (where the perpetrator verbally taunts, threatens or physically hurts others), relational aggression (where the use of friendships can harm or hurt others), and as reputational aggression (where the perpetrator attempts to tarnish another's social reputation by spreading rumours, or gossiping). Prinstein and Cillessen (2003) also explained that aggression can serve several functions: as an instrument to obtain something (i.e., to get what the perpetrator wants), in a reactive manner (i.e., when angered or upset by another individual), or in a bullying manner (i.e., to be mean or hostile to others). Bullying has been defined as an imbalance of physical and/or psychological power, through repeated aggressive acts with the intent to harm the victim (Fox & Boulton, 2003; Menesini, Codecasa, Benelli, & Cowie, 2003; Olweus, 1997). This aggressive behaviour takes many forms, including physical, psychological, emotional and more recently, electronic/cyber bullying (Menesini et al., 2003). Violent aggressive behaviour, including bullying, has been shown to have negative consequences for all parties involved, including the target, the perpetrator and the observers (Craig & Pepler, 2003). Problems such as anxiety, delinquency and later adult social problems have been identified as long term consequences of being a perpetrator and of being a target of aggression (Craig & Pepler, 2003)¹.

¹ In extreme cases, children have died due to involvement in bullying situations (e.g. Dawn-Marie Wesley, who committed suicide in British Columbia after being repeatedly psychologically and physically bullied;

Adolescent aggression can encompass a wide range of aggressive behaviours, including violence to property, or to other individuals. Bullying can be considered a subset of adolescent aggression, in that it is a form of interpersonal aggression (Prinstein & Cillessen, 2003). Given the small amount of literature in the area of adolescent aggression, but the wider attention paid to bullying behaviour, an exploration of some of the current bullying research was reviewed to further understand and develop research questions within the area of adolescent aggression.

A growing body of research has explored the roles played by children involved in episodes of school yard aggression, because aggression and bullying often occur within the peer group. Studies using naturalistic observations of bullying behaviour in school children have found that other individuals are present, providing an audience for the aggression in about 85% of bullying incidents (Hawkins, Pepler, & Craig, 2001). Studies examining the roles that peers play in bullying incidents have shown that there are six participant roles that children can play in the peer group: bullies, victims, reinforcers of the bully, assistants to the bully, defenders of the victim, and outsiders (who do not actively take part in bullying episodes, and pretend nothing is occurring) (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996). Naturalistic observations of children in the school yard have suggested that bullying was stopped within 10 seconds when observing peers intervened (Hawkins et al., 2001). Thus, the role of the observer can have a significant impact on the occurrence of schoolyard bullying and aggression although an understanding of the cognitive processes involved in how observers decide

Reena Virk, who was murdered in British Columbia by a group of bullies; and mass murders at schools in Littleton, Colorado perpetrated by two individuals who had been repeatedly bullied) (*B.C. girl convicted in school bullying tragedy*, 2002; *Columbine High School massacre*, 2006; *The murder of Reena Virk: A timeline*, 2005).

whether to intervene has not been examined thoroughly. How observers make judgments about aggression may influence their eventual decision to intervene or to withhold any action. Observers' feelings about the blameworthiness of the target or the perpetrator might play a role in this decision-making. O'Connell, Pepler and Craig (1999) speculated that observers of bullying may not want to intervene because the observers felt that the victim may have been to blame for the aggression, among other reasons.

Social psychological theories concerned with how observers attribute cause and blame, and related research including bullying and spousal abuse, were drawn upon to guide the present research. As previously discussed, evidence suggests that observers of bullying and adolescent aggression tend to have a significant impact on the continuance of an episode of aggression. Understandings of how an observer perceives such aggression and the factors which may influence observers' perceptions have not been studied in much detail, within the context of adolescent aggression. The study of what makes a target or a perpetrator of adolescent aggression is significant and of great importance, as well as research into ways to encourage bystanders to come to the assistance of a victim; there has been considerable research in these areas. In contrast, there have been few studies of the perceptions of observers of adolescent aggression. The way in which targets and perpetrators are perceived and attributed blame by observers of adolescent aggression was the focus of this thesis.

The most relevant research examining the attribution of blame of victims by non-involved parties arises in the domain of spousal abuse, including studies of how blame of the victim may prevent a bystander from intervening in a married couple's fight (Shotland & Straw, 1976), and how blame may play a mediating role in others provision

of help to victims of domestic violence (West & Wandrei, 2002). The application of these theories to the area of adolescent aggression and bullying has not yet been conducted systematically or comprehensively. Given the amount of literature linking blame attribution theory to spousal abuse (e.g. Bryant & Spencer, 2003; R. J. Harris & Cook, 1994; Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990) it may be useful to explore some of the methods used to investigate blame attribution in this area, to assess their applicability to adolescent aggression.

Similarities between spousal abuse and adolescent aggression allow a comparison of these two areas of interpersonal aggression, and the way they are studied. Some similar properties between these areas might include: repetition of the aggression, the parallels of a power differential between the target and perpetrator, and any factors implicated in the process of causal attribution and the assignment of blame. Another similarity is the reluctance of an observer to step in to stop the aggression. For this reason, turning to the research in blame attribution research in spousal abuse provides a suitable departure point for building the theoretical and methodological base in adolescent aggression blame attribution.

Models and Analogies in Science

In comparing two areas of aggression, the framework developed by Hesse (1966) for comparing models using analogies in science was used. Her focus was on physical sciences, but her analysis is equally relevant to social science. Hesse proposed that analogies are based on common and uncommon properties, which she called positive and negative analogies, respectively. For example, the common properties, or the positive analogies of the relationship between bullying and domestic violence involves the

presence of aggressive actions by the aggressor to their victims. Non-common properties, or the negative analogies of the relationship between bullying and domestic violence, might involve the group setting of a bullying incident, compared to the private, more intimate nature of spousal abuse, in short the closeness of the relationship. Another example of a negative analogy between domestic violence and bullying is the higher possibility for provocation in the relationship between spouses. These examples both have the potential to change the attributions made. Other negative analogies may be present, but irrelevant to the process of causal attribution.

To further illustrate her thesis, Hesse (1966) described analogies in terms of vertical and horizontal relations between the compared models. *Horizontal* relations between two models relate to their obvious and empirical similarities, as in the examples above. Hesse uses the example of an orange and the sun—both are round, what else do they have in common? The initial analogy encourages one to use what is known in one domain (domestic violence) to another about which less is known. *Vertical* relations refer to the causal relations of the factors involved in a more abstract, or general model. For example, the horizontal relations between incidents of adolescent aggression and of domestic violence refer to the similarities of two types of aggression, while the vertical relations refer to the similarities between the more abstract, general model, and the context in which it is applied (i.e., attribution theory has a vertical relation to causal attributions in domestic violence).

Furthermore, Hesse's framework can be used to apply a theory of attribution to the two areas of interpersonal aggression. There is a model for the attribution of blame to victims from attribution theory, which is relevant to domestic violence, and may also be

relevant to adolescent aggression. This model for the attribution of blame to domestic violence victims is more developed, and has received more attention and empirical testing than a model for adolescent aggression. By using the developed model from domestic violence attribution of blame research to inform the application of the theory of attribution of blame to adolescent aggression, we are attempting to expand the use of the theory of attribution to another area of interpersonal aggression. The two areas could hypothetically be linked by blame, forming a horizontal relation (See Figure 1).

By comparing the relationships between domestic violence and adolescent aggression, and by drawing parallels between these two different types of interpersonal aggression using Hesse's framework, the methods and findings from blame attribution research in domestic violence might be applied to adolescent aggression to explore how blame is attributed in this type of interpersonal aggression. Both of these settings, in turn, may be seen to be subsumed under a more general theory of attribution. Hesse's approach indicates that the causal relationships in any specific domain (domestic violence; adolescent aggression) will be the same as stated in the covering theory. A high proportion of relevant negative analogy between the two domains makes it unlikely that a more general theory is applicable to both domains.

A brief review of several related attribution theories will be presented, followed by a review of the research literature applying attribution theory to spousal abuse and to adolescent aggression and bullying.

Attribution Theory

Attribution theory has been defined as a group of theories about how a person interprets and explains events (Försterling, 2001). The various attribution theories

Figure 1. Comparisons of two areas of aggression using Hesse's framework

examine the psychological consequences of making such interpretations and explanations and are concerned with social perceptions (Försterling, 2001). *The Psychology of Interpersonal Relations* (Heider, 1958), became the basis for many subsequent theories of attribution (e.g., Kelley, 1973; Shaver, 1985; Weiner, 1995). Heider proposed a balance theory of causal inference, in which perceivers of an event attempt first, to assess possible causes for an event, including the person's actions as contributing factors to outcomes such as being targeted as a victim of bullying or spousal abuse. Heider argued that people are motivated to maintain cognitive balance between their ideals and behaviour by attributing the causes according to their social beliefs and ideologies. For example, as Kristiansen and Giulietti (1990) proposed, perceivers of domestic violence who held ideologies that were more pro-women would tend to blame and derogate the woman victim less than the abuser in order to maintain a balance in his or her own beliefs and actions. Heider also explained the nature of *responsibility* in terms of several levels, including association, causality, foreseeability, intentionality, and justifiability, which were expanded by Shaver (1985) in the development of his theory of the attribution of blame and responsibility, to be discussed.

Kelley (1973; Kelley & Michela, 1980) introduced the configuration concept, in which the perceiver bases his or her attribution on a set of conditions present at the time the effect occurs. Kelley framed these concepts in terms of causal schemata, or cognitive shortcuts, allowing individuals to make various inferences about causes and effects in the absence of all the information (Försterling, 2001). These discounting and augmentation principles form the basis of attributions when only one event has been observed. Kelley also addressed questions of attribution when there was extensive knowledge of the past

behavior of the actor, the other, and the observer, but this work (the covariation model) is not relevant to the case studied here, where there is only limited information on which to base decisions about cause, and blame. Kelley was interested in how persons and observers of the person's actions would apportion causal responsibility to factors external to the person, and those seen to be attributes of the actor; his models focus less on blame of causal factors, both internal and external.

Theories of Attributions of Blame

Attribution of blame. Shaver examined how one attributes blame and the processes involved in answering the questions “What is the cause of this event or action?” “Is anyone responsible for its occurrence?” and “Who is to blame for the event?” To answer these questions, one must first determine the cause of the event/action, whether the action was intentional, whether someone is responsible, and if someone is blameworthy.

The blame attribution process (BAP) begins with the judgment of whether the event is negative. Only in negative events is the attribution of blame applicable, since one is not generally ‘blamed’ for causing positive events, but rather, given credit (Shaver, 1985; Weiner, 1995). The attribution of blame is made by the actor, or observers² and many studies have examined the motivational and cognitive differences between the actor and observer (Fiske & Taylor, 1991; Jones & Nisbett, 1987; Kruger & Gilovich, 2004). However, the focus here is on the observer's cognitive processes and motivations in the determination of the causes of the event, as well as the subsequent judgment of responsibility, as these rely on interpretations of the events by an observer.

² For the purposes of this thesis, ‘actor’ refers to the person whose actions are being judged, and ‘observer’ refers to the third-party making the judgments.

Once an event has occurred, the perceiver determines whether the actor solely caused the outcome/event, or if the actor was one of several causes. If the actor was determined to be the cause of the event, responsibility for causing the event can be established (Shaver, 1985). How much the actor is blameworthy depends on the observer's judgment of how significant a role the actor played in causing the outcome. The level of causality is thought to vary with the amount of personal involvement in the event, and follows a continuum of four successive levels of causality:

- (1) Association, where the attribution takes place even if the actor did not directly cause the outcome, for example, the responsibility attributed to a parent for the action of his or her child;
- (2) Causality, where it is determined if the actor was connected to the outcome;
- (3) Foreseeability, where the actor, or a reasonable person, was aware, or should have been aware, of the consequences of his or her actions; and
- (4) Intentionality, where the actor was intending the action to occur, or was trying to bring about the event (Shaver, 1985).

At the level of causality, discounting principles (Kelley, 1973) apply in determining the role the actor played in causing the event, in that the perceiver will discount other factors or explanations that may have contributed to the event if the actor is perceived as being either the sole cause of the event, or as part of a subset of multiple causes. If the actor is perceived to have been the most responsible for the event, the other potential contributing factors involved in the event would be *discounted*, and the actor determined to be the cause. Augmentation principles (Kelley, 1973) apply in the level of foreseeability, where the perceiver judges whether the actor had, or should have had,

knowledge of the consequences of his or her actions. The perceiver would take into account inhibitory and facilitative interferences of the cause of the event when making judgments about the actor. If both types of interference are present in the cause of the event, the perceiver would weigh them to determine which was stronger in producing the outcome (Fiske & Taylor, 1991). If the actor intended the event, (a facilitative interference), then the degree of accountability would be *augmented*, because he/she knew the negative consequences of the action. If the actor did not know but should have known the consequences (an inhibitory interference), but did not consider them before acting, then the augmentation principle would imply that the degree of responsibility and/or blame would be reduced. Only if the actor was perceived to have intended the outcome, can a perceiver determine which dimension of responsibility (described below) applies to the event (Shaver, 1985).

Following a determination of the level of *causality*, a decision about the dimension of *responsibility* is reached, using Heider's (1958) dimensions of responsibility. The four dimensions of responsibility include:

- (1) Knowledge of the consequences, where the actor is perceived to have either known or should have known the consequences of his/her actions;
- (2) Intentionality, where the actor is judged to have had knowledge of the consequences of his actions, as well as to have intended the outcome;
- (3) Coercion, where judgment is made as to whether the actor was acting voluntarily, or was coerced into performing the action (or failing to act); and
- (4) Appreciation of the moral implications, where the actor is judged according to whether he or she had the capacity to appreciate the implications of his or her actions

(Shaver, 1985). For example, young children are often considered incapable of foreseeing the consequences of their actions, and as not having the capacity for mature moral consideration of the goodness or badness of an act.

Depending on which level of responsibility is determined, negligence, responsibility, or blame would be attributed to the actor. Negligence would be attributed if the actor had knowledge, or should have had knowledge of the consequences, but may not have intended the outcome. Responsibility, but not blame would be attributed if the actor intended the outcome, and varying degrees of responsibility would follow depending on whether the actor was coerced or acted voluntarily, and had the capacity to appreciate the consequences of the action. The perceiver would then determine whether the actor is perceived to have justification for the action, or an excuse for the action. Should the perceiver decide to accept the excuses or justifications, then the actor would be attributed responsibility, but not blame. Where the perceiver does not accept the excuses or justifications, then the actor would be attributed as the cause, as responsible, and ultimately, to blame for the event.

Shaver's (1985) model for the attribution of blame is not without some limitations. The type of attribution described would have to be an ideal situation, where the perceiver would have available each of the dimensions required by the model, but this is not always the case. Further, the model does not account for any other types of information that may influence the perceiver's ultimate attribution, such as preconceived attitudes, or any of the attribution errors and biases (Shaver, 1985). Nevertheless, this model does describe the process by which an ideal observer would reach a conclusion about the blameworthiness of a perpetrator of a negative act; by determining whether the

perpetrator was the cause of the event, by determining whether the perpetrator intended the outcome, and thus should be assigned blame. Empirical findings suggest that *victims* of aggression, however, are often perceived as “responsible” or “blameworthy” for their treatment, despite not meeting the conditions of causality, including lack of knowledge, intentionality, or foreseeability. This finding does not conform to the empirical findings.

The nature of adolescent aggression involves negative actions and events, in which observers are often present. Shaver’s theory of blame can thus be applied to these situations, to explain how an observer might determine whether a perpetrator is blameworthy, or whether the blame lies elsewhere (e.g., the target). The levels of causality, where an observer makes a judgment of who is the *cause* of an aggressive event, and the levels of responsibility, where an observer makes a judgment of who is *responsible* for the aggressive outcome, play a role in how an observer would make a judgment of who is to blame and to what degree. Depending on the nature of the aggression or whether the perpetrator was perceived to have been provoked, blame and/or responsibility may be attributed to either the perpetrator or to the target of the aggression. Shaver’s theory of attribution of blame offers an explanatory framework for how one might reach a decision about who is to blame in cases of aggression, by explaining the cognitive processes an observer undergoes when making such a determination. The degrees of responsibility, especially in relation to the Knowledge and Intentionality elements of the BAP, might play an important role in how an observer makes an attribution of blame when presented with limited information.

Judgments of responsibility. Another perspective on the attribution of blame comes from Bernard Weiner (1995). This theory of social conduct and judgments of

responsibility proposed an alternative process for determining attributions of responsibility, and consequently, blame. Whereas Shaver and other theorists believed that responsibility must be determined prior to blame attribution, Weiner believed that the two are not distinct concepts, but are inherently linked, based on the magnitude of the consequences of the action, and on the emotional repercussions of the act (i.e., blame involves a negative emotional outcome, while responsibility involves a neutral emotional outcome).

In a further development of attribution theory to deal more directly with responsibility and blame, Weiner (1995) argued for six distinctions in the process of making a judgment about responsibility. They were separated into antecedents of the action, and consequences of the action, upon which basis the judgment of responsibility is formed. The first distinction an observer would encounter was described as Personal vs. Impersonal Causality. The judgment of responsibility requires that the outcome resulted from the actions, or inactions of a human agent, thus a personal cause. The second distinction described Controllability vs. Uncontrollability. In order to be judged as responsible for an action, the cause must include something within the control of the actor, in other words, something that the actor could willfully have changed. The third distinction was described as Causal Controllability vs. Responsibility. In this distinction, the cause is judged to have been something that could have been controlled by a person, while responsibility refers to the moral judgment about the person involved, that he or she “should have” or “ought to have” done something differently (Weiner, 1995). In this distinction, the judgment that the actor was responsible depends on whether there were any mitigating circumstances which would reduce the moral responsibility of the action.

Should mitigating circumstances be found, the actor would not be judged as responsible for the action. In essence, it would be possible for a negative event to be judged as the result of a personal action (or inaction), to have been controllable, and yet the judgment of responsibility would not be attributed to the actor due to mitigating circumstances that explain his or her actions.

The fourth distinction following the judgment of Responsibility involves the distinction between Intention and Negligence. In this distinction, the judgment includes the determination of whether the controllable act was intentionally produced, or due to negligence. If the action was committed intentionally, the judgment of responsibility would be harsher than if the action was produced as a result of someone failing to foresee the potential consequences of his/her actions.

