

**“I DID IT BECAUSE SHE HURT ME”:
INVESTIGATING MOTIVATIONS FOR SOCIAL AGGRESSION IN YOUTH**

by

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Abstract

Motivations for social aggression against friends and non-friends among adults and adolescents (desire for acceptance, amusement, jealousy, revenge, and social image) were investigated in two studies. In both, normative beliefs about social aggression and gender were explored as moderators. In Study 1 ($n = 254$), a measure of motivations for social aggression in two contexts (friend and non-friend) was developed based on existing qualitative and quantitative research on motivations for social aggression and its psychometric properties were evaluated. A 17 item, 5-factor measure of motivations for the use of socially aggressive strategies across contexts was established. All motives were found to be related to the use of social aggression, however, normative beliefs about social aggression were found to moderate the associations between desire for acceptance, amusement and jealousy and social aggression against both a friend and non-friend, as well as revenge and social aggression against a non-friend. Revenge in the friend context and social image in both contexts were positive predictors of social aggression but were not moderated by normative beliefs. Gender was found to moderate only one of these relationships: the association between amusement and social aggression such that this relationship was stronger for women. In Study 2 ($n = 151$), the measure of motivations validated in the first study was used to examine the relationship between motivations and the use of socially aggressive strategies in an adolescent sample. Normative beliefs were a significant moderator for all motivations, with the exception of the desire for acceptance when the aggression was directed at a non-friend. Follow-up analyses examining specific socially aggressive behaviours found that the desire to maintain one's social image predicted to ignoring a friend and a non-friend, while desire for acceptance

predicted to excluding a friend and ignoring a friend, and desire for revenge predicted all the socially aggressive behaviours except for ignoring a non-friend. Results of this study are discussed in light of the theoretical model originally designed to understand girls' socially aggressive behaviour (Owens, Shute, & Slee, 2000b). A general discussion highlights the noteworthy similarities and differences between the two studies.

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Dedication

I dedicate this work to both of my amazing grandmothers. Although they won't see me walk across the stage, they both knew I would make it. This PhD is a testament to those wonderful women and the passion and dedication they both instilled in me.

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“I did it because she hurt me”:**Investigating motivations for social aggression in youth**

Children are our future: It's a phrase we hear often in popular culture and media, from the mouths of politicians, judges and educators, to name a few. The sentiment is evoked to encourage improved stewardship of a generation of children who, for a variety of real and perceived reasons, are at risk—of learning too little, or too much; of not having enough to eat in the morning, or of being obese; of being deprived of adequate recreational opportunities, or of being addicted to video games and the Internet; and of being too social or of being rejected by peers. Much has been said and written about this growing spectrum of troubles that plague our future generations. They speak to the relationships between children and parents, parents and educators, educators and government, government and children, and children and their peers (Craig, Pepler, & Cummings, 2009).

These relationships are wrought with complexities at every level of power and influence. But the peer-to-peer relationship is one of the most basic foundations on which children grow into the world as they become less dependent on their parents and more reliant on their peers (Rubin, Bukowski, & Parker, 2006). That is not to say peer relationships are any less complex than the others. They too are often rife with insecurity, strife and unrest. Like that of their adult counterparts, the imbalance of the power dynamic between peers can result in victimization. For some children, peer relationship experiences are negative, hostile and seriously harmful. Some children become targets of hurtful gossip and social exclusion. Many are victimized repeatedly. Few Canadian studies document prevalence rates for experiences with peer-based

victimization, but one recent large-scale Canadian study reported that 37% of fourth to twelfth grade students had experienced social victimization, and almost 29% reported socially victimizing a schoolmate within the past three months (Vaillancourt et al., 2010).

School-aged children and youth spend the majority of their time immersed in these relationships, however turbulent. Social victimization by peers can have serious negative long-term effects on the person victimized. A retrospective qualitative study of 11 female graduate students who had been socially victimized as children revealed ongoing negative effects of this victimization for almost all women in the study (Anderson, 2005). They reported this experience had effects on how they saw themselves, trusted themselves, and presented themselves to others. Furthermore, they felt flawed and experienced mistrust and ambivalence in their relationships with other women. So fundamental are these early relationships, they can set children up for success or failure in their relationships later in life (Hymel, Schonert-Reichl, & Miller, 2006).

Evidence of unhealthy peer relationships in schools today is clear (Vaillancourt et al., 2010), as are the harmful effects on those who are victimized. What remains uncertain is exactly *why* some young people socially victimize their peers. What types of motivations commonly lead children and youth to use socially aggressive behaviours? And do the motivations that lead to socially aggressive behaviours depend on whom the behaviour is directed toward? These questions were the focus of the current study.

Despite academic and popular interest in social aggression, few empirical studies have examined why youth use socially aggressive strategies with their peers (notable exceptions are Owens, Shute, & Slee, 2000a; Pronk & Zimmer-Gembeck, 2010;

Reynolds & Repetti, 2010). Even less clear is why individuals might use socially aggressive behaviours against their close friends. Almost 7% of boys and girls in a study of urban central Canadian children reported extremely high levels of relational victimization (levels that were 2 standard deviations higher than the mean) from the person they considered to be their very best friend (Daniels, Quigley, Menard, & Spence, 2010). Given that this is likely a very conservative estimate, and considering how detrimental these experiences can be, it is important to examine factors that lead youth to use socially aggressive behaviours against friends as well as peers, and whether the reasons differ depending on whom the aggression is directed toward. The few studies that have been conducted to understand motivations for social aggression have mostly been based on qualitative interviews with small samples of youth (e.g., Owens, Shute, & Slee, 2000b), therefore the purpose of the current dissertation was twofold: 1) to develop a measure to assess motivations for the use of socially aggressive acts directed to both friends and non-friends, and 2) to determine the relationship between these motivations and individuals' reported use of socially aggressive acts in early adolescence. Furthermore, it was of interest to determine whether one's normative beliefs about the acceptability of the use of social aggression influenced these associations.