Weiner's fifth and sixth distinctions move from judgments about the antecedents of the negative outcome, to the consequences of the judgments of responsibility. The fifth distinction describes Responsibility vs. Blame. As previously mentioned, responsibility is affectively neutral, while blame implies a negative emotional connection (Weiner, 1995). Moreover, blame is influenced by the severity of the consequences of the action. For example, a child who broke a cookie jar would be judged as less blameworthy than another child who broke a cookie jar and lied about it. Weiner's sixth distinction involves Blame vs. Anger. Weiner believed that judgments of responsibility can not be separated from the emotions of anger and sometimes sympathy and these emotions mediate the perception of responsibility and consequently, blame. In this regard, Weiner's theory differs from those of prior attribution theorists, including Shaver, in that responsibility is not a precursor to blame, but blame is intrinsically linked to the

emotions used in determining the degree of responsibility. It can be argued that the attitudes of a perceiver, which often have emotional ties, might affect the judgment of responsibility and blame, as the attitudes of the perceiver are likely linked to his or her emotions.

Weiner's (1995) theory of the judgment of responsibility offers an additional explanation for how an observer perceives a negative event, including an aggressive act. In the distinction between Responsibility and Blame, the observer evaluates the severity of the consequences of the action. In adolescent aggression, the way that a perpetrator carries out his/her aggression might be perceived as more severe than another way, for example, physically aggressive actions vs. socially aggressive actions. At this level, Weiner's theory may help to explain how differing types of aggression are perceived in terms of severity of the consequences. Additionally, Weiner's intrinsic link of judgments of responsibility and/or blame to emotions may explain why a perceiver might make a different judgment than another perceiver about an aggressive event, based on prior experience with similar aggressive events, preconceived attitudes towards targets and/or perpetrators, or other values.

Correspondent Inference Theory. In earlier work in the attribution tradition, Jones and Davis (1965) developed the theory of correspondent inferences, where an observer takes into consideration the typical traits and behaviours of an actor's behaviour (or of someone representing a particular group, e.g., females) in order to make inferences about an action, such as who might have caused the action, whether the observer intended the outcome, or how much to blame the actor may be for the event. If the actor's behaviours and traits are inconsistent with the typical behaviour of the actor, an observer might make

a correspondent inference about that person's intent or disposition, since the behaviour does not correspond with the stereotype of "normal people", or "people like this" (Jones & Davis, 1965). An observer would assign intention and disposition to the actor in order to understand the actor's actions. Jones and McGillis (1976) described two ways that correspondent inferences can be drawn: category-based, or target-based. In category-based inferences, the observer would use knowledge that he or she had regarding the category to which the actor belonged (e.g., male, female; old, young; etc.). An observer would use information about how one might act if he or she were from a particular category to make an attribution decision about an event. Kelley's (1973) covariation principles of consistency, consensus and distinctiveness, which traditionally apply to situations where an individual is judged on several observations, apply where attributions are made based on single observations, and have links with Jones and Davis' correspondent inferences theory. The observer of a single event might use Kelley's configuration concept when making judgments about an actor based on stereotype expectations, or expected behaviour of the category to which the actor belongs, thus making correspondent inferences about that individual from expected behaviours of the actor's category. If the actor behaved in a manner inconsistent with behaviours consistent with his or her category, a correspondent inference would be made about that person's traits from his or her behaviour. If the behaviour was very inconsistent with the expected behaviours of someone in that category, the correspondent inference might result in more extreme attributions about that person's disposition (Jones & McGillis, 1976).

When individuals act inconsistently from behaviour expected of someone in that group, observers may make stronger attributions about that person's disposition and consequently his or her intentions or knowledge of those intentions. Research has supported the correspondent inferences theory, showing that perceptions by observers about the disposition of an actor are influenced by the social categorizations of the actor (Fiske & Taylor, 1991; Jones & McGillis, 1976; Jones & Nisbett, 1987; Silvera, Moe, & Iversen, 2000). The underlying assumption is that some feature of the individual "must have" caused him or her to go against countervailing forces which would have prevented the action. In this way, Jones and McGillis' work is similar to Kelley's causal schema model, where personal causation is augmented if the person acts against other forces in the opposite direction. However, the former makes more provision for the sources of information taken into account in judging behaviour as unusual, inconsistent, and so on.

Jones and Davis's (1965) theory of correspondent inferences, and the extensions made to the theory by Jones and McGillis (1976) are useful in explaining why an observer might attribute more blame to a target or perpetrator who acted inconsistently from the expected behaviour of someone in that role. Here, expectations are category based. As an illustration, in studies of domestic violence that examined blame attributions to the perpetrator when the abuser was a woman and the victim was her husband, the inconsistent behaviour of both the female abuser and the male victim may have influenced an observer's decision about who to attribute more blame to, with more blame attributed to the male victim than to the female perpetrator. Harris and Cook (1994) examined the attribution of blame to spouse abusers by comparing how male wife-abusers were perceived compared with female husband-abusers, and same-sex

partner abusers. Spousal abuse with male victims (husband abuse or same-sex partner abuse) was perceived as less violent and less serious than spousal abuse with a female victim, the more typical abuse situation. The abusive wife was considered less responsible for the abuse and less likely to have acted similarly in the past than abusive husbands, and the abused husband was actually perceived as more responsible for the abuse than the abused wife (R. J. Harris & Cook, 1994). It may be possible that in this case, the inconsistent behaviour of the male victim may have elicited correspondent inferences about his behaviour and consequently more blame and more responsibility were attributed to him.

Attribution Errors and Biases

Attribution theories have been elaborated upon since Heider (1958) initially set out to explain how third-party observers explain and interpret how other people behave. The additions of the covariation model (Kelley, 1973), the theory of correspondent inferences (Jones & Davis, 1965) and the extension to the areas of blame and responsibility (Shaver, 1985; Weiner, 1995), expanded the theory to further explain how observers reach judgments about an actor. These additions do not fully complete the theory, and application of the theory does not apply evenly to all behaviours (Fiske & Taylor, 1991). Partly in response to accumulating evidence that people do not routinely act as unbiased, systematic information processors (Erickson & Krull, 1999; Jones & Harris, 1967; Jones & Nisbett, 1987; Ross, 1977; Yost & Weary, 1996), several researchers offered accounts that allowed for “less than perfect” processes of inference, and the biases that might distort or cloud the attribution process. These biases may have significant effects on the way blame is attributed, especially in social realms, such as the

perceptions of blame in interpersonal aggression. In the current research, it may be that some of these biases might influence how actors (perpetrators or targets of adolescent aggression) are perceived by an observer. Prior beliefs about targets and/or perpetrators may influence an observer's judgments of blame in aggressive encounters, as might prior experiences with similar situations.

Many of the attribution biases draw on similar aspects of the theory of attribution, but most of the proposed biases can be considered as variations on the themes of the cognitive miser and motivational biases (Kruglanski & Ajzen, 1983; Miller & Ross, 1975). Most relevant to this thesis is the *cognitive miser* model, which proposes that perceivers who do not have the full amount of information to make an accurate attribution use cognitive shortcuts to draw a conclusion. This may affect the outcome of the attribution of blame, and may contribute to errors in attribution by the perceiver (Fiske & Taylor, 1991; Jones & Davis, 1965; Jones & McGillis, 1976; Kelley, 1973; Ross, 1977; Shaver, 1985; Weiner, 1995). Specifically, the cognitive miser might judge blame of a victim on the basis of pre-conceived attitudes or stereotypes, or previous experiences with other victims.

Attributions by third-party observers tend to follow a similar pattern, especially when dealing with only one observed instance, as is the case when an observer encounters adolescent aggression. Variations in how observers makes judgments about responsibility or blame of the targets and/or perpetrators might result from these biases, which could be related to features of the perceiver, such as gender and attitude, or to features of the situation, such as provocation or type of aggression (Fiske & Taylor, 1991). Several biases, to be discussed, have been explored in domestic violence research

as explanations for how blame is attributed to the target or perpetrator accounting for some of the features of the perceiver or the situation, (Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990). By examining the effects of these biases on how blame attributions are made in domestic violence, and given the similarities between domestic violence and adolescent aggression, previously discussed, the following biases may also inform how blame might be attributed to targets and perpetrators of adolescent aggression.

Shaver (1970) presented a hypothesis concerning *defensive attribution*, attempting to explain how not all observers would attribute responsibility to victims of an accident in the same way. Shaver proposed that observers would try to differentiate themselves from the victim when making judgments about responsibility for an outcome. The more similar the observer perceives him/herself to be to the victim, the less he/she will attribute responsibility and blame to that similar victim, because the observer does not want to be found blameworthy should he/she find him/herself in a similar situation in the future (Shaver, 1970). This theory was originally developed using the victim of an accident as the cause of the event to be attributed. Nevertheless, this theory has been applied to situations of blame in aggression as well, in that women who have the potential to become victims of domestic violence might attribute less blame to a victim in a given situation, for fear that she would be similarly judged should she ever be in that situation (e.g., Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990). An extension of this logic may be applicable to adolescent aggression, where an observer might be concerned about his/her potential of being blamed for a similar situation, thus he/she would blame the target less when he/she is similar to the observed target.

In contrast, Lerner (1980) proposed the Just-World Hypothesis, suggesting that people like to see the world as a controllable place where people get what they deserve (i.e., good things happen to good people, and bad things happen to bad people). When perceiving others, observers would attribute negative outcomes/events to something that the actor had done to deserve such fate. If negative events occurred randomly, there would be no sense of control, so the just-world belief leads perceivers to blame the other person's actions for leading to the event (Fiske & Taylor, 1991). In cases of interpersonal aggression, often a target is perceived to have done something to deserve the aggressive outcome, thus he/she is getting what he/she deserves (Baldry, 2004; Dutton, 1995; Hillier & Foddy, 1993). Similarity, where it can be avoided, is minimized, and blame of the victim has no predictive value for the observer, who "would not act like that".

The correspondence bias, also known as the fundamental attribution error (Fiske & Taylor, 1991), relates to the tendency for people to favour dispositional factors to explain an actor's behaviour, even when there might be equally relevant situational factors that might also explain the behaviour (Van Boven, Kamada, & Gilovich, 1999). Gilbert and Malone (1995, p. 24-25) explained that if the observer does not have complete knowledge of the situations in which the actor is acting, the correspondence bias may contribute to a fundamental attribution error. For example, if an individual has been repeatedly abused by his/her spouse, an observer may not have that information when observing an isolated incident of spousal abuse, and may attribute more blame to the party who was less blameworthy overall. Where the observer has inflated categorizations of behaviour of a particular group or type of person, the observer's

expectations for the behaviour may influence how the actor's actual behaviour is compared to these expectations (Gilbert & Malone, 1995). If the behaviour of a target and/or a perpetrator does not conform to an observer's expectations of how the target or perpetrator should act, the correspondence bias may influence how the observer attributes blame.

These attribution errors may influence the way that one examines an effect and attributes blame and responsibility (Försterling, 2001). Stereotypes held by the observer tend to direct the interpretation of social information, so certain attitudes held by the observers would presumably cloud the attribution process and thus influence the judgment of responsibility and blame (Fiske & Taylor, 1991). When an observer is presented with limited information about an aggressive episode, he/she may evoke cognitive heuristics to make judgments about responsibility and blame. The errors that perceivers make in attributing cause, responsibility and blame may explain differences in how certain perceivers attribute blame and use pre-conceived attitudes about victims to draw conclusions about who is blameworthy for interpersonal aggression.

There has been ample evidence of how attribution theories of blame apply to domestic violence targets and perpetrators, to be discussed. Since the overarching theory of attribution has explained how blame is applied in domestic violence, and given the similarities between domestic violence and adolescent aggression, by applying the same principles from domestic violence to adolescent aggression, the expansion of the application of attribution theory to the domain of adolescent aggression was attempted through this thesis. The main themes that come from blame attribution research in domestic violence focus on the level of perceived provocation, gender of the perceiver,

and the effects of attitudes towards victims. These themes were carried into the area of blame attribution in adolescent aggression research.

Provocation

The Oxford English Dictionary (Pearsall, 1999) defines provocation as “the action of provoking (p. 1151),” and to provoke as “[to] stimulate (a reaction or emotion, typically a strong or unwelcome one) in someone; [to] deliberately annoy or anger (p. 1151-1152)”. These definitions of “provocation” and “to provoke” suggest that provocation is a negative action done by a person deliberately, resulting in a reaction, possibly a negative outcome. An actor who is perceived to have provoked another person might then be perceived to be deserving of a negative outcome. Perceptions of provocation could be considered related to the area of deservingness (Feather, 1999, 2003), where a person’s actions resulting in an outcome are judged as merited or warranted by third-parties or by the individual. These can be either negative or positive outcomes, but the main feature is that the person’s actions resulted in the outcome, be it studying for a test and receiving a successful grade, or provoking someone who retaliates aggressively. The theory of deservingness (Feather, 1999) assumes that:

Good outcomes (e.g. success) that follow positive actions (e.g., hard work), and bad outcomes (e.g., failure) that follow negative actions (e.g., lack of effort) are both perceived to be deserved. In contrast, good outcomes (e.g., success) that follow negative actions (e.g., lack of effort), and bad outcomes (e.g., failure) that follow positive actions (e.g., hard work), are both perceived to be undeserved (Feather & Nairn, 2005, p. 89).

Using the theoretical model of deservingness to define how a provoking action is perceived in terms of interpersonal aggression (e.g., as a negative action resulting in a bad outcome), may explain why often targets of aggression may be blamed for the

negative outcome, as he or she may have been perceived to have deserved their treatment. As previously mentioned, empirical findings suggest that victims of aggression are often perceived as “responsible” or “blameworthy” for their treatment, even though they may not meet Shaver’s (1985) conditions of intentionality or foreseeability. The perception of blame of a provoking victim may be related to these elements, in that the provocation might invoke rules about either of them. The concept of a deserving victim may explain why higher perceptions of blame to the victim often result.

Several studies examining the effect of provocation on the attribution of blame in domestic violence found that when the victim was perceived to have provoked the confrontation, the amount of blame attributed to the victim increased regardless of other factors involved, suggesting that if the perpetrator was provoked by the victim, the aggression was somewhat excused (Bryant & Spencer, 2003; R. J. Harris & Cook, 1994; Harrison & Willis Esqueda, 2000; Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990; Pierce & Harris, 1993; Walker & Lennard, 1995). Walker and Lennard found that discounting principles (Kelley, 1973) applied to blame attributed to victims in situations where violence was unprovoked; blame was lower in these cases than when the violence had been provoked. When the violence was extreme, the level of blame to the perpetrator increased, regardless of the levels of provocation. Pierce and Harris (1993) examined levels of provocation and blame in conjunction with race and descriptions of the injuries sustained by the victim. They found that a victim who had provoked her husband was perceived less sympathetically than the victim who did not provoke. Hillier and Foddy (1993) found that an increase in the provocative nature of the victim’s behaviour resulted

in higher blame attributed to the victim, especially by those holding more traditional beliefs about sex roles.

Research from the area of bullying has found that often students have described victims as deserving of the aggressive action, in that he or she had done something to provoke the bully, or to “deserve” the aggression. There has been little research including provocation as a factor in bullying research. This may be because in some definitions of bullying, the nature of the aggression is unprovoked; where a bully intended to cause harm to a victim without the victim having done anything to deserve it. It could be argued, however, that simply being different from the rest of the peer group is provoking enough to merit being picked on (J. R. Harris, 1998). There have been studies of reactive aggression and aggressive victims in bullying contexts, where the bully reacts aggressively to something the victim has done (Pellegrini, Bartini, & Brooks, 1999; Prinstein & Cillessen, 2003).

Although bullying may be an unprovoked aggressive behaviour, research has shown that children and adolescents (and even parents) do incorporate the victim's behaviour prior to being bullied when questioned about bullying. Eslea and Smith (2000) examined the role of parent and child attitudes toward bullying, and found that 12% of children and 12% of parents believed that children usually get picked on because they have done something to deserve it. In a study of Japanese school students, Hara (2002) examined justifications for bullying as a function of the various roles children assume in bullying scenarios. Participant roles (Salmivalli et al., 1996) were established using peer nomination techniques, and students were asked to answer a series of open-ended questions describing when/if they considered bullying to be right or justified based on

previous experiences. The descriptions provided by the students were classified into one of five categories: 1) denial of responsibility, 2) denial of injury, 3) denial of victim, 4) condemnation of the condemners, and 5) appeal to higher loyalties. A full 86.3% of students regarded bullying as right, or justified. Bullies maintained that they had been provoked by their victims in 65% of cases (Morita & Shimizu, 1994, as quoted in Hara, 2002), and almost half of children believed that bullies should not be criticized without a full inquiry into the causes for the incidents (The Educational Research Centre of Kyoto City, 1983, as quoted in Hara, 2002)³. Most frequently (75.5%), students justified bullying by putting blame on victims' attributes, (i.e., their behaviour or personality), which may or may not have been perceived as provoking (Hara, 2002). The effect of participant role did not significantly affect justifications for bullying in both victimizing roles (bullies, reinforcers of the bullies, and assistants to the bullies) and in defending roles (victim, defender and outsiders), in that even those who were in the defending roles seemed to justify the bullying. The Just-World hypothesis was considered as an explanation for why children, even those in the participant role of defender of the victim, could justify the bullying behaviour: the victim must have done something to deserve (or provoked) the aggressive treatment.

Teräsahjo and Salmivalli (2003) interviewed school children to examine how the children themselves interpreted and constructed bullying. Through semi-structured interviews of small groups of children, four interpretive repertoires were described,

³ It is possible that the extreme results suggesting bullying is justified in Japanese society may be related to cultural differences in how ideas of the self interact with a group (Markus & Kitayama, 1994). In a collective society, like Japan, social behaviour that conflicts with the dominant cultural tendencies is often rejected and feared (Markus & Kitayama, 1994, p. 94). Japanese societies (as well as other cultures rooted in human relatedness) tend also to favour the group expectations and conform with others readily (Markus & Kitayama, 1994, p. 119). It is possible that the victim of bullying was perceived to have disrupted the dominant culture in such a way that the bullying behaviour was a way of forcing the victim to conform.

defining bullying as 1) intentional harm doing, 2) bullying as harmless, 3) bullying as justified, and 4) girl's talk. The "bullying as justified" repertoire tended to remove the victimized student from the others and portray him or her as somehow negatively deviant, deserving of hostile treatment. Descriptions of odd students fell into this category, indicating that the failure to conform to the rest of the peer group might contribute to victimization. Additionally, victims were perceived to be deserving of the bullying treatment and this discourse was commonly used among the groups of children to justify the negative behaviour towards the victim. Some of the students described victims who had been provocative, or aggressive towards the bully and/or other students, and in this case, the other children described the reaction of the bully as "payback" or "self-defence", but ultimately as the fault of the victim (Teräsahjo & Salmivalli, 2003). Direct comparison of these findings from blame of provocative bullying victims to findings from provocative domestic violence victims cannot be done at this time, as this study did not measure blame quantitatively with provocation as a factor.

Owens, Slee, and Shute (2000) conducted a study examining the effects of indirect aggression in teenage girls, as girls more often seem to be involved in relational, indirect aggression (Rigby & Slee, 1991). This study involved interviewing teenage girls about hypothetical scenarios of indirect aggression to explore the impact of indirect aggression among groups of girls. Through the interviews, it became apparent that the adolescent girls often reported that victimized students were at fault for the received treatment. Many of the girls interviewed felt that victims often provoked the perpetrators, inciting aggression in retaliation.

Results from interviews with students in bullying research have indicated that often they do attribute some blame to the victims, and to justify the treatment the victim receives due to something that the victim has done to provoke the bully, similar to the findings from domestic violence research (Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990; Walker & Lennard, 1995). These results suggest that provocation may be a factor in attributing blame in adolescent aggression. From the literature on blame attribution to victims of domestic violence, it would seem that when the victim was perceived to have provoked her husband, observers attributed more blame to the victim than when there was little or no provocation of the aggressor. Together with the research indicating that bullies have been perceived to have been provoked, these findings might indicate that provocation may affect the degree of attribution of blame in adolescent aggression.

Effects of gender⁴

The research on attribution of blame to victims of domestic violence suggests that gender of the perceiver has an effect on the level of blame attributed. Kristiansen and Giulietti (1990), expected to find that the application of Shaver's (1970), defensive attribution theory to domestic violence would result in female observers blaming the victim less than male observers. Paradoxically, this prediction was not supported, and women tended to blame the victims more than the men involved. It was possible that these women held stronger beliefs in a just-world, which overrode their need to protect themselves from potentially being in the same situation. In opposition, Pierce and Harris (1993) found that female observers perceived the victim of domestic violence as less

⁴ When discussing gender effects, we are referring to gender roles and expected behaviours of males and females as they fit into attributions by observers. The term "gender" does not refer to biological sex of the observers or actors, but rather to the expected roles that males and females play in aggression situations.

responsible for the attack, and were generally more sympathetic to the victim than male observers. Additionally, men judged the husband as less responsible if he had been provoked. Consistent with Pierce and Harris, Hillier and Foddy (1990) found that men tended to blame the female victim more for the abuse than women, across both levels of provocation, and both types of attitudes about sex roles. Harris and Cook (1994) also found that women generally attributed more blame to the abuser than did men, regardless of varied victim types including a scenario of husband-abuse and gay-partner abuse in addition to wife-abuse. Bryant and Spencer (2003) found that male student participants were more likely to blame the victim for provoking her husband.

As evident from these findings, female participants generally blamed the victim less than did men, regardless of manipulations about provocation. It might be inferred that women feel more sympathy, generally, than men. From these findings, gender of the observer might interact with the gender of the victims, and female observers might relate more with female victims than male victims (from defensive attribution theory), and conversely, male observers might relate more to the male victims than to female victims. This is separate from the question of perpetrator blame, about which there has been less research, but the reverse pattern of blame might be expected, with more blame being attributed to the male perpetrator by female observers than by male observers. Feather (1996) studied how perceptions of domestic violence were affected by gender of the observer, and sex of the targets and abusers of physical violence, with scenarios describing both the husband and wife as targets of the abuse. It was expected that observers would favour the perpetrator of the spousal abuse when he or she was the same gender as the observer, while showing less favour to the victim of the opposite gender.

Overall, the husband was perceived more negatively, and as more responsible for the violence than the wife, regardless of whether he was the target or the perpetrator. Female observers were more favourable to the wife compared with male observers, although there were no significant observer gender effects relating to the husband, suggesting that only female observers tended to favour members of the same gender related to domestic violence.

Explorations of the effect of gender in aggression, specifically in bullying, revealed that girls tended to be more supportive of victims than boys, possibly due to the fact that girls are often more sympathetic than boys (Rigby, 2005; Rigby & Slee, 1991). These results are consistent with the findings from domestic violence research, although there is little research on male victims, and it is premature to conclude that a gender difference in sympathy to any victim is involved. Baldry (2004) also found that the gender of the perceiver of a bullying incident affected the level of blame. The perceivers viewed a video portrayal of a bullying incident, either with a boy or girl as victim, where the bullying occurred in a group or with just the bully and victim, and results were analysed based on the gender of the perceivers. The gender of the perceiver had an effect in that girls tended to blame the male victim of bullying more, and conversely, boys tended to blame the female victim more. This may have occurred because of attribution biases that resulted in in-group and out-group biases between genders (Baldry, 2004). The effect of the gender of the observer seems to be linked to the effect of the gender of the victim. Hara (2002) found similar gender effects, where boys tended to blame victims more than girls, and girls tended to use other methods of justifying the aggression than blaming the victims.

Type of aggression

In both domestic violence and adolescent aggression, different types of aggression exist between the victim and the perpetrator. In domestic violence, physical, as well as psychological and emotional abuse tend to pervade the relationships (Dutton, 1995), and typically, the research examining attributions of blame for this type of abuse have concentrated on physical abuse, (Bryant & Spencer, 2003; Hillier & Foddy, 1993; Kristiansen & Giuliatti, 1990). In one of the few studies examining attribution in terms of differences between type of abuse, Langhinrichsen-Rohling, Shlein-Dellinger, Huss, & Kramer (2001) examined the attribution of culpability to perpetrators and victims of interpersonal abuse, but measured the impact of psychological (e.g., verbal, emotional, relational) abuse on blame attributions in addition to the effect of physical abuse. It was found that attributions about the perpetrator were significantly affected by the type of abuse in that those observing physically violent encounters rated the perpetrator as more culpable than those observing psychological abuse. This would suggest that although the observers rated the victim as equally psychologically damaged in both the physically violent and the psychologically abusive situations, the type of abuse affected how much to blame the perpetrator of the violence. Interestingly, it was also found that men tended to rate the psychologically abusive behaviour as less harmful than women, perhaps as a result of correspondent inferences (Langhinrichsen-Rohling et al., 2001).

From the bullying research, differences in the type of aggression have been found, mostly across genders, with bullying occurring primarily within genders with little cross-gender bullying. This is a distinction from domestic violence, where the aggression mostly occurs between a male and a female, although research has examined domestic

violence between same-sex couples (Harris & Cook, 1994). Crick and Grotpeter (1995) set out to examine systematically how aggression is expressed across genders, and found that boys and girls tend to be equally aggressive, but express their anger in different ways, with boys being more overt about their aggression, while girls tend to be more subtle, using more social means of aggression (Crick & Grotpeter, 1995; Galen & Underwood, 1997; Olweus, 1993; Rigby, 2005; Underwood, 2003). It has been proposed that the distinctive styles of play between the genders might account for the observed gender differences (Underwood, 2003). Despite the observed gender differences in types of aggression, there are a few girls who do use more physical means of aggression (Coloroso, 2002), and recent statistics would indicate that the rates of physical aggression in young women are increasing more than in young men (Underwood, 2003).

Conversely, there are also a minority of boys who use social types of aggression, despite the trend of gender differences in the type of aggression carried out (Underwood, 2003).

In studying the emotional impact of different types of aggression, Galen and Underwood (1997) examined how girls and boys perceived social versus physical aggression. It was found that both genders generally felt that physical aggression was more hurtful than social aggression, although when examining the interaction, girls reported that social aggression was more hurtful than did boys, similar to the findings of Langhinrichsen-Rohling, et al., (2004) in the domestic violence context. These gender differences might reflect the social norms of the groups, and might also reflect gender stereotypes – the “two cultures” that emerge in early childhood and dictate how the two genders interact and resolve conflict (J. R. Harris, 1998; Underwood, 2003).

Type of aggression seems to be distinct between genders, and perhaps Baldry's research did not account for the typical nature of bullying that usually occurs between girls and boys. Thus the gender results suggesting that girls tended to blame male victims more for the bullying, and conversely, that boys tended to blame the female victims more for the bullying, might have been related to the type of aggression presented in the video scenarios. Additionally, since males and females tend to typically use distinct styles of aggression, blame to the perpetrators may be attributed consistently with correspondent inferences theory (Jones & Davis, 1965; Jones & McGillis, 1976). If male perpetrators use aggression that is not typically used by males (i.e., social aggression), it may be possible that this affects how an observer interprets the event and draws conclusions about who was to blame. Similarly, if female perpetrators use aggression that is inconsistent with typical female behaviour (i.e., physical aggression), observers might attribute more blame to the perpetrator using atypical behaviours. As previously discussed, gender differences tend to emerge when dealing with attributions of blame and victimization, and previous research suggests that gender might interact with type of aggression as well as other factors. Interaction between the type of aggression and the level of provocation might also further explain how blame is attributed.

Attitudes towards victims

Some studies have focused on how attitudes affect attribution of blame by a third-party to a victim of domestic violence, and have found analogous results, in that those observers holding attitudes more supportive of women (who are generally victimized in domestic violence) tend to blame the victim less for the ensuing violence (Bryant & Spencer, 2003; Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990; Walker & Lennard,

1995). Kristiansen and Giulietti applied Heider's (1958) balance theory and Lerner's (1980) just-world hypothesis to spousal abuse. Consistent with balance theory, those holding more favourable attitudes towards women were attributed less blame than those holding less favourable attitudes towards women. Furthermore, those who believed more strongly in a just world attributed more blame to the victim, consistent with the just-world hypothesis; interestingly, just-world beliefs were correlated with gender of the observer, with males holding higher beliefs in a just world relative to females. Hillier and Foddy measured observers' beliefs about sex roles and found that those holding more traditional sex role beliefs tended to blame the victim more than observers with more egalitarian sex role beliefs. Bryant and Spencer (2003) examined the role of attitudes towards domestic violence in attributing blame to a target and perpetrator of domestic violence, as well as the effect of university students' use of dating violence on these attitudes. Those students who had had experiences being victimized or involved in family violence tended to blame the victims less than students who had histories of perpetrating dating violence. Clearly, observer attitudes towards victims of domestic violence tended to have an impact on how blame was attributed, either to the perpetrator or to the victim. If we were to transfer these findings to the area of bullying, they suggest that perhaps targets of bullying and adolescent aggression might be blamed more for their quandary by observers holding more negative attitudes towards victims than those observers holding more sympathetic attitudes towards victims. If such a relationship exists, it may in turn help to explain some of the gender differences in attribution of blame, if it is the case that there are gender differences in attitudes toward victims.

In bullying research, preliminary investigations into the types of attitudes towards victims held by schoolchildren and adolescents revealed that most students held favourable attitudes towards victims (Rigby, 2005), and less favourable attitudes towards bullies (O'Connell et al., 1999). Baldry (2004) conducted one of the few studies examining the role of third party attribution of blame in schoolyard aggression, specifically bullying. Among other themes, Baldry studied students' attitudes towards bullying and victimization. Overall, it was found that the pro-victim attitudes held by student observers prevented the victim from being blamed for what had occurred. Baldry speculated that perhaps observers' blaming of the victim of bullying occurred as a result of a need to protect themselves, consistent with defensive attribution theory.

The findings from both areas of blame attribution suggest that attitudes do influence the amount of blame attributed to the target and the perpetrator. Favourable attitudes towards victims seem to lessen the amount of blame attributed to targets of both bullying and domestic violence, and conversely, negative attitudes towards victims, or more favourable attitudes to bullies, tend to increase the amount of blame attributed to victims. Because attitudes towards women, or about victims of bullying seemed to have a relationship with the level of blame attributed to victims of both domestic violence and to bullying, attitudes would be expected to play a role in how blame might be attributed to targets or perpetrators of adolescent aggression.

Purpose & Hypotheses

The limited literature on third party attribution of blame in adolescent aggression and bullying provided a starting point for this study, which examined whether levels of provocation, types of aggression, and gender were determinants of the amount of blame

attributed by an observer to a target or perpetrator. A summary of the related research to date on areas of adolescent aggression and bullying is available in Table 1, illustrating what has been studied in terms of the factors of interest. Although the factors have been examined to some degree in previous studies, these factors have not been examined together to see how they may affect the attribution of blame in adolescent aggression, nor have they considered blame as a dependent variable in conjunction with the rest of the factors.

Vignettes and questionnaires were designed to address some gaps in the literature by examining the aforementioned factors, but also to look at whether attitudes towards victims might also influence the attributed blame. The following expectations were drawn from the attribution models reviewed, and from research findings concerning blame of the parties involved in domestic violence, and parallel findings from the literature on bullying. The hypotheses all concerned level of blame of target (victim), and of perpetrator (bully) as a function of the variables outlined below.

H1: Provocation by the target. It was hypothesized that targets who are perceived to have provoked an aggressive response from a perpetrator would receive more blame by observers⁵ than targets who were perceived not to have provoked an aggressive response.

H2: Gender effects. The literature from both bullying research and domestic violence research suggest that female observers are generally more sympathetic to

⁵ To reduce ambiguity when characters in the vignette are discussed the participants are the “observers” in this study, and will be referred to as “observers” in the text, as “participant” might suggest “participant in the vignette”. Additionally, to reduce confusion between “observer gender” and “character gender”, “character gender” will be labeled as “sex of the character”, again, referring to expected gender roles, rather than to biological sex of the actors or observers.

Table 1.

Summary of background research in adolescent aggression and factors previously studied

Study	Blame	Provocation	Gender Differences	Type of Aggression	Attitudes	Bullying vs. Aggression	Results
Baldry (2004)	Y	N	Y	N	Y	B	Gender of perceiver interacted with gender of the victim: girls blamed boys more and boys blamed girls more; pro-victim attitudes prevented victim from being blamed
Crick & Grotpeter (1995)	N	N	Y	Y	N	A	Girls and boys tend to be equally aggressive, but express their anger in different ways; girls more covert, while boys more overt
Eslea & Smith (2000)	N	Y	N	N	Y	B	12% of parents and 12% of children believed kids get picked on because of something he/she did to deserve it
Galen & Underwood (1997)	N	N	Y	Y	N	A	Boys and girls felt that physical aggression was more severe than social aggression; girls, when compared with boys, reported that social aggression was more hurtful than physical aggression; possibly due to social stereotypes about how girls and boys are supposed to express aggression
Hara (2002)	N	Y	Y	N	N	B	Boys blamed victims more than girls; 86.3% of students felt bullying was right/justified; 75.5% of students blamed victim for something he/she did to deserve it (Japanese sample)
O'Connell, Pepler & Craig (1999)	N	N	N	N	Y	B	Participants tended to condemn bullying behaviour generally
Owens, Slee	N	Y	Y	Y (only	N	A	Teenage girls often reported that

& Shute (2000)				social aggression in girls)			victimized girls were at fault for the indirect aggression she received; girls reported that victims often provoked the perpetrator
Rigby (2005)	N	N	Y	N	Y	B	Girls more sympathetic than boys towards victims
Rigby & Slee (1991)	N	N	Y	N	Y	B	Girls more sympathetic than boys towards victims
Teräsahjo & Salmivalli (2003)	N	Y	N	N	N	B	Students often described victims as deviant and deserving of hostile treatment; victims described as provocative/aggressive towards bullying

victims regardless of the gender of the victim, and it is hypothesized that female observers will blame the targets less overall, compared with male observers.

H3. Observer gender by character gender effects. It is hypothesized that the sex of the characters will affect how much blame is attributed; this will be based on the gender of the observer and sex of the character; female targets would be attributed less blame by female observers, and male targets would be attributed less blame by male observers. Female targets will be attributed more blame by male observers, and male targets will be attributed more blame by female observers.

H4. Type of aggression. The nature of bullying between both sexes tends to differ in that males and females use different methods to express aggression (social vs. physical), and the perceptions of these types of aggression also differ between female and male observers. It is thus hypothesized that there will be an interaction among sex of the characters, gender of the observers, and type of aggression (social vs. physical). It was hypothesized that male and female targets and perpetrators would be attributed blame differentially depending on the type of aggression involved, and it was also hypothesized that gender of the observers would influence how blame was attributed as a function of type of aggression and sex of the characters.

H5. Attitudes towards victims. It was hypothesized that attitudes towards victims would be related to how much blame was attributed to the targets, with those who held more positive attitudes towards victims attributing less blame to the targets than those observers who held less positive attitudes towards victims. It was also expected that target blame and perpetrator blame would be inversely related.

Given that there have been few studies that combine the findings from domestic violence blame research, and bullying blame research, these questions were somewhat exploratory in nature. Further, although attribution theory seems clearly relevant to how third party observers assign blame for bullying, little research has pursued this question. The study described below was designed to shed some light on how blame might play a role in how observers perceive targets and perpetrators of adolescent aggression.

Method

Participants

Participants (observers) were recruited from undergraduate courses at Carleton University, through informal contact with Canadian Forces Reservists on course in Kingston, ON, and through personal contacts of the researcher ($N = 123$; males: $n = 58$; females: $n = 65$). The desired population was one of younger undergraduate-aged participants, but several participants did not meet these criteria. Data from older students were excluded from the data set, and only participants 26 years or younger were included in any subsequent analyses as these individuals would have been more likely to have had recent exposure to incidents of high school social conflicts. This resulted in a sample of 107 participants between 17 and 26 years of age ($M = 20.96$, $SD = 2.037$). Since gender of observer was included as a factor in this study, equal numbers of male and female participants was desired for the repeated measures analysis of variance (ANOVA) and to ensure that many of the assumptions of ANOVA were not complicated by uneven sample sizes (Neter, Kutner, Nachtsheim, & Wasserman, 1996; Stevens, 2002). Initially, there were more female participants than males (females = 55, males = 52). Upon examination of the data for missing values, four male participants and two female participants were

found to be missing more than 10% of their data, and were thus dropped from further analyses, leaving 53 females and 48 males. Data for five female participants were randomly selected from the remaining data and excluded from analysis. This resulted in 96 participants; 48 females, and 48 males aged 17 to 26 years ($M = 20.97$, $SD = 2.05$). The majority of the participants were recruited from Carleton University ($N = 73$; females: $n = 44$; males: $n = 29$), with the remainder obtained from the volunteer reservists from CFB Kingston, who work in the reserves in a voluntary, part-time capacity, and who are often students at university during the school year ($N = 23$; females: $n = 4$; males: $n = 19$).

Undergraduate students were recruited from either an Experiment Sign-Up system through the Department of Psychology, or via a non-Psychology Voluntary Participant Pool set up by the thesis supervisor at Carleton University. Participants recruited through the Psychology Participant Pool were compensated with 1% in course credit, and those participants recruited from the non-Psychology Voluntary Participant Pool, were compensated with \$5.00 for their time and participation, to maintain comparability with other studies drawing on the Volunteer Pool. Volunteers from the Canadian Forces Reservists were not compensated monetarily, but were thanked for their participation.

Materials

a. Vignettes.

A vignette technique was selected as the method for this study because several stories could be read by all the participants at one time, and the varying factors could easily be manipulated through the stories presented to the participants. Additionally, vignettes provided an economical solution to presenting many stories, which may have

been more difficult to develop and present as a video scenario, or another alternative presentation option (i.e., live actors). As there were three within-subjects variables, a vignette method allowed for the manipulation of the focal variables simultaneously, while enabling all combinations of the three types of variables to be presented to all participants. An alternative method of presentation may have limited the scope of how many variables could have been studied at one time. Finally, the vignette technique allowed for many people to participate at one time, allowing for prompt and efficient data collection.

Participants were asked to read through a series of eight vignettes depicting bullying incidents (Appendix A). Scenarios varied on *levels of provocation; type of aggression; and sex of the character*. Questionnaires followed each of the vignettes. The vignettes were developed on the basis of prior research examining bullying issues (Galen & Underwood, 1997; Owens, Shute, & Slee, 2000), and through informal consultation with high school students and teachers to ensure the realism of the aggression incidents. These high school students and teachers were contacted through a personal connection of the researcher, in order to read through the vignettes and determine whether the accounts were potentially realistic incidents of bullying. The nature of this study involved a 2 (level of provocation) x 2 (type of aggression) x 2 (gender of the victim) design, resulting in eight treatment conditions (within participant factors), crossed with the gender of the observers (between groups factor). Pre-testing, using a sample of high school students and university students, occurred prior to the administration of the tests in order to assess the credibility of the vignettes. In the pre-testing, students read through the vignette stories, and answered several questions on a rating scale relating to whether the scenarios

were realistic, whether the target had or had not provoked the perpetrator, and to what degree the target was to blame. The students also discussed the stories with the researcher, who then took the suggestions and findings from the pre-testing and adapted the stories to enhance the credibility and/or perception of provocation. These data were not included in the formal analysis.

Examples of a low- and high-provocation incident follow:

Low Provocation

Robert was a small boy in grade nine, who had not developed physically at the same rate as the rest of his class. Since beginning High School, Robert was picked on by the other boys in his classes, particularly by Jeffrey. This morning, while walking down the hallway towards the library, Robert passed by Jeffrey and some of his friends. Robert veered around Jeffrey to avoid a confrontation, however Jeffrey saw Robert approaching and began verbally taunting him, calling him worthless, and a loser. When Robert continued to walk without reacting, Jeffrey shoved Robert into a locker, causing Robert to spill his books and papers across the hallway. When Robert bent to pick up his belongings, Jeffrey knelt down and said to Robert "You'd better watch out!", then he left with his friends.

Other examples of low provocation vignettes involved a boy arriving as a new student to a high school being picked on, a girl returning to school from a day off sick to find her friends excluding her, and a girl being pushed around because she was friends with another girl's boyfriend.

High Provocation

Melanie was a bit of a show-off in her Grade 10 classes. She often would brag about herself. Consequently, she often would be excluded from group events, or teased by the other girls, Brittany in particular, a tough girl who was not very smart and often did poorly in math. After a particularly difficult algebra test, where most of the class did poorly, especially Brittany, Melanie bragged about her A- in front

of Brittany and a group of other girls from the same class. Brittany shoved Melanie into a locker, took her test, which she had been carrying, and ripped it into pieces, dropping them onto the floor. Melanie appeared scared and began to run away from the group, when Brittany yelled after her, “Better keep your mouth shut next time!” Other examples of high provocation vignettes involved a boy who was generally picked on throwing a snowball at the perpetrator, a boastful boy being excluded by his group, and a girl who was often picked on calling the perpetrator names. A summary of the vignettes by condition can be found in Table 2.

b. Questionnaires.

The questionnaires were distributed in the form of two packages, one including the Blame Questionnaire following each vignette, (Appendix B), and the other package containing the Attitudes Towards Victims (Appendix C) scale as well as demographic questions about the participants (Appendix D). The order in which the eight vignettes were presented was randomized, using a random number generator, in order to control for order effects between participants.

i. Blame Questionnaire. To assess the dependent measures of blame attributed to the target and blame attributed to the perpetrator, participants were presented with eight questions following each vignette. The questions followed a similar style to those

Table 2.

Within-subjects variables and vignettes

Type of Aggression		Sex of Character	Level of provocation	
			Low	High
	Physical	Male	Robert & Jeffrey	Alan & Stuart
		Female	Rebecca & Susan	Melanie & Brittany
	Social	Male	Neil & Phil	Billy & Greg
		Female	Anna & Jessica	Julia & Cindy

developed by Baldry (2004), which measured attribution of blame to victims of bullying, based on a measure developed for a study of blame of rape victims (Baldry, Winkel & Enthoven, 1997, as cited in Baldry, 2004). The questions developed by Baldry (2004) were used to measure attribution of blame to the victim following the viewing of videotaped scenes of bullying. For the purposes of this study, participants were asked to respond to eight questions on a 5-point range scale ranging from 'not at all' to 'certainly' measuring blame to both the target and to the perpetrator (See Appendix B). For example, the blame questions referring to the target asked the participants to answer the questions "Do you think that the target provoked the perpetrator?", "Do you think the target was responsible?", "Do you think the target was at fault?", and "Do you think the target was to blame?" The blame questions referring to the perpetrator asked the participants to answer the questions "Do you think the target provoked the perpetrator?", "Do you think the perpetrator was responsible?", "Do you think the perpetrator was at fault?", and "Do you think the perpetrator was to blame?" These eight questions followed each vignette and included the name of the characters featured in the vignettes in the place of the words "target" and "perpetrator".

The nature of the first and fifth question were essentially the same, in that the first question asked "Do you think the target provoked the perpetrator?" and the fifth question asked "Do you think that the perpetrator was provoked by the target?" One would expect that as the meaning of these two questions is essentially the same; the responses from observers would not differ between these two questions. This was not the case in this study and it was decided that the best course of action would be to drop the fifth question from further analysis, as it was altering the findings from the PCA and other analyses,

and the question did not elicit the desired response in most cases. It is possible that this question was misunderstood by observers, or the names of the characters were reversed while reading through the question quickly. Another possibility for the inconsistency is that the first question asks if the perceiver saw the behaviour of the target as provocative. The fifth question asked observers to rate whether the perpetrator had been provoked by the target. Given the aggressive response of the perpetrator, this person may have been perceived as provoked; whether this is justified or not is a different issue. Scores tended to be lower on the first question than on the fifth question, although they should both have been similar. The spread between the variances of the first and fifth questions tended to be larger on questions relating to low provocation incidents. As the questions may have been misinterpreted by observers, many of them did not respond in a consistent manner to the first and fifth question, and it was decided to drop the fifth question from further analyses.

ii. Attitudes towards victims. Participants were asked to respond to a variation of the Attitudes to Victims questionnaires originally developed by Rigby and Slee (1991; See Appendix C). The questionnaire was chosen for this study to determine whether the participants' attitudes about bullying may have influenced their blame attribution decisions about the presented scenarios. This scale originally included 20 items, but Rigby and Slee conducted a factor analysis, and found that 12 of the 20 items loaded on three factors, with factor loadings greater than .40, and subsequently dropped eight items from the analysis (Rigby & Slee, 1991). These remaining 12 items constituted the Attitudes Towards Victims Scale for the current research. This scale has shown good internal reliability with a coefficient alpha of .78, based on $n = 667$. This questionnaire

was administered following the reading of the vignettes in order not to bias the participant's responses to the vignettes.

iii. Demographics. Participants provided demographic information (Appendix D), including his or her gender, and age, coded as 0 representing males, and 1 representing female participants, and age as a numerical value representing the participant's age in years. Exclusion of participants over age 26 is described earlier. Participants were also asked to provide some information about their impressions about the research. These questions were strictly to inform future research, to allow an opportunity for participants to ask questions, as well as to provide feedback about the instrument for the researcher, and have not been analysed or reported in this study in any formal manner.

Procedure

The study was presented to participants as "A Study of Social Judgment in Conflict Situations", without mentioning perpetrators, targets or attitudes towards victims. Upon recommendation of the Prospectus Committee, the premise on which the study was based was altered from "Bullying and Victimization" to "A Study of Social Judgment" to provide less information about the true nature of the study. When the proposed research was reviewed by the formal ethics committee, they required more explicit information in the title as well as in the informed consent form, so that participants would be more informed prior to deciding to take part in the study. At this juncture, the researcher re-named the study with the above title, in order to reduce any bias by limiting the amount of information provided at the outset of the study, but also providing enough information for the participants to be able to make informed decisions about participation, which was entirely voluntary.

Upon approval from the Psychology ethics committee at Carleton University, participants were contacted, via emailed recruitment notices, and by posting the study on the Experimental Sign-up system for the Department of Psychology's Participant Pool. Interested students were contacted and requested to attend an appointment in the Psychology department at Carleton University. After the student's arrival, an informed consent form (Appendix E) was provided for the participant to read and sign, along with an oral re-emphasis of the voluntary nature of the study and the confidentiality of the components of the study. This oral explanation ensured that the participant understood his/her role in the study, as well as provided an opportunity for the participant to ask any preliminary questions. The informed consent form and the record of payment forms for the non-psychology students were the only location where students were asked to provide any identifying information, and these forms were kept separate from the questionnaires in order to ensure that the data could not be traced back to any particular individual. Participants' subsequent forms were assigned a number in order to make sure the answers from the various questionnaires corresponded to the one individual. Following this oral reiteration of the contents of the informed consent, the participants were given Part One of the study, including the eight Vignettes and the Blame Questionnaires following each vignette (Appendices A & B).

Participants were given Part Two of the study, the adapted Attitudes Towards Victims scale (Appendix C) and the demographic information questionnaire (Appendix D) after they had completed Part One of the study. Upon completion of this package, participants were debriefed about the purposes of the experiment via a written debriefing form, which included contact information for the researchers involved, contact

information for various organizations dealing with bullying, as well as contact information for the Carleton Health and Counseling Services, should the participant need to contact them for any reason (Appendix F). The participants were given the opportunity to ask any questions, were thanked for their participation, and arrangements for compensation were made [i.e., payment of the \$5.00 for non-psychology students, or a receipt indicating that they had earned 1% in course credit for their first year Psychology class (automatically sent by email to the participant upon assigning the course credit on the online sign up system)]. The researcher was present at all times during the administration of the instrument, in order to answer any questions about the materials, and to monitor participants for any signs of distress due to the content of the vignettes.

Results

Data Screening

Data were coded and entered into SPSS Version 13.0, and double checked for accuracy. Prior to any analyses, data were screened for missing values, univariate and multivariate outliers, and tests of the assumptions for ANOVA and MANOVA were conducted. All the tests indicated that no adjustments needed to be made to the dataset, except to 10 univariate outlying cases, which were reduced to the |3| standard deviation mark, and to several missing values, which were either deleted, or substituted with the group means. Detailed analyses of the data screening can be found in Appendix G.

Psychometric properties

Data from the Blame Questionnaires were scored using 5 point Likert scales, with 1 representing “not at all” and 5 representing “certainly”, as responses to questions about

the blameworthiness of the victim and the bully depicted in each vignette. Previous use of these questions, were subjected to a Principal Components Analysis (PCA; Baldry, 2004). The results of Baldry's PCA indicated that the four questions relating to victim blame formed one component explaining 44.5% of the total variance thus the four questions were combined to make one blame measure in subsequent analyses, which also have shown high reliability ($\alpha = .67$; Baldry, 2004).

In the present study, the four questions based on Baldry's study were adapted to apply to both the target and to the perpetrator, resulting in the eight blame questions. As previously discussed, the fifth question was omitted from the analysis as the meaning of the question may have been misunderstood by participants, possibly skewing the results. It was expected that the four questions referring to the target and the three questions referring to the perpetrator should be highly correlated, as the individual questions were asking for similar information regarding the vignette scenarios. Thus, it was expected, a priori, that there would be two components being measured: the blame attributed to the target, and the blame attributed to the perpetrator. It was also expected that these two components would be negatively correlated, because the questions were asking observers to assign blame to one or the other, although, it may have been possible for the observers to assign blame equally. The scores for each of the Blame Questionnaire questions were subjected to a principal components analysis. Two components were expected a priori, and the purpose of the PCA was to reduce the data to 16 blame scores (8 target blame scores, and 8 perpetrator blame scores, one for each of the eight stories). The PCA's were conducted on each story individually. All eight stories found two components

relating to target and to perpetrator blame, after varimax rotation. A summary of the PCA findings can be found in Table 3.

As an example, the PCA for the story with Robert (target) and Jeffrey (perpetrator) involving low provocation and physical aggression extracted two components after varimax rotation, one relating to target blame (Robert; $\lambda = 2.70$), explaining 33.79% of the total variance, and the other relating to perpetrator blame (Jeffrey; $\lambda = 2.68$), explaining 33.51% of the total variance. The four factor loading related to blaming Robert (the target) were above .70, and were combined into one target blame measure ($M = 1.20$, $SD = .46$), while the three items related to blaming Jeffrey (the perpetrator) remaining after the fifth question was omitted loaded above .83, and were combined into one perpetrator blame measure ($M = 4.77$, $SD = .42$). This was accomplished by obtaining the mean of the four target blame measures, and of the three perpetrator measures for each case. This method was repeated for each of the stories, with each combined measure using the mean of the items for each blame measure.

The combined blame scores obtained from the principal components analyses for each of the stories can be found in Table 4. In low provocation stories, it seems that the absolute levels of blame between the perpetrator and the target have the widest variability, with targets being blamed substantially less than perpetrators. The absolute levels of blame between the perpetrator and the target in high provocation stories were less varied, suggesting that blame may be more evenly spread in these scenarios, with perpetrators still receiving more of the blame (in most stories), although the differences between the levels of blame for targets and levels of blame for perpetrators are much smaller. Spearman's rho correlations between the blame scores for the target and the

Table 3.

Results from the PCA on each vignette after varimax rotation.

Vignette	Target Blame			Perpetrator Blame		
	λ	% explained variance	Factor loadings	λ	% explained variance	Factor loadings
Robert & Jeffrey * †	2.70	33.79	> .70	2.68	33.51	> .83
Alan & Stuart ** †	3.52	44.01	> .77	2.26	28.26	> .80
Neil & Phil * ††	2.79	34.92	> .68	3.35	41.82	> .83
Billy & Greg ** ††	3.20	39.95	> .82	2.55	31.86	> .82
Rebecca & Susan * †	2.89	36.07	> .55	2.84	35.54	> .81
Melanie & Brittany ** †	3.07	38.41	> .78	2.72	33.94	> .87
Anna & Jessica * ††	3.53	44.15	> .87	2.63	32.85	> .91
Julia & Cindy ** ††	3.37	42.07	> .83	2.40	29.96	> .85

Note: * = low provocation; ** = high provocation; † = physical aggression; †† = social aggression; ^a: $p < .001$; ^b: $p > .05$

Table 4.

Means (standard deviations) and intercorrelations of blame scores

Vignettes	Target Blame	Perpetrator Blame	ρ (relation between target & perpetrator blame)
Robert & Jeffrey* †	1.19 (0.39)	4.77 (0.41)	-.483 ^a
Alan & Stuart ** †	3.29 (1.01)	3.83 (0.73)	-.307 ^a
Neil & Phil* ††	1.24 (0.49)	4.55 (0.61)	-.520 ^a
Billy & Greg ** ††	3.63 (0.93)	2.74 (0.97)	-.486 ^a
Rebecca & Susan * †	1.49 (0.63)	4.19 (0.92)	-.585 ^a
Melanie & Brittany ** †	3.11 (0.98)	3.65 (0.96)	-.391 ^a
Anna & Jessica *††	1.45 (0.66)	3.82 (0.99)	-.189 ^b
Julia & Cindy ** ††	3.02 (0.94)	3.89 (0.73)	-.143 ^b

Note: * = low provocation; ** = high provocation; † = physical aggression; †† = social aggression; ^a: $p < .001$; ^b: $p > .05$

perpetrator for each vignette are also shown in Table 4. From these correlations, it can be seen that the levels of blame attributed to the targets and to the perpetrators in each vignette were inversely attributed blame.

To ensure that the two levels of provocation (high vs. low), were represented by the vignettes, a repeated measures analysis of variance was conducted on the levels of provocation. This analysis compared the high provocation stories with the low provocation stories, and the four stories that represented the high and low provocation stories represented the repeated measure: repeats of the high vs. low provocation vignettes. The four low provocation stories were the vignettes about Robert & Jeffrey, Neil & Phil, Rebecca & Susan, and Anna & Jessica, represented in Table 3 by one asterisk (*). The four high provocation stories were the vignettes about Alan & Stuart, Billy & Greg, Melanie & Brittany, and Julia & Cindy, represented in Table 3 by two asterisks (**). The dependent measure used was question 1 of the Blame Questionnaire (“Do you think that the target provoked the perpetrator?”).

A significant main effect for levels of provocation was found using Wilks' Lambda, $F(1, 95) = 618.711, p < .001, \eta^2 = .867$, indicating that there was a significant difference between the high and low provocation stories (Table 5). The main effect for the repeated stories within each level of provocation was not significant, $F(3, 95) = 2.339, p > .05, \eta^2 = .07$, suggesting that within the levels of provocation, the four low provocation stories and the four high provocation stories were not significantly different from one another. There was a significant interaction between levels of provocation and repeated stories, $F(1, 95) = 7.925, p < .001, \eta^2 = .204$. This would suggest that there was

Table 5

Repeated measures analysis of level of provocation

Source	<i>Wilks' λ</i>	<i>F</i>	η^2	<i>p</i>
Provocation (A)	.133	618.71	.87	.00
Vignettes (B)	.93	2.34	.07	.08
A x B	.77	7.93	.20	.00

variability in the perceived levels of provocation among different repeated stories at each level of provocation (i.e., there were differences in level of provocation among the stories at the low level of provocation, and differences in level of provocation among the stories at high levels of provocation).

Post-hoc analyses of the stories using paired-samples t-tests comparing the four low provocation stories using a corrected $\alpha = .008$ (.05/6; for the six contrasts between the four stories) revealed that only the low provocation story relating to Robert and Jeffrey (male – physical aggression) was significantly different from the low provocation story relating to Rebecca and Susan (female – physical aggression), $t(95) = -3.47, p = .001$, but neither of these stories were significantly different from any of the other low provocation stories. Paired-samples t-tests comparing the four high provocation stories using a corrected $\alpha = .008$ (.05/6; for the six contrasts between the four stories) revealed that the high provocation story relating to Julia and Cindy (female – social aggression) was significantly different from two of the other high provocation stories: Alan and Stuart (male – physical aggression), $t(95) = 3.003, p = .003$, and Billy and Greg (male – social aggression), $t(95) = 3.908, p < .001$. Although there were differences between some of the stories within each level of provocation, the means of the low provocation stories were significantly different from the means of the high provocation stories. This test confirmed the assumption that the stories differed on levels of provocation; no rating of provocation in the low provocation grouping overlapped with any in the high provocation group.

Blame attribution

To test for the effects of level of provocation (H1), effects of gender of the observer, sex of the characters (H2 & H3), and type of aggression (H4) on levels of blame to the victim and levels of blame to the bully, a $2 \times 2 \times 2 \times 2$ mixed, full factorial, repeated measures analysis of variance was conducted for each of the two dependent variables: Blame attributed to the *target* and blame attributed to the *perpetrator*. The independent variables were gender of the observers (male vs. female) which was a between subjects variable, and level of provocation (high vs. low), the type of aggression (social vs. physical) and the sex of the characters of the vignette (male vs. female) were within subjects variables.

Blame of the target. Because the sphericity assumption was not a factor in this analysis, (there were only two levels per factor), the univariate results were used in the analyses, and because they have more power than the multivariate results (see Table 6 for a summary of the results).

i) Provocation. The forms of provocation were expected to have an effect on levels of blame attributed to the target. The within-subjects test revealed a significant main effect for level of provocation, $F(1, 94) = 679.49, p < .001, \eta^2 = .88, MSE = 1.04$; as predicted, more blame was attributed to the target who provoked the perpetrator than the target who did not, $M(\text{high provocation}) = 3.26$ vs. $M(\text{low provocation}) = 1.34$.

A significant interaction of the within-subjects effects of sex of the character and level of provocation was also found, $F(1, 94) = 52.23, p < .001, \eta^2 = .36, MSE = .39$, with female targets being blamed more than male targets in *low provocation* scenarios (female targets: $M = 1.47$; male targets: $M = 1.21$), and in contrast, in circumstances of

Table 6.

Overall Means (Standard Error), F values and measures of effect size for blaming the target according to gender of the observers, gender of the characters, levels of provocation, and type of aggression.

		Overall target blame means (standard error)	<i>F</i> (1, 94)	<i>p</i>	η^2
A (gender)	Males	2.36 (.05)	2.34	.126	.03
	Females	2.25 (.05)			
B (sex)	Males	2.34 (.04)	2.47	.120	.03
	Females	2.27 (.04)			
C (aggression)	Physical	2.27 (.05)	1.60	.209	.02
	Social	2.34 (.04)			
D (provocation)	High	1.34 (.04)	679.49**	.000	.88
	Low	3.26 (.06)			
A x B			.05	.826	.00
A x C			.31	.581	.00
A x D			4.33*	.040	.04
B x C			5.73*	.019	.06
B x D			52.30**	.000	.36
C x D			1.28	.261	.01
A x B x C			4.32*	.040	.04
A x B x D			.26	.611	.00
A x C x D			.66	.419	.01
B x C x D			2.60	.110	.03
A x B x C x D			3.20	.077	.03

Key: A (Gender of the observer). B (Gender of the characters). C (Type of Aggression). D (Level of Provocation). * $p < .05$, ** $p < .001$

high provocation, male targets were blamed more than female targets (male targets: $M = 3.46$; female targets: $M = 3.07$). Significant simple main effects were found at both levels of provocation between male and female targets: F (low provocation; 1, 94) = 16.59, $p < .025$, $MSE = .39$; F (high provocation; 1, 94) = 37.93, $p < .025$, $MSE = .39$. As was suggested by the analysis testing the assumption that the levels of provocation were indeed different, the perception of the stories depicting both low and high levels of provocation varied within the provocation levels. This may have been due to the differences in the depicted stories and the severity of aggression in the eight different vignettes: some of the vignettes may have been perceived as more serious than others, and the difference between the target roles more ambiguous in some stories than others (i.e., the Billy and Greg story (male – high provocation – social aggression), where Billy (the intended target) was blamed much more than Greg (the intended perpetrator), compared to the other stories, possibly because of the description in the vignette). This particular vignette may have inflated the levels of blame in the high provocation stories more than the other vignettes, and thus provocation and sex of the characters interacted as a result.

ii) Gender effects. It was expected that gender of the *observers* would affect how much blame was attributed to targets, in that females would attribute less blame to the targets than males. There was no between-subjects main effect for gender of the observer, $F(1, 94) = 2.39$, $p > .05$, $\eta^2 = .03$, $MSE = .90$, indicating that female and male observers did not significantly differ on victim blame. There was a significant first order interaction between gender of the observers and level of provocation, $F(1, 94) = 4.52$, p

$= .04$, $\eta^2 = .04$, $MSE = 1.04$. An examination of the simple main effects, controlling for inflated α , revealed that at the low provocation levels, there were no significant differences between how male and female observers attributed blame to the target, $F(1, 94) = .21$, $p > .025$, $MSE = 1.043$, but at the high level of provocation, the difference between how male and female observers was significant, $F(1, 94) = 6.18$, $p < .025$, $MSE = 1.043$. Both male and female observers blamed the target more in vignettes where the target had highly provoked the perpetrator. However, in high provocation scenarios, female observers blamed the target less than male observers, $M(\text{females}) = 3.14$ vs. $M(\text{males}) = 3.39$.

iii) Observer gender by target sex effects. It was expected that there would be an interaction between gender of the observers and sex of the characters in how blame was attributed to the target. This interaction was not significant, $F(1, 94) = 0.49$, $p > .05$, $\eta^2 = .001$, $MSE = .35$, to be discussed in the general discussion.

iv) Type of aggression. An interaction between type of aggression, gender of the observers and sex of the characters was expected in how blame was attributed to the target. The main effect for type of aggression was not significant, $F(1, 94) = 1.60$, $p > .05$, $\eta^2 = .02$, $MSE = .52$ although there was a significant first order interaction between sex of the characters and type of aggression, $F(1, 94) = 5.73$, $p = .019$, $\eta^2 = .06$, $MSE = .58$. An examination of the simple main effects of this interaction revealed that in physical aggression scenarios there were no significant differences between the male and female target vignettes, $F(1, 94) = .70$, $p > .025$, $MSE = .58$, although more blame was assigned to the female targets in cases of physical aggression, ($M = 2.30$) than male

targets ($M = 2.24$). There was a significant simple main effect for the social aggression settings, $F(1, 94) = 6.51, p < .025, MSE = .58$, where more blame was attributed to male targets ($M = 2.44$) than female targets ($M = 2.24$).

The significant second order interaction of gender of the observer was further qualified by sex of the characters and type of aggression, $F(1, 94) = 4.32, p = .04, \eta^2 = .04, MSE = .58$. A test of the simple interaction effects for sex of the character, and controlling for inflated α , found that neither interaction between gender of the observer nor aggression type was significant, with male characters, $F(1, 94) = .604, p > .025, MSE = .58$, or with female characters, $F(1, 94) = 1.856, p > .025, MSE = .58$. More blame was attributed to the male target by both female and male observers in social aggression scenarios, but male observers attributed more blame to the female targets in the physical aggression stories than did female observers, who blamed the female target more in the social aggression scenarios (See Table 7). The means in Table 7 suggest that the differences are not large, and this corresponds with the small effect sizes noted above.

Blame of the perpetrator.

A second repeated measures ANOVA was conducted on the levels of blame attributed to the *perpetrator* to assess the conditions under which respondents blamed the perpetrators more, and as the sphericity assumption was not applicable when there were fewer than three levels per factor, univariate results were used (See Table 8 for a summary of the results). The analysis is parallel to that reported for target blame, although, the means for perpetrator blame show more variability than those reported for target blame in Table 6.

Table 7.

Means (standard errors) for target blame interaction by sex of the characters by level of aggression and gender of the observer.

Gender of character	Male		Female	
Level of Aggression	Physical	Social	Physical	Social
Sex of Observer				
Male	2.25 (.08)	2.54 (.07)	2.42 (.08)	2.21 (.08)
Female	2.22 (.08)	2.34 (.07)	2.18 (.08)	2.26 (.08)

Table 8.

Overall Means (Standard error), F values and measures of effect size for blaming the perpetrator according to gender of the observers, gender of the characters, levels of provocation, and type of aggression.

		Overall perpetrator blame	<i>F</i> (1, 94)	<i>p</i>	η^2
A (gender)	Males	3.85 (.06)	3.16	.08	.03
	Females	4.01 (.06)			
B (sex)	Males	3.97 (.04)	2.80	.098	.03
	Females	3.89 (.06)			
C (aggression)	Physical	4.11 (.05)	50.40**	.000	.35
	Social	3.75 (.05)			
D (provocation)	High	4.33 (.05)	168.02**	.000	.64
	Low	3.53 (.06)			
A x B			.05	.829	.00
A x C			.06	.809	.00
A x D			4.66*	.033	.05
B x C			24.27**	.000	.21
B x D			160.64**	.000	.63
C x D			2.37	.127	.03
A x B x C			11.32**	.001	.11
A x B x D			.06	.803	.00
A x C x D			.26	.61	.00
B x C x D			59.72**	.000	.39
A x B x C x D			4.71*	.030	.05

Key: A (Gender of the observer). B (Gender of the characters). C (Type of Aggression). D (Level of Provocation). * $p < .05$, ** $p < .001$

i) Provocation. It was expected that level of provocation would affect how much blame was attributed to the perpetrator, with perpetrators who were provoked by the target being blamed less than the perpetrator who was not provoked. A test of the within-subject effects on perpetrator blame, revealed a significant main effect for level of provocation, $F(1, 94) = 168.02, p < .001, \eta^2 = .64, MSE = .74$.

A significant first-order interaction was found between level of provocation and sex of the characters, $F(1, 94) = 160.64, p < .001, \eta^2 = .63, MSE = .39$. An examination of the simple main effects of this interaction revealed that there were significant differences in the allocation of blame to the perpetrators between the sex of the characters at low provocation, $F(1, 94) = 106.25, p < .025, MSE = .39$, and at high provocation, $F(1, 94) = 57.67, p < .025, MSE = .39$. Male perpetrators were blamed more in low, compared with high, provocation scenarios, $M(\text{male characters} - \text{low provocation}) = 4.66, M(\text{male characters} - \text{high provocation}) = 3.28$. Female perpetrators were blamed slightly less in high than in low provocation scenarios, $M(\text{female characters} - \text{low provocation}) = 4.00, M(\text{female characters} - \text{high provocation}) = 3.77$.

Further examination revealed that with low provocation, male perpetrators were blamed more for the aggression than female perpetrators. This interaction between provocation and sex of the characters was not expected, although it was examined as part of the exploratory nature of this study. With high provocation, male targets were blamed more for the aggression than female targets, while female perpetrators were blamed more for the aggression than male perpetrators, indicating an inverse relationship. The differences in how provocation was perceived across genders may be due to variations in

the vignettes and the various scenarios, as previously discussed in the *target* blame section above. The scenarios were developed using different stories and circumstances, which may not have been entirely even across sexes of the characters, despite pre-testing the scenarios, and basing the stories on similar stimulus stories from previous research (Baldry, 2004; Hillier & Foddy, 1993; Owens, Shute et al., 2000; Walker & Lennard, 1995)

A second-order interaction for perpetrator blame was found; the effects of provocation were qualified by sex of the characters, and type of aggression, $F(1, 94) = 59.72, p < .001, \eta^2 = .39, MSE = .44$. An examination of the simple interaction effects revealed that type of aggression, level of provocation, and sex of the characters were significant, with male characters, $F(1, 94) = 41.71, p < .025, MSE = .44$, and with female characters, $F(1, 94) = 28.69, p < .025, MSE = .44$. At both provocation levels, observers blamed male perpetrators of *social* aggression less than male perpetrators of *physical* aggression, although less blame was attributed to male perpetrators when highly provoked. In scenarios with female characters, observers blamed the female perpetrator who was not provoked more in cases of *physical* than *social* aggression, but female perpetrators who were highly provoked were blamed slightly more with social aggression than with physical aggression (see Table 9)

For perpetrator blame, level of blame was influenced by an interaction between provocation, sex of the characters and type of aggression, with male perpetrators being blamed more for physical aggression than for social aggression at high and low provocation levels. It is possible that male perpetrators were blamed more for physical

aggression than social aggression at low provocation levels because the severity of the aggression was perceived as more serious when the target had been physically injured. Female perpetrators were blamed more in low provocation scenarios for physical aggression, but were blamed slightly more for high provocation scenarios in social aggression. The differences between how female characters were blamed in social aggression scenarios was quite small (low provocation: $M = 3.82$; high provocation: $M = 3.89$), so one might argue that female perpetrators were similarly blameworthy for social aggression across levels of provocation. This outcome is not quite as straightforward as the outcome for male perpetrators; however, it might be explained by the manner in which females characteristically express their aggression, as well as how the perpetrator had been provoked or not provoked. Female perpetrators who had been provoked in social aggression scenarios were perceived as more blameworthy than the perpetrator who had not been provoked, and this might be linked to the particular stories that described the varying social aggression scenarios.

ii) Gender effects. It was expected that female observers would attribute more blame to the perpetrator than would male observers. However, there were no significant between-subject effects of gender of the observer, $F(1, 94) = 3.25, p > .05, \eta^2 = .03, MSE = 1.52$. A significant first-order interaction between provocation and gender of the observer was found, $F(1, 94) = 4.66, p = .03, \eta^2 = .05, MSE = .74$. An examination of the simple main effects of this interaction revealed that at low levels of provocation, the difference between male and female observers was not significant, $F(1, 94) = .09, p > .025, MSE = .74$, while the this difference was significant at high levels of provocation, F

(1, 94) = 11.22, $p < .025$, $MSE = .74$. Female observers blamed the perpetrators more than did male observers at both levels of provocation, but female observers blamed the perpetrator at high provocation levels more than male observers, M (females – high provocation) = 3.67 vs. M (males – high provocation) = 3.38.

iii) Observer gender by perpetrator sex effects. It was expected that there would be an interaction between gender of the observers and sex of the characters in how blame was attributed to the perpetrators. This interaction was not significant, $F(1, 94) = .05$, $p > .05$, $\eta^2 = .000$, $MSE = .51$, to be discussed in the general discussion.

iv) Type of aggression. The type of aggression was expected to interact with gender of the observers and sex of the characters in how blame was attributed to the perpetrator. There was a significant main effect for type of aggression, $F(1, 94) = 50.40$, $p < .001$, $\eta^2 = .35$, $MSE = .49$. This main effect was qualified by a significant first order interaction between sex of the characters and type of aggression, $F(1, 94) = 24.27$, $p < .001$, $\eta^2 = .20$, $MSE = .69$, with male perpetrators being blamed more in the physical, but not social aggression vignettes. An examination of the simple main effect for physical aggression revealed significant differences in how male and female perpetrators were blamed, $F(1, 94) = 20.24$, $p < .025$, $MSE = .69$. Male perpetrators were blamed significantly more than female perpetrators in the physical aggression scenarios (male characters – physical aggression: $M = 4.30$; female characters – physical aggression: $M = 3.92$). The simple main effect analysis for social aggression also revealed significant differences in how male and female perpetrators were blamed, $F(1, 94) = 6.09$, $p < .025$, $MSE = .69$. Female perpetrators were blamed significantly more than male perpetrators

in the social aggression scenarios (male characters – social aggression: $M = 3.65$; female characters – social aggression: $M = 3.85$). These results did not support the expectation that inconsistent behaviour would result in more correspondent inferences, but instead, suggested that perpetrators who acted according to gender expectations attracted more blame.

A significant second-order interaction between gender of the observer and type of aggression qualified the main effect of sex of the characters, $F(1, 94) = 11.34, p = .001, \eta^2 = .11, MSE = .69$. A test of the simple interaction effects revealed that with male characters, the interaction between gender of the observers and type of aggression was not significant, $F(1, 94) = 4.995, p > .025, MSE = .69$, but the interaction was significant for female characters, $F(1, 94) = 6.37, p < .025, MSE = .69$. Both male and female observers blamed the male perpetrators more when physical aggression was involved than for social aggression. However, in cases with female perpetrators, female observers blamed the perpetrator more with physical aggression than with social aggression, and male observers blamed the perpetrator more where social aggression was involved rather than with physical aggression, suggesting that correspondent inferences applied only to female observers blaming female perpetrators (See Table 10).

A four-way interaction between gender of the observer, type of aggression, level of provocation, and gender of the characters was also found, $F(1, 94) = 4.71, p = .03, \eta^2 = .05$. The effect of the four-way interaction was marginally significant but of dubious interpretability. It would seem that with female characters in the social aggression

Table 10.

Means (standard error) for perpetrator blame interaction of sex of the characters by type of aggression and gender of the observer.

Sex of character	Male		Female	
Type of Aggression	Physical	Social	Physical	Social
Gender of Observer				
Male	4.32 (.07)	3.48 (.08)	3.73 (.12)	3.88 (.09)
Female	4.28 (.07)	3.81 (.08)	4.11 (.12)	3.83 (.09)

scenarios, the level of blame of the perpetrators who were provoked by the target was higher than the perpetrators who were not provoked by the targets (See Figure 2).

The three-way interactions between observer gender, sex of the characters and aggression for both target and perpetrator blame were predicted, and were found to be significant. The other interaction that was predicted included the first-order interaction between observer gender and sex of the characters for both target and perpetrator blame, but these were not statistically significant, although these factors did interact in the expected three-way interaction. Except for the three-way interaction between sex of the characters, aggression and provocation for perpetrator blame, the higher-ordered interactions discussed above did not have large effect sizes ($< .11$). The significant interactions between sex of the character and provocation for target and perpetrator blame, the three-way interaction between sex of the characters, provocation and type of aggression for perpetrator blame, and the four-way interaction between gender of the observers, sex of the characters, provocation and type of aggression for perpetrator blame were not expected, but were reported because they were statistically significant.

Attitudes towards victims

Data from the Attitudes Towards Victims (ATV) scale was coded using a 3 point Likert scale for each of the 12 questions. There were four questions that required reverse coding (questions 8, 10, 11, and 12). The total ATV score was obtained by adding the 12 scores together, resulting in a possible range of 12 to 36 points ($M = 31.46$, $SD = 3.08$). A high score on this scale represented more sympathetic attitudes towards victims, while lower scores indicated more negative attitudes towards victims. Scores ranged from 23 to

Figure 2. Simple interaction effects for four-way interaction for perpetrator blame

36, with the majority of observers scoring at or above the median of 32, suggesting that observers generally held more favourable attitudes towards victims.

It was expected that attitudes towards victims would be a factor in how blame was attributed to either the target or to the perpetrator, with those holding more positive attitudes towards victims measured by the ATV scale, attributing less blame to the target than those holding more negative attitudes towards victims. This was tested by obtaining associations between attitude scores and total blame scores. The total target blame scores were obtained by adding the eight target blame scores together, ($M = 16.86$, $SD = 2.76$). The total perpetrator blame scores were obtained by adding the eight perpetrator blame scores from each vignette ($M = 31.43$, $SD = 3.53$). The blame scores now ranged from 8 to 40, with 40 being highly blameworthy.

The total target and perpetrator blame scores were correlated with the total ATV scores using Spearman's rho, as the distribution of the scores was not normally distributed (Table 11). The relationship between total *target* blame and ATV scores were related in the expected direction in that those holding more positive attitudes towards victims would attribute less blame, but this relationship was not statistically significant, $\rho = -.171$, $p > .05$, *ns*. The relationship between total *perpetrator* blame and ATV scores were also related in the expected direction in that those holding more positive attitudes towards victims would attribute more blame to the perpetrator. This relationship was statistically significant, $\rho = .245$, $p < .05$. Consistent with the correlations between the individual target and perpetrator blame scores for each vignette, the relationship between target blame and perpetrator blame was inversely related and statistically significant, $\rho =$

Table 11.

Intercorrelations using Spearman's rho between Attitudes Towards Victims scores and Blame scores

Measure	1	2	3
1. Total Attitudes Score	-	-.171	.245*
2. Total Target Blame		-	-.275**
3. Total Perpetrator Blame			-

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed).

-.275, $p < .01$. An exploration of how the ATV scores and target and perpetrator blame scores were related with respect to the other factors in the design (provocation, type of aggression, sex of the characters), were examined using Spearman's rho correlations. These results can be found in Table 12. These correlations were obtained by calculating the total blame for each of the factors. For example, the blame scores for all the vignettes portraying high levels of provocation were added to create a total blame score for high provocation. It would appear as if individual attitudes matter more in low provocation, which is what one would expect, because in high provocation, the blame sticks more to the victim by virtue of his or her actions. This is relevant to the distribution of cause and blame.

Since previous studies suggested that attitudes may be influenced by gender of the observer the relationships between attitude and blame was explored using Spearman's rho, with the data split according to the genders of the observers (Table 13). The relationships between ATV scores and total blame scores for females were more significantly related to how target blame and perpetrator blame were attributed than male scores. Gender differences in total attitude scores were tested using a one-way ANOVA, to see if there were indeed significant differences in male and female attitudes towards victims. Females tended to hold attitudes that were more positive towards victims ($M = 32.08$, $SD = 3.08$) than males ($M = 30.83$, $SD = 2.99$); this difference was only marginally significant, $F(1, 94) = 4.08$, $p = .05$, $MSE = 9.20$.

The original intent of this study with respect to attitudes towards victims was to examine the association between the attitude measures and blame scores. The ATV

Table 12.

Spearman's rho correlations between total blame scores (targets vs. perpetrators) and Attitudes Towards Victims scores

Factor		Target Blame	Perpetrator Blame
Overall		-.171	.245*
Provocation	High	.143	.124
	Low	-.316**	.252*
Aggression	Physical	-.189	.220*
	Social	.061	.192
Sex of the Characters	Male	-.070	.212*
	Female	-.055	.219*

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed).

Table 13.

Spearman's rho correlations between total blame scores and Attitudes Towards Victims scores by gender

Factors		Target Blame	Perpetrator Blame
Females			
Overall		-.083	.330*
Provocation	High	.407**	.145
	Low	-.326*	.417**
Aggression	Physical	-.228	.369**
	Social	.376**	.227
Sex of the	Male	.155	.249
Character	Female	-.091	.000
Males			
Overall		-.212	.043
Provocation	High	-.065	.029
	Low	-.306*	.050
Aggression	Physical	-.110	-.058
	Social	-.221	.101
Sex of the Character	Male	-.249	.092
	Female	.071	.365*

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed).

scale might have been used as a covariate in the repeated measures analysis of variance, however, that was not the original intent of the ATV scores. This had not been considered prior to administration of the data, and consequently the ATV scale was administered following the vignettes. The covariate was not measured prior to the treatments, thus the responses to the ATV scales might have been influenced by the vignette stories, obscuring the actual effect of the covariate (Neter et al., 1996; Stevens, 2002). Future iterations of this study might consider measuring attitudes towards victims prior to administering the vignettes in order to determine if attitudes might account for some of the variance in the attribution of blame to targets and perpetrators in adolescent aggression. Regression analysis of the attitudes scores might have also been considered, to examine how attitudes might influence the attribution of blame in combination with the other factors in this study, however, due to the nature of the repeated measures design of this study, regression procedures could not be used.

As an exploration of how attitudes towards victims may have influenced blame scores in conjunction with provocation and type of aggression, a repeated measures analysis of variance was conducted to see whether attitudes towards victims might account for some of the effect on blame assigned to the target and to the perpetrators. To obtain a two level, between-subjects factor with the attitude scores, the dataset was split by grouping high and low ATV scores using a median split ($md = 32$). Using this split, the attitude was used as a 2 level factor, and tested for the effect on blame. Gender of the characters and gender of the observers were left out of this exploratory analysis as their effects were not as strong in the previous analyses as type of aggression and provocation,

and it simplified the interpretation of the results. Provocation remained as a two level factor, with high and low manipulations, but Aggression was combined with sex of the characters resulting in four levels: physical aggression-male, social aggression-male, physical aggression-female, and social aggression-female. Results from the repeated measures ANOVA for the exploration of target blame and perpetrator blame can be found in Appendix H (Tables H.1 and H.2, respectively).

It would be expected that those holding high ATV scores would attribute less blame to the targets, but more blame to the perpetrators, than those with low ATV scores. Attitudes towards victims did not have a significant between-subjects effect for either blame to the target, $F(1, 94) = .02, p > .05, \eta^2 = .00, MSE = .92$, or to the perpetrator, $F(1, 94) = 3.0, p > .05, \eta^2 = .03, MSE = 1.53$. Since the effect of including attitudes was the focus of this exploratory analysis, the interactions between high and low ATV scores and provocation and type of aggression were of most interest (Figure H.2).

For target blame, attitudes towards victims were qualified by an interaction with both aggression, $F(3, 282) = 3.24, p < .05, \eta^2 = .03, MSE = .48$, and provocation, $F(1, 94) = 7.00, p < .05, \eta^2 = .07, MSE = 1.02$ (Figure H.1). A significant three-way interaction between attitudes, provocation and aggression was also found, $F(1, 282) = 3.23, p < .05, \eta^2 = .03, MSE = .49$ (Figure H.3). For perpetrator blame, attitudes toward victims did not significantly interact with provocation or aggression, nor was there a three-way interaction as was found with target blame.

It would seem that attitudes towards victims only influenced judgments of blame towards the targets. The interactions between attitudes and the other factors (provocation

and type of aggression) clearly indicated that these factors were also involved in influencing how blame was attributed to targets. The strongest interaction with attitudes for target blame was with provocation, which had a similar effect here, as in the previous analyses. Targets who had provoked were blamed more than targets who had not. Those holding more positive attitudes towards victims blamed the non-provoking target less than those holding more negative attitudes towards victims (High ATV: $M = 1.25$; Low ATV: $M = 1.43$). At high levels of provocation, the levels of blame were reversed, with those holding more positive attitudes towards victims blaming the high-provoking targets more than those holding less positive attitudes towards victims (High ATV: $M = 3.37$; Low ATV: $M = 3.16$). Perhaps this was a result of the interaction with the type of aggression and the details of the stories involved⁶. It might also be possible that those holding more positive attitudes towards victims felt more sympathy for the target who had not provoked. Other influences, such as just-world beliefs might have been stronger than the support for the victim at high levels of provocation, thus resulting in the provoking target being held more responsible for the aggression.

Given that some of the participants, and a third of the male participants came from the military reserves, there may have been potential differences between the reservists and the university undergraduate students from Carleton University in how blame was attributed, and in measures about attitudes towards victims. In order to assess whether there were any differences between the males from the reservists and the males from the university undergraduate recruits, independent samples *t*-tests were conducted

⁶ As previously discussed, the story about Billy and Greg, depicting male social aggression with high provocation, might have influenced this measure; Billy, the target was blamed more compared to the other targets.

on ATV scores, and the target and perpetrator blame measures for each vignette. There were no significant differences between males from Carleton University ($N = 29$) and from the reserves ($N = 19$) on measures of attitudes towards victims, $t(46) = .18, p > .05$, and only one significant difference for perpetrator blame for the Melanie & Brittany story (female – physical aggression – high provocation), $t(46) = -2.18, p < .05$. In this vignette, undergraduate males blamed the perpetrator less than the reservist males (undergrads: $M = 3.09$; reservists: $M = 3.75$). The other perpetrator blame measures and the eight target blame measures were not significantly different between reservist males and undergraduate males. The potential differences between the different groups of participants may have had confounding influences on the results, but the majority of the measures were not significantly different from one another. Future studies might consider using comparing these (or similar types of) groups to clarify any potentially confounding effects that this sample may have introduced. Detailed results of these tests can be found in Appendix I.

Discussion

The aim of the current research was to apply some of the methods commonly used in domestic violence research to the domain of adolescent aggression. This necessarily involved reference to models of attribution of causality and blame, which are relevant to both domestic violence and adolescent aggression. The primary goal of expanding blame research to deal with adolescent aggression was met. The comparison of the two research areas highlighted several factors of importance in both domains: provocation, types of aggression, sex of the targets/perpetrators, and gender of the observer/observers. The

translation of the vignette technique from domestic violence to the present study proved successful, and contributes an additional method for future studies.

Provocation

The hypothesis regarding provocation stated that less blame would be attributed to the target where he or she had not provoked the perpetrator, and conversely the perpetrator would be attributed more blame when the target had not provoked. For blame to the target and blame to the perpetrator, the effects were quite clear: if the *target* had not provoked the perpetrator, he or she received less blame from observers than the target who had behaved in a provocative manner. Similarly, the *perpetrator* who had not been provoked was attributed more blame than the perpetrator who had been provoked. These results are consistent with the findings from domestic violence research, which has shown that when a target had provoked a perpetrator, he or she was blamed more for the ensuing aggression than an unprovoked aggressive outcome (Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990; Walker & Lennard, 1995). It is possible that the just world hypothesis (Lerner, 1980) applied to observers' judgments, in that the characters that had been perceived as provoking an attack had elicited the aggressive response from the perpetrator, and so were judged as more responsible and blameworthy than the targets who had not acted in a provoking manner.

Provocation clearly influenced how blame was attributed in interpersonal aggression, and the findings from this study have shown that provocation is applied similarly in domestic violence and adolescent aggression. These findings have implications in adolescent aggression, in that observers' perceptions about blame do

influence their judgments about targets and perpetrators, and may be linked to subsequent decisions to continue to observe or to intervene in the aggression. More broadly, observer perceptions of provocation are important, not only because they provide the basis for consensus about the targets' behaviour, but also create a normative framework that "excuses" some aggressive acts. This is not surprising, given that the law also provides for mitigation due to provocation. A contribution of social psychology is to provide further research into how normative beliefs are formed, how they are learned and shared, and how observer beliefs might influence willingness to intervene in acts of aggression. Such future research might also inform possible intervention strategies.

The scenarios with low provocation had a narrower spread in standard deviations of the blame scores for both targets and perpetrators, than scenarios with high provocation, which might suggest that observers were not as agreed upon who was blameworthy when there was high provocation. Both provocation scenarios described the target as having a history of being targeted by the perpetrator, and then described such an incident of such aggression, differing in whether the target had acted in a provoking manner towards the perpetrator, or had not acted in a provoking manner. The perpetrators in the low provocation scenarios were more clearly at fault for the incidents thus were blamed more consistently by observers, suggesting an element of consensus among observers; that the perpetrator was more to blame when the aggression was unprovoked. It might also be possible that consensus was high in who was more blameworthy for low provocation because there was no one else to consider to blame but the perpetrator. As the non-provoking target was perceived not to have done anything, an

observer might perceive that the perpetrator had caused the effect more than the target, and was consequently assigned more blame. Future examination of consensus and provocation in such scenarios might be of merit to further explain this phenomenon in adolescent aggression scenarios.

When the effect of provocation was examined with respect to attitudes towards victims, a significant relationship between attitudes towards victims and target blame scores in low provocation scenarios was found, with less blame attributed to the target by those holding more positive attitudes towards victims. A significant inverse relationship was found between attitudes towards victims and perpetrator blame for low provocation situations, with more blame attributed to the perpetrator by those holding more positive attitudes towards victims. These findings are consistent with findings from domestic violence research (Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990), providing more support that provocation influences the attribution of blame and merits future research in adolescent aggression.

Provocation has not been widely studied in the adolescent aggression context, or in the bullying literature. The findings from this study indicate that provocation does play a significant role in how blame is attributed to a target or perpetrator, but this study did not investigate what observers considered as provoking. Future research might investigate what observers of interpersonal aggression consider as provoking. In the bullying context, as discussed in the introduction section, bullying by definition can be argued as an unprovoked attack on a weaker individual. Perhaps extension of the current study might also inquire about what observers, especially adolescents and children,

consider as a provoking action by a target. Bullying research has shown that children and adolescents often justify bullying in terms of the victim having done something to deserve their aggressive treatment (Hara, 2002; O'Connell et al., 1999; Owens, Shute et al., 2000; Teräsahjo & Salmivalli, 2003), but what children consider as provoking behaviour by a target has not been thoroughly examined. Research has shown what characteristics of particular individuals predispose them to becoming victims or bullies (Coloroso, 2002; Craig & Pepler, 2003; Olweus, 1993), but the aforementioned literature suggests that observers often describe the victim as deserving, or somehow provoking. Is the mere presence of a target considered provoking enough to be deserving of aggression? By questioning what is considered provocative behaviour, given that such behaviour has such a significant impact on observers' perceptions of blame, a greater understanding of how observers conceptualize aggression can be reached, and education programs and/or interventions that focus on the observers of adolescent aggression may be developed. Some of the other predicted relationships with blame were not as well-supported by the evidence, as reviewed below.

Observer gender

It was expected that gender of the observer would affect how blame was attributed, in that males and females would differentially attribute blame to targets and perpetrators. This expectation was not met, in that gender of the observers did not significantly affect how blame was attributed. It was expected that female observers would attribute less blame to targets, and more blame to perpetrators, than male observers, but this did not seem to emerge in this study. There were, however,

interactions between gender of the observer and level of provocation. Gender of the observer and provocation interacted in such a way that male observers attributed more blame to the target than female observers where there was high provocation, and perpetrators were blamed more by female observers than male observers where there was high provocation.

Although the expectation that female observers would blame targets less than males was not met, the interaction with provocation lends some support to that argument. Male and female observers tended to attribute blame the same in low provocation scenarios, but when the target had provoked the perpetrator, females blamed the target less than males, despite the provocation by the target. This may be because females have been known to show more sympathy towards victims, as is evident in research on domestic violence, as well as bullying (Baldry, 2004; Bryant & Spencer, 2003; Hara, 2002; R. J. Harris & Cook, 1994; Rigby, 1997, 2005). It is possible that sympathy for the targets from females may have reduced the amount of blame attributed. At low levels of provocation, males and females did not differ in attributing blame to either the target or perpetrator, suggesting that both genders perceived the unprovoked perpetrators as more responsible for the attack equally. This may be related to the Just-World Hypothesis (Lerner, 1980), in that the target at low levels of provocation were perceived as not having done anything to deserve the aggression, therefore, males and females attributed blame more evenly at low levels of provocation. Additionally, these results are also consistent with the causal schema model (Fiske & Taylor, 1991), as well as most analyses of causation, with the perpetrator having more clearly caused the aggression in low

provocation scenarios. The aim of this study was not to study gender role beliefs, but future research might incorporate gender role beliefs into similar studies of blame to targets and perpetrators of adolescent aggression.

Observer gender and actor gender

It was predicted that differences in patterns of blame by females and males would interact with the sex of the characters. However, this interaction did not emerge for either target or perpetrator blame. It was expected that female observers would blame the female targets less than male observers, and conversely, that male observers would blame male targets less than female observers. Defensive attribution theory (Shaver, 1970) was expected to play a role in how male and female observers attributed blame to the male and female targets and perpetrators, although this expectation was not met. These findings are inconsistent with the findings from Baldry (2004), where female targets were attributed less blame by female observers and male targets were attributed less blame by male observers. The sample used in Baldry's research consisted of middle school aged children, who may still have held onto beliefs about gender segregation, where boundaries between genders exist (Sroufe, Bennett, Englund, Urban, & Shulman, 1993). It may be that because the sample used in this study, being older than that used by Baldry, gender boundaries and biases against the other gender have declined, as it tends to do in adolescence (Serbin, Powlisha, & Gulko, 1993) and so gender of the character was not as influential a factor for the older sample than it may have been for the observers used in Baldry's study. More generally, the concept of defensive attribution may need to be re-examined. The model is not precise about which categories of others

will be salient and relevant to the observer, and low identification with the group “female” or “male” would reduce the need to defend against possible future blame of self. Indeed, further development of both the Just World, and Defensive Attribution hypotheses would be valuable; sometimes the two lead to contradictory predictions, and it is not clear whether the two models describe alternative possibilities, or additive processes which both enter into blame attributions.

Although gender of observer and characters did not interact as expected, gender of the observer and sex of the characters were involved in significant interactions with type of aggression. It is possible that type of aggression moderated the causal processes between gender of the observers and sex of the characters, further clarifying how blame was attributed, when all three factors were considered.

Type of aggression

Two types of aggression were represented as social and physical aggression, with an expectation that physical aggression would be seen as more serious than social aggression, and more consistent with male roles. Type of aggression was expected to influence levels of blame attributed to the target and perpetrators, and also to interact with sex of the characters and gender of the observers. The results partially confirmed this hypothesis, in that blame was attributed differentially to the perpetrators for gender of the observer and sex of the characters in scenarios with differing types of aggression. Whether the perpetrator used social or physical aggression against the targets, the amount of blame to the perpetrators was significantly affected. The type of aggression used may have been perceived as more related to the perpetrator, in that he or she was perceived to

have had more control over the type of aggression used against the target. Blame to the target was not significantly affected by the type of aggression, perhaps because the target had no control over what type of aggression would emerge. Future questions related to perception of choice of type of aggression used may elucidate how blame is attributed if the perpetrator introduced either socially or physically aggressive actions against the target.

Perpetrators, both male and female, were blamed more where physical aggression was involved than when social aggression was involved. As the eight perpetrators had used varying types of aggressive reactions, those using what might be perceived as harsher types of aggression (i.e., physical) were blamed more than those using what some may consider less severe types of aggression (i.e., social)⁷. This phenomenon might also be comparable to the legal principle of proportionality used in criminal sentencing, where more severe aggression (i.e., physical assault) can result in more severe consequences and a higher degree of culpability (i.e., blame and responsibility) than offences perceived as less severe (Roberts & Von Hirsch, 1999). The study of whether the law reflects psychological processes or vice versa was beyond the scope of this study, however, it does raise an interesting question about the severity of different types of aggression.

When considering the sex of the characters who met with aggression (i.e. targets), male targets were attributed more blame in situations of social aggression than female targets, and female targets were blamed more for physical aggression than male targets. The differences in how targets were blamed fits predictions of correspondent inference

⁷ Despite the harsh impact of physical aggression, the impact of more covert types of aggression (i.e., social aggression) have been shown to have long term, negative effects on targeted individuals (Craig & Pepler, 2003; Dutton, 1995; Underwood, 2003).

theory (Jones & Davis, 1965; Jones & McGillis, 1976), where the targets who showed behaviour inconsistent with their gender stereotype, evoked stronger correspondent inferences, and were attributed more blame than targets who were involved with consistent gender stereotypical behaviour. For perpetrators, blame was attributed more to males in situations of physical than social aggression, while female perpetrators were blamed slightly more for social than physical aggression. The correspondent inferences theory did not seem to apply to perpetrators, but they were blamed more according to the severity of the aggression (i.e., with physically aggressive perpetrators blamed more than socially aggressive perpetrators, regardless of gender). The correspondent inferences model does not deal with all of the findings of this research any more than the Just-World hypothesis, or defensive attribution models do. Future conceptual work is needed to contrast and synthesize the models, in blame attribution research including adolescent aggression.

When gender of the observer was included in the interaction of type of aggression and sex of the characters, male observers blamed female targets more for the physical aggression, while female observers blamed male targets more. For social aggression, male targets were blamed more than female targets by both male and female observers. Female perpetrators, on the other hand, were attributed more blame by female observers for physical aggression. These findings again support the correspondent inferences theory (Jones & Davis, 1965; Jones & McGillis, 1976). Although these interaction effects were statistically significant, they were quite small.

When targets and perpetrators were involved in social aggression altercations, male observers seemed to blame the targets about the same as female observers, while also blaming the perpetrator similarly to female observers. This finding is inconsistent with the research of Galen and Underwood (1997) and Langhinrichsen-Rohling et al., (2001), which asserted that males and females differed in perceptions of how harmful social aggression is when compared to physical aggression. Galen and Underwood's findings (based on previous studies of gender differences in aggression) that males tend to perceive social aggression as less harmful than females was not supported in this research, as males and females tended to attribute about even amounts of blame to targets and to perpetrators at the social aggression levels.

Although the qualitative findings from Galen and Underwood were not replicated in the quantitative analysis in this study, there were some interesting observations from the comments obtained from participants about the realism of the stories. It would seem that the male observers felt that the low provocation, social aggression story involving Anna and Jessica, where Anna had missed a day of school and returned to find her group of friends excluding her, was not realistic, and they did not feel that this story reflected what could actually happen. Interestingly, this comment only came from male observers, while female observers commented that all of the stories seemed very realistic, and had even commented frequently about how they had witnessed similar incidents in their schooling. Although this was not tested empirically, this anecdotal evidence suggests that males tend not to find social aggression in girls as realistic, or as harmful; this finding is more consistent with Galen and Underwood's results.

Attitudes toward victims

It was expected that general attitudes toward victims would influence how much blame was attributed to targets and perpetrators, with those holding more positive attitudes blaming the perpetrators more than those holding less positive attitudes towards victims. The findings from this study did not support this hypothesis with respect to target blame. Those holding more positive attitudes towards victims did not seem to attribute less blame to the target, as expected. Caution is needed in interpreting this result, because the range of attitude scores was restricted; the majority of observers held fairly positive attitudes towards victims (median 32 out of 36).

For perpetrator blame, on the other hand, there was a significant relationship between how blame was attributed to the perpetrator and attitudes towards victims. Those holding more positive attitudes towards victims seemed to attribute more blame to the perpetrators across levels of provocation, consistent with findings from domestic violence (Bryant & Spencer, 2003; Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990) research and research about attitudes towards victims of bullying (Baldry, 2004; Eslea & Smith, 1995; Rigby, 1997; Rigby & Slee, 1991). It is not clear why attitude tends to have this effect; is it through liking the target or having positive affect that those holding more positive attitudes attribute less blame to a target? Or could it be that attitudes provide different target expectations? Females seemed to have more positive attitudes towards victims, consistent with findings from previous research into blame attribution in both domestic violence aggression and bullying (Baldry, 2004; Bryant & Spencer, 2003; Eslea & Smith, 1995; Hillier & Foddy, 1993; Kristiansen & Giulietti, 1990; Rigby, 1997;

Rigby & Slee, 1991). Females held more positive attitudes towards victims than males, although these differences in attitudes were not significantly related to the levels of overall blame to the target.

Revisiting Hesse

One of the goals of this study was to examine whether the application of attribution theory could be applied to an area that it had not been explored previously (i.e., adolescent aggression). Using the framework for comparing models and analogies developed by Hesse (1966), this study extracted aspects of blame attribution from domestic violence research to explore similar aspects in adolescent aggression. The hypotheses and research questions regarding adolescent aggression were based on the domestic violence literature, and the results from this study suggest that there are similarities between blame attribution in domestic violence and blame attribution in adolescent aggression. Having applied the findings of blame attribution in domestic violence to adolescent aggression, a new application of attribution theories has been advanced. A high proportion of positive analogies between the two domains have enabled the extension of blame attribution theories from one to the other.

Although there was a high proportion of positive analogy between the two domains, negative and neutral analogies exist that leave open the possibility that blame is attributed differently in the two domains. For example, a possible negative analogy that was previously discussed included the closeness and intimate nature of the relationship between spouses, which might affect how blame is attributed by observers. A difference between spousal abuse situations and the adolescent aggression situations studied here

involved the mixed sex vs. same sex actors. Most often, the nature of observers' attributions of blame in domestic violence involve mixed sex actors (i.e., a husband and wife) while the adolescent aggression situations depicted here involved actors of the same sex, since most situations of adolescent aggression occur between same sex individuals (i.e., females targeted by female perpetrators). Despite these differences in what could be considered negative analogies according to Hesse's terminology, similar results relating to the attribution of blame were found across domains. This suggests that perhaps the gender of the actors may not have affected observers' perceptions as much as one might have thought, and could possibly have been considered to be neutral analogies, rather than negative analogies. One important benefit of using Hesse's model is that it generates possibilities for comparison between a better known domain (here, domestic violence), and a lesser known domain (bullying). Future study directed to the similarities and differences between the two areas of aggression could be conducted in order to further establish which factors are important to observer attributions in both domains.

Equally important is the demonstrated utility of models of attribution for the study of third party blame of those involved in episodes of aggression. These models, while far from complete, have informed prior research in a number of domains including domestic violence. The present study has shown that the factors specified as important by attribution models may also suggest new variables that may affect blame assignment in bullying. Prior research has pointed to a variety of factors, such as perceived provocation, which are consistent with attribution models, and systematic exploration of these models in the context of adolescent aggression may yield fruitful hypotheses.

Limitations, Implications & Future Directions

Although all attempts were made to reduce any ambiguity in the collection of data and the development of the stimulus materials, this study was not without some limitations. Firstly, the sample consisted of adults, albeit young adults (university undergraduate students). This sample decreased representativeness, in that the age group of interest was adolescence. Ideally, this study would have been conducted using high school students, but due to time limitations and difficulty gaining access to high school students as participants, it was decided to use a slightly older sample. One possible benefit of using university students in lieu of high school students is that the university student sample had been removed from the high school environment for some time, so they may have felt more objective about their high school experiences and may have been more willing to provide more honest answers about how they perceived the scenarios. When asked to provide their impressions of the research and in discussion with many following the study, many participants commented about how interested and concerned they were about adolescent aggression and bullying, and several participants discussed how they had witnessed very similar situations when they were attending high school.

The process for developing the vignettes included informal consultation with current high school students and teachers, and pre-testing with a group of high school students. Although this pre-testing indicated that the stories were realistic and were indeed exhibiting the desired manipulations, there were still a few problems that may have influenced the results of the current study. In particular, the story concerning Billy and Greg, which was a story involving male characters, high provocation, and social

aggression, may have skewed the results, due to the description of the aggressive event. The intended target (Billy) was described as having acted in a provoking manner, by being obnoxious and rude to the perpetrator (Greg). After reviewing some of the results as participants were completing the study, a problem with the roles of target and perpetrator in this situation emerged, despite having pre-tested the stories. The roles of target and perpetrator were perceived as reversed in this vignette; the target was being blamed similarly to the perpetrators in the other vignettes, and the perpetrator was being treated like the target compared to the other vignettes. Perhaps when social aggression was involved, the stories were not as even in severity as hoped or were too different to be comparable at this level. Thus perpetrators were attributed blame based on other factors involved in the described scenarios.

Possible reiteration of this study with scenarios depicting more similar types of aggression and varying on only one element of the story might further explain this interaction. Because of the full factorial nature of the vignettes and only one situation with the particular combination of manipulations, it was decided to retain this story in order to be able to test the rest of the vignettes, interpreting with caution. Future iterations of this study might consider not using a repeated measures design, but rather, use different participants to read each of the vignettes, so that the same story frame might be used in all situations, with the particular manipulations attached to the same basic frame. Such a method would require extensive pre-testing of the vignettes with a sample similar to the one used in the blame attribution studies, as well as a much larger sample size.

In order to compensate for the effects of carry-over or exhaustion, the vignettes were randomly ordered, using a random number generator to manually collate all the stories. An incomplete block design was considered, wherein only a subset of all possible treatments would have been administered randomly to the participants. Upon review of studies examining the use of a balanced incomplete block design (e.g. Graham & Cable, 2001), review of the complex analysis of this type of design, and review of methods used in previous studies using vignettes (Hillier & Foddy, 1993; Walker & Lennard, 1995), it was determined that eight was actually a small number of vignettes compared to other studies. Therefore a repeated measures design with all participants receiving each treatment was decided upon, with participants monitored for boredom in the pre-testing and during administration of the vignettes. Of course, as participants reviewed eight vignettes followed by the same set of questions, carry-over effects, as well as exhaustion might still have influenced responses, despite measures taken to counter these effects.

The written fictional vignettes were followed by self-report questionnaires, therefore, the results might not have reflected how one would actually react if he/she were seeing this incident occur in person, or on video. As this research was somewhat exploratory and similar studies have not yet been conducted with this combination of questions, it was determined that vignettes would be appropriate. Future studies might consider presenting the stimulus stories using a videotaped portrayal of the aggression.

Level of violence (e.g. low, medium, high) was considered as a potential variable, and it is sometimes included in similar studies of the attribution of blame to victims of

domestic violence (Hillier & Foddy, 1993; Walker & Lennard, 1995). For the current study, it was decided that type of aggression (physical, social) was more important for this initial study, given the attention it has received in the research on bullying (Galen & Underwood, 1997; Langhinrichsen-Rohling et al., 2001). Future research can pursue the question of whether level of violence, and thus, damage done to the victim, affects attribution of blame in adolescent aggression in a similar way to the pattern shown for domestic violence. Further avenues for research include: the basis on which a victim might be targeted, such as ethnicity, racial background, and sexual-orientation. Inclusion of such factors as reasons one is targeted for aggression might have influenced the results of this study should some of the participants have held negative prejudices about that particular ethnic, racial or religious group. The vignettes were thus constructed without relating to any of those issues, in order to isolate the factors of interest (e.g., provocation, type of aggression, gender effects). These factors, which may have introduced ambiguity in the interpretation of results of the current study, would merit study in future research, examining the potential effects of race, religion, sexual orientation, etc. on the attribution of blame in adolescent aggression, in combination with some of the other factors studied in this research. Further research could incorporate aspects of social identity theory, including in-group and out-group biases (Tajfel & Turner, 1979), to potentially explore how these factors may influence observers' perceptions of targets and perpetrators of adolescent aggression.

This study has filled gaps in the literature, which as it stands, does not specifically address blame in incidents of adolescent aggression. This research has also expanded the

Attribution literature, by expanding its application to an area that the attribution of blame has not as of yet been applied to. The findings from the more developed model of blame attribution in domestic violence provided a suitable guide to inform what factors may influence blame attribution in another area of interpersonal aggression. Similarities between adolescent aggression and domestic violence have been found in how third-party observers of aggression perceive the targets and the perpetrators. This study systematically examined how provocation, type of aggression, gender of the target and perpetrator, and gender of the observers influenced how blame was attributed to targets and perpetrators. By examining all these factors simultaneously, this study was able to answer several questions about how these factors interacted, along with an exploration about how attitudes towards victims might play a role in blame attribution.

The findings from this study are consistent with the causal schema model and with most analyses of causation. Much of the research to date on models of attribution of blame, save for this study and studies of attribution in domestic violence, have tested the models with only one actor, and the models have not been well developed to address questions about two potentially responsible and blameworthy actors (i.e., a target and a perpetrator). This thesis has contributed to this growing area of applying models of blame attribution to two actors, and the models of attribution may need to be expanded to deal more adequately with multiple human causes, not just a single human and another external cause.

This research did not specifically examine the role that provocation, type of aggression, sex of the characters, or gender of the observer play in the attribution of

blame in bullying, but examined the broader area of interpersonal aggression in adolescence. Nevertheless, these findings may inform how perceivers of bullying may attribute blame to the target or the perpetrator, along the lines of Baldry's (2004) findings. Much of the bullying research has focused on children and pre-adolescents, but this study has implications for bullying in adolescence, in that perceptions of aggression more typical of adolescence, and more common in high schools, have been studied. Results may be more indicative of how an older sample may take into consideration types of aggression, levels of provocation, and gender of the bully and victim in making decisions about blame. Although bullying is more characteristically unprovoked, it may be possible for a target of bullying to act in a manner similarly to some of the characters in these vignettes, where he or she were reacting to the frequent and repetitive maltreatment he or she had received from the perpetrator. By understanding how observers perceive and make sense of who is to blame in these situations, and what might be considered as provocative behaviour on the part of the victim, further research and development of intervention programs aimed at adolescents might be considered.

This study examined how blame was attributed by observers of adolescent aggression, but did not examine what an observer might do following a judgment of who is more to blame for an aggressive situation. Future research in this area might include a follow-up questionnaire to the Blame questionnaire asking what participants might consider doing if they had witnessed this incident. Together, with the findings from this study, further understanding of how an observer might decide to intervene in a situation of aggression might be possible. Incorporation of research from the Bystander

Intervention literature might be considered in order to inform future research about how young adults or adolescents may act if confronted with aggression similar to those presented in this study.

The sample of participants consisted of primarily young adults, under the age of 26. The results from this sample suggest how adults (albeit young adults) perceive targets of adolescent aggression, as well as how they might decide who is more blameworthy. The findings might assist in informing adults how they perceive who is responsible and/or blameworthy when observing adolescent aggression. By enlightening adults about the dynamics of blame in adolescent aggression, adults might develop a deeper understanding of the processes involved, and may then be more informed about how to react to adolescents, and possibly younger children, when confronted with aggression. If adults have a better understanding of adolescent aggression, and how observers perceive those involved, perhaps if they are in a position to enact change in policy (i.e., as teachers, counselors, educators, politicians, etc.) they may be able to consider how blame assignment is involved in encouraging others to step in to help.

Implications for teachers and parents of adolescents and children involved in bullying and aggression also might include educating them about observer attributions and the role that these may play in creating and sustaining beliefs about what is normal, and whether observers' judgments about responsibility and blame might affect a tendency to intervene. Educating teachers and parents about the importance of the different participant roles in bullying and aggression, including how judgments about targets and perceivers may influence decisions about stepping in and helping a victim might enable

them to encourage their students and children to consider other factors, including the impact they might have when confronted with aggression situations.

The research should ultimately help inform anti-aggression, and more specifically, anti-bullying programs through better directed education of third-party observers of aggression, as well as provide insight into the cognitive processes involved in judging moral responsibility about those involved in this kind of behaviour. Although the bullying research has focused on school-aged children and adolescents, the findings from this research may have applications in other areas of bullying such as domestic violence situations and adult-world bullying, such as work-place bullying and in other areas, such as prisons and hospitals, especially since the sample consisted of young adults. Again, if adults are educated into how observers perceive aggression, perhaps they may carry forth that knowledge into the adult world when dealing with work-place bullies, or perpetrators.

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Appendix A

Vignettes

1. Low Provocation, Male Target, Physical Aggression

Robert was a small boy in grade nine, who had not developed physically at the same rate as the rest of his class. Since beginning High School, Robert was picked on by the other boys in his classes, particularly by Jeffrey. This morning, while walking down the hallway towards the library, Robert passed by Jeffrey and some of his friends. Robert veered around Jeffrey to avoid a confrontation, however Jeffrey saw Robert approaching and began verbally taunting him, calling him worthless, and a loser. When Robert continued to walk without reacting, Jeffrey shoved Robert into a locker, causing Robert to spill his books and papers across the hallway. When Robert bent to pick up his belongings, Jeffrey knelt down and said to Robert “You’d better watch out!”, then he left with his friends.

2. High Provocation, Male Target, Physical Aggression

Alan is an above average student and tends to get very good marks, but is often teased for being a “geek” by the other students. In the winter of Grade 10, Alan was walking home after school, and came across Stuart, a tough boy who often bothered Alan calling him a “tool” and “brown-noser”. Stuart had been known to bother Alan on his way home from school, and after a particularly mean encounter during the school day Alan saw Stuart first and threw a snowball in Stuart’s general direction, but missed him. Stuart chased after Alan, grabbed him, and shoved him into the snow. As Alan scrambled to get up out of the snowbank, he picked up some snow and threw it at Stuart. Stuart then grabbed Alan’s hair and shoved his face into the snow, holding him facedown for a few moments. When Alan stopped squirming to get away, Stuart lifted Alan’s head and said “Don’t you ever throw snow at me again, or else...” Stuart threw Alan back down into the snow and left him lying in the snowbank, with his belongings strewn everywhere.

3. Low provocation, Male Target, Social Aggression

Neil was a new guy in his high school, who moved to the school part way through the second semester of grade 11. He had been befriended by Joey in their English class. Joey was also friends with Phil, a guy who often picked on other guys in school by calling them names, taking others’ belongings, and generally embarrassing other students. Neil entered the cafeteria at lunchtime, and noticed that there was only one seat left where Joey, Phil and a few other guys were sitting. Upon approaching, Phil placed his book bag on the seat, thus preventing Neil from sitting down. Phil motioned to another table and told Neil “That’s where the losers sit. Go over there, ya loser.”

4. High Provocation, Male Target, Social Aggression

Billy was a grade 10 student who was rather arrogant and was generally tolerated by his peers, but not very well-liked, because he often boasted about himself. One Friday at school before a large party was planned at Greg's house, Billy was being particularly obnoxious by being annoying to Greg by yelling random things at Greg from the other end of the classroom. When Billy asked about Greg and some of the guys' plans for that night, Greg and the other guys avoided talking to Billy and didn't tell him anything about the party. Later on in the locker room after gym class, Billy overheard Greg and some of the guys talking about how they were glad he wasn't invited to the party because of how obnoxious Billy had been all day. When Billy confronted the group about the party, Greg said "You're not invited", and the group walked away from Billy, leaving him alone in the locker room.

5. High Provocation, Female Target, Physical Aggression

Melanie was a bit of a show-off in her Grade 10 classes. She often would brag about herself. Consequently, she often would be excluded from group events, or teased by the other girls, Brittany, in particular, a tough girl who was not very smart, and often did poorly in math. After a particularly difficult algebra test, where most of the class did poorly, especially Brittany, Melanie bragged about her A- in front of Brittany and a group of other girls from the same class. Brittany shoved Melanie into a locker, took her test, which she had been carrying, and ripped it into pieces, dropping them onto the floor. Melanie appeared scared and began to run away from the group, when Brittany yelled after her, "Better keep your mouth shut next time!"

6. Low Provocation, Female Target, Physical Aggression

Rebecca grew up living next door to Chuck, and the two were good friends, although never romantically interested in one another, all the way into high school, where they were both in Grade 9. Chuck began dating Susan, a popular girl from school, who had gone to elementary school with both Rebecca and Chuck. Susan and Rebecca had never really gotten along, because Susan had often teased Rebecca about her braces, her weight, and her acne problems. One day when shopping with Susan, Chuck bumped into Rebecca at the mall, and the two began joking around like they usually did. Susan grabbed Chuck's arm and pulled him away from Rebecca and they left. The following week at school, while walking in the hallway, Susan said to Rebecca "Stay away from Chuck, he's MY boyfriend" and shoved her backwards into a locker.

7. High Provocation, Female Target, Social Aggression

Julia, a slightly overweight Grade 11 student, was always self-conscious about how she looked to other students. She often gets teased about her appearance by both the boys and the girls in her class, especially by Cindy, a popular girl who has a close knit, clique-y group of friends who often gang up on other students, Julia in particular, spreading

rumours about her, calling her names, and mocking her in front of the other students. In science class during a laboratory experiment where the students needed to share the materials, Julia needed to use one of the items that was on Cindy's table. After a particularly nasty rumour was started by Cindy about Julia, Julia reluctantly approached Cindy's table and irritably said to Cindy "I need that beaker, bitch" to which Cindy replied, "Don't talk to me, you fat cow." Cindy then took the item that Julia needed and walked to another table where the members of her clique sat, and began pointing and laughing at Julia, leaving her without the item she needed to complete the project.

8. Low Provocation, Female Target, Social Aggression

Anna was a fifteen year-old Grade 10 student. She generally gets average marks and is involved in soccer on her school team. She had been generally accepted with her peers in the past and was usually well liked by her close group of friends. After a day off of school from illness, Anna returned to school to find that things had changed. When she approached her usual group of friends, she found that they stopped talking to each other immediately and all stared at her, answering her questions abruptly and in an unfriendly manner. Anna tried to catch her friend Jessica's eye but Jessica avoided her gaze. In their first period class, Anna sits in her usual seat only to find that Jessica has sat somewhere else. At lunch, Anna joined the group later than the other girls but just in time to hear one of the girls bitching about her. (Based on Owens, Shute, & Slee, 2000)

Appendix B

Blame Questionnaire (to follow each vignette)

1. Do you think the target⁸ provoked the bully?

1 2 3 4 5
Not at all Certainly

2. Do you think the target was responsible for what happened?

1 2 3 4 5
Not at all Certainly

3. Do you think the target was at fault?

1 2 3 4 5

Not at all Certainly

4. Do you think the target was to blame for what happened?

1 2 3 4 5
Not at all Certainly

5. Do you think the perpetrator was provoked by the victim?

1 2 3 4 5
Not at all Certainly

6. Do you think the perpetrator was responsible for what happened?

1 2 3 4 5
Not at all Certainly

7. Do you think the perpetrator was at fault?

1 2 3 4 5

Not at all Certainly

8. Do you think the perpetrator was to blame for what happened?

1 2 3 4 5
Not at all Certainly

⁸ The words “target” and “perpetrator” will be replaced by the names of the characters in the vignettes

Appendix C

Adapted Attitudes towards victims Scale (Rigby & Slee, 1991)

Views about victims

Below are a series of statements concerning relationships between targets and perpetrators of adolescent aggression. Think back to your experiences in high school, and with that in mind, please indicate the degree to which you generally agree or disagree with each statement using the scale below:

1	2	3
Agree	Unsure	Disagree

_____ I wouldn't have been friends with kids who let themselves be pushed around

_____ Kids who are weak are just asking for troubles

_____ Kids should not complain about being picked on

_____ Soft kids make me sick

_____ Nobody likes a wimp

_____ It's okay to call some kids nasty names

_____ It is funny to see kids get upset when they are teased

_____ A bully is really a coward

_____ Kids who get picked on a lot usually deserve it

_____ I like it when someone stands up for kids who are being bullied

_____ It's a good thing to help children who can't defend themselves

_____ It makes me angry when a kid is picked on without reason

Appendix D

Demographics Questionnaire

Further information about the study and your impressions

Dear Participant,

Thank you for taking the time to participate in this study. In order to assist us with any future research and in the analysis of the present data, we would appreciate if you could please provide us with comments and feedback about the questionnaires, as well as a bit of information about yourself.

1. Are you Male _____ Female _____?
2. What is your age? _____
3. Did you find this an interesting study? Please provide your impressions:

4. Did you feel that the bullying stories were realistic? If not, which ones did you feel were not realistic, and why?

Appendix E

Informed Consent Form

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

Present Study. A Study of Social Judgment in Peer Conflict Situations

Research personnel. The following people are involved in this research project and may be contacted at any time: Heather McCuaig Edge (Principal Investigator, 520-2600, Ext. 1415); Dr. M. Foddy (Faculty Sponsor, 520-2600, Ext. 1740). Should you have any ethical or other concerns about this study, please contact Dr. J. Mantler (Chair, Carleton University Research Ethics Committee for Psychological Research, 520-2600, Ext. 4173) or Dr. M. Gick (Chair, Dept. of Psychology, 520-2600, Ext. 2648).

Purpose. The purpose of this study is to investigate how individuals make social judgments about peer conflict situations, and their opinions about targets and perpetrators.

Task requirements. You will be requested to read a series of eight stories depicting high school social conflict situations. You will be asked to answer some questions based on the information you read in the stories.

Duration and locale. The experimental session will take about 30-45 minutes and will primarily take place in Room A401, Loeb Building, Carleton University, but may occur off campus.

Potential risk/discomfort. The nature of the study includes scenarios of conflict in high school situations, including some physical and social aggression. These scenarios might cause some discomfort and anxiety in some participants. In some of the scenarios, coarse language and swear words are used to represent the language that people often use in similar situations. There are no other potential physical or psychological risks involved in the experiment.

Anonymity/confidentiality. The data gathered in this study are confidential and will only be used by researchers associated with this project. No one else will have access to this information. Your personal identity will remain anonymous, and none of your contributions to the study will be recognizable in any way. Information collected will be reported in a general way, and will be completely anonymous.

Right to withdraw. You may withdraw from the study at any time or omit any questions without academic penalty.

Signatures:

I have read the above form and understand the conditions of my participation. My participation in this study is voluntary, and if for any reason, at any time, I wish to leave the experiment I may do so without having to give an explanation and with no penalty whatsoever. Furthermore, I am also aware that the data gathered in this study are confidential and anonymous with respect to my personal identity. My signatures indicate that I agree to participate in the study.

Participant's Name: _____	Participant's Signature: _____
Witness' Name: Heather McCuaig Edge	Witness' Signature: _____
Date: _____	

Appendix F Debriefing

We wish to thank you for your participation in this study. Your participation will help us to understand more about how observers attribute blame in situations of adolescent aggression, and will offer a new contribution to this field.

Bullying and adolescent aggression have become widespread phenomena with consequences affecting not only those directly involved (i.e., the target and the perpetrator) but also the individuals who indirectly take part, the observers. Research has shown that the bystanders who intervene to stop bullying incidents are very effective and have stopped bullying within 10 seconds although, only 19% of bystanders readily do so (Hawkins, Pepler & Craig, 2001)⁹. If we had a better understanding of what was preventing bystanders from intervening, perhaps we could devise strategies to encourage them to step in more readily.

We expect that when the victim is perceived to have more strongly provoked the incident, the bystanders would perceive the victim as more blameworthy, and conversely, if the victim was perceived not to have provoked the incident, the bully would be perceived as more blameworthy by the bystanders. By examining how the victim is perceived by observers of this behaviour, we may be able to better understand the reasons why so many students hesitate to become involved by intervening, be it blaming of the victim, the type of aggression used, or whether the perpetrator is perceived as justified in picking on a victim.

We appreciate the time that you took to complete this study and if you would like to discuss this research further, please contact any of the following people: Heather McCuaig Edge (Principal Investigator, 613-520-2600, ext. 1415), Dr. Margaret Foddy, (Faculty Supervisor, 613-520-2600, ext. 1740). Should you have any ethical or other concerns about this study, please contact Dr. Janet Mantler, (Chair, Carleton University Research Ethics Committee for Psychological Research, 613-520-2600, ext. 4173) or Dr. Mary Gick, (Chair, Dept. of Psychology, Carleton University, 613-520-2600 Ext. 2648).

In addition, should you feel any discomfort as a result of this study and would like to speak to someone about it, please contact the Student Health and Counselling Services at Carleton University (613) 520-6674 or on the web (<http://www.carleton.ca/health/>) if you are a Carleton University student, or consult your family physician who can provide a referral. Please also feel free to consult the following Internet resources dealing with bullying and aggression situations in schools:

www.bullying.org

www.bullyingawarenessnetwork.ca

www.bullyingnoway.com.au

⁹ Hawkins, D. L., Pepler, D. J., & Craig, W. M. (2001). Naturalistic observations of peer interventions in bullying. *Social Development, 10*, 512-527.

Appendix G Data screening

As discussed in the methodology section, there were six cases with more than 10% of values missing. These six cases were deleted from the dataset (Stevens, 2002). One missing value was detected in each of five other cases. The gender group means were substituted for these individual missing values, resulting in a full dataset with $n=96$. There were no patterns in the five individual missing data points, but they were scattered across all of the blame questions and attitude measures.

Dependent variables were converted into z-scores to be examined for potential univariate outliers. According to the rule of thumb that if any standardized score was above the $|3|$ standard deviation mark these cases would be considered as outliers (Stevens, 2002). There were ten cases where univariate outliers were found on at least one variable, with thirteen outlying values on the total blame measures. These cases were scrutinized to see whether they may have been erroneously entered into the database, and also to determine why those particular questions may have been extreme. In most of these cases, the individual had extreme beliefs in opposition to the majority of participants regarding where the blame should lie in the particular stories. As one remedy for outlying cases, Stevens (2002) suggested reducing the outlying cases to the $|3|$ standard deviation mark. This course of action was taken and the thirteen outlying scores were reduced to the $|3|$ standard deviation score.

Separate tests for multivariate outliers were conducted for each group of the design prior to any changes to the univariate outliers (Tabachnick & Fidell, 2001, p67). Two cases were identified as multivariate outliers using Mahalanobis' distance, at a significance level of $p < .001$, $\chi^2 (17) = 40.79$ (Stevens, 2002; Tabachnick & Fidell, 2001). Two observations were identified as multivariate outliers, but these two cases were also part of the ten cases identified as univariate outliers. After the reduction of the univariate outliers to the $|3|$ standard deviation mark, the multivariate outlier test was repeated and the two multivariate outlying cases were no longer problematic.

The assumptions of Analysis of Variance (ANOVA) and Multivariate analysis of variance (MANOVA) were assessed for independence of the observations, univariate and

multivariate normality, and homogeneity of variances and covariances. Stevens (2002) explained that for repeated measures ANOVA, the three assumptions of this type of analysis include independence of the observations, multivariate normality, and sphericity. For repeated measures MANOVA, the sphericity assumption would not apply, but the added assumption of homogeneity of the covariance matrices becomes involved with mixed model repeated measures MANOVAs. The assumption of sphericity involves the homogeneity of the variance-covariance matrices between the levels of the factors. As there were only two levels of each factor in this design, the sphericity assumption was met by definition (Neter et al., 1996).

Given that the questionnaires were administered to individual participants with no collaboration with other participants, it was assumed that the between participant observations were independent from one another (Stevens, 2002). This was a repeated measures design using subjects as blocks; the within participant observations were expected to be related, but the sphericity assumption as well as the technique of repeated measures designs compensates for this lack of independence of the within-subject observations by accounting for correlated observations (Neter et al., 1996). The assumption of multivariate normality was examined using skewness and kurtosis measures, as well as through the Shapiro-Wilkes statistic. Several of the variables violated the assumption of normality, but as previously discussed, transformations were not considered a viable option as the interpretation would become overly complex. Additionally, according to Tabachnick and Fidell (2001), if grouped data were used, as in this case, then the Central Limit Theorem indicates that with a large enough sample size, the sampling distributions of the means are normally distributed regardless of the distributions of the variables, and that if there are at least 20 degrees of freedom for error, then the F tests are robust to violations of normality. In this study, there were at least 93 error degrees of freedom, thus the F tests were assumed to have been robust against violations of normality.

Levene's statistic was used to verify the homogeneity of variances among the variables measuring blame to the target or to the perpetrator. This analysis revealed that there was no significant departure of the homogeneity of variances for the victim blame

measures, however, there was violation of this assumption for the Billy and Greg, and Melanie and Brittany perpetrator blame measures. The Box's M statistic was used to verify the homogeneity of covariances assumption (Stevens, 2002). The obtained Box's M statistics were not significant for the blame measures using a stringent $p < .01$, indicating that there were no violations of the homogeneity of the covariance matrices. Given violations of the homogeneity of the variances in the perpetrator blame measures from the Levene's test, the significance tests would still be robust against any violations of this assumption as there were equal group sizes. It was concluded that the data were deemed to have fulfilled all of the assumptions for repeated measures ANOVA (Stevens, 2002; Tabachnick & Fidell, 2001).

Appendix H

Repeated measures ANOVA for the exploration of target and perpetrator blame with
Attitudes towards victims scores

Table H.1.

Repeated measures ANOVA for attitude scores and blame of the target

Source	df	F	p	η^2
Between-subjects				
Attitudes (A)	1	.019	.892	.000
Between-Subjects Error	94	(.922)		
Within-subjects				
Aggression (B)	3	3.509	.016	.036
A x B	3	3.237	.023	.033
Error (aggression)	282	(.477)		
Provocation (C)	1	697.929	.000	.881
A x C	1	6.998	.010	.069
Error (provocation)	94	(1.015)		
B x C	3	15.591	.000	.142
A x B x C	3	3.226	.023	.033
Error (B x C)	282	(.486)		

Note. Values enclosed in parentheses represent mean square errors.

Table H.2.

*Repeated measures ANOVA for attitude scores and blame of the perpetrator, using
Greenhouse-Geisser adjustments of df*

Source	<i>df</i>	<i>F</i>	<i>p</i>	η^2
Between-subjects				
Attitudes (A)	1	2.99	.087	.031
Between-Subjects Error	94	(1.528)		
Within-subjects				
Aggression (B)	2.692	24.962	.000	.210
A x B	2.692	2.805	.046	.029
Error (aggression)	253.02	(.639)		
Provocation (C)	1	160.093	.000	.63
A x C	1	.007	.934	.000
Error (provocation)	94	(.781)		
B x C	2.764	75.293	.000	.445
A x B x C	2.764	2.430	.071	.025
Error (B x C)	259.769	(.433)		

Note. Values enclosed in parentheses represent mean square errors.

Figure H.1. Target blame interaction between attitudes scores and provocation, and attitudes scores and aggression

Figure H.2. Perpetrator blame interaction between attitudes scores and provocation, and attitudes scores and aggression

Figure H.3. Target blame three-way interaction between attitude scores, provocation, and type of aggression

Appendix I

Table I.

T-test results comparing undergraduate males to reservist males on measures

Measure	Undergrad M (SD)	Reservist M (SD)	t (46)	p
Attitudes Towards Victims Scale	30.90 (2.78)	30.74 (3.35)	.179	.86
Target Blame				
Robert & Jeffrey	1.24 (.43)	1.09 (.28)	1.34	.19
Alan & Stuart	3.21 (1.04)	3.50 (1.08)	-.94	.35
Neil & Phil	1.18 (.40)	1.18 (.48)	.012	.99
Billy & Greg	4.03 (.65)	3.67 (.79)	1.73	.09
Rebecca & Susan	1.58 (.70)	1.43 (.57)	.75	.46
Melanie & Brittany	3.40 (1.01)	3.21 (1.06)	.61	.54
Anna & Jessica	1.47 (.61)	1.26 (.60)	1.18	.25
Julia & Cindy	2.99 (.88)	3.11 (1.11)	-.40	.69
Perpetrator Blame				
Robert & Jeffrey	4.75 (.40)	4.88 (.30)	-1.20	.24
Alan & Stuart	3.74 (.82)	4.00 (.74)	-1.13	.26
Neil & Phil	4.52 (.63)	4.53 (.62)	-.05	.96
Billy & Greg	2.24 (1.04)	2.72 (1.03)	-1.56	.13
Rebecca & Susan	3.97 (.99)	4.30 (.92)	-1.17	.25
Melanie & Brittany	3.09 (1.05)	3.75 (1.00)	-2.18	.03*
Anna & Jessica	3.91 (.98)	3.79 (1.06)	.40	.69
Julia & Cindy	3.78 (.70)	4.05 (.67)	1.18	.25

Note: n (undergraduate) = 29, n (reservists) = 19; * indicates significance at $p < .05$.