To situate this study in the context of the field of research on social aggression, it is important to establish a clear definition of what is meant by the term *social aggression*. Before a review of the research regarding the underlying motivations for socially aggressive behaviours is presented, the definitional issues with this form of aggression is addressed, and the types of socially aggressive behaviours focused on in this paper are explained. Then, a thorough review of the existing literature on explanations for the use

of social aggression summarizes the gaps in our understanding of this issue, which were filled by this dissertation.

Defining Social Aggression

Some researchers argue indirect aggression, social aggression, and relational aggression are indistinguishable (Archer & Coyne, 2005) and yet others insist on the value of considering them separate constructs (e.g., Underwood, 2003). To keep a consistent framework in this paper, these labels were considered, at the very least, overlapping, however there are defining features that distinguish each. Although the terms include related behaviours, only social aggression is comprehensive and inclusive of the behaviours encompassed by all three constructs, and uses terminology that reflects the social harm that may result. The following is a review of each of the terms used in the existing literature and an argument supporting the use of the term social aggression in this paper.

Feshbach's studies were the first to examine aggressive behaviour of a more covert form than that of physical aggression (1969; Feshbach & Sones, 1971). She labeled the behavior of the 6- and 7-year-old children who expressed their discontent toward a newcomer in her laboratory experiment by defining ignoring, avoidance and exclusion, as indirect aggression. The newcomer, who was in the same room with the others, could easily identify the perpetrators. The label given by Feshbach, however, is problematic because, although collusion among a peer group might be indirect, the actions involved in this form of aggression are intentionally targeted, often toward one or a few individuals. Furthermore, the acts of ignoring, avoiding and excluding someone can be quite direct.

A number of years later, Lagerspetz and colleagues continued Feshbach's line of research on indirect aggression and used the same term, but revised her definition to include non-confrontational behaviours concealing the identity of the perpetrator (Lagerspetz, Björkqvist, & Peltonen, 1988). Lagerspetz and colleagues identified behaviours among participants by asking questions about their use of the following behaviours: "tells untruth behind the back," "starts being somebody else's friend as revenge," "tries to get the other on his or her side," "says to others: 'let's not be with him or her,'" and "takes revenge in play." The label of indirect aggression seems slightly more appropriate for this definition; however, Underwood (2003) noted the aggressor did not necessarily remain unidentified despite the researchers' intentions. So in the world of children and youth, the indirect aspect of the label may be a misnomer.

Following research on indirect aggression, the study of relational aggression began to develop (Crick & Grotpeter, 1995). As defined by Crick and Grotpeter, relational aggression refers to behaviours that cause or threaten damage to social relationships and feelings of acceptance and inclusion. Contrary to Lagerspetz and colleagues (1988), relational aggression can include both confrontational and non-confrontational behaviours, and is measured by questions such as: "when mad, gets even by keeping the person from being in your group of friends," "tells friends they will stop liking them unless friends do what they say," "when mad at a person, ignores them or stops talking to them," "tries to keep certain people from being in their group during activity or play time," and "tries to make other kids not like a certain person by spreading rumours about them." Relational aggression is limited to aggressive behaviours where the "relationship serves as the vehicle of harm" (Crick, 1997, p. 610)— in other words,

where features of the relationship are used to aggress against a person or are meant to cause harm to a relationship. In contrast, this is not a necessary feature of indirect aggression, as a relationship does not have to exist in order to perpetrate these behaviours. For example, in Feshbach's (1969) research, the children did not yet know each other and yet they indirectly aggressed against the newcomer to the group.

Another issue that has been raised in the study of relational aggression is that the behaviours theoretically identified as belonging to this construct are not easily measured. For example, one of the most common measures of relational aggression by Crick and Grotpeter (1995) contains an item that measures gossip and spreading rumours, but in factor analyses of this measure, this item cross loads statistically on both relational aggression and overt aggression and therefore the removal of the item was recommended by the authors. This is problematic, as other researchers would argue that gossip and rumours are especially characteristic of non-physical forms of aggression, which involve the social relationships and harm feelings of acceptance and inclusion as defined by this construct. For example, Underwood (2003) noted, "If nasty gossip is not relational aggression, what is?" (p. 22). Taken together, these are some theoretical and definitional limitations to studies of relational aggression.

The third and final term used in this literature to refer to non-physical aggression is social aggression, which was originally defined by Cairns, Cairns, Neckerman, Ferguson, and Gariépy (1989). Similar to Lagerspetz's use of the term indirect aggression, the term social aggression has been used to refer to non-confrontational and largely concealed aggressive acts directed at harming the social relationships of the targeted person. Cairns and colleagues described this form of aggression as, "the

manipulation of group acceptance through alienation, ostracism, or character defamation” (p. 323). The defining characteristic of social aggression, which distinguishes it from indirect and relational aggression, is the necessary involvement of the social community (Xie, Cairns, & Cairns, 2005). Socially aggressive behaviours include “gossip, social exclusion, social isolation, social alienation, writing notes about someone, talking about someone behind his or her back, stealing friends or romantic partners, triangulation of friendship or romantic relationships, and telling secrets/betrayal of trust” (Xie, Cairns, & Cairns, 2005, p. 107).

Galen and Underwood (1997) expanded Cairns’ definition of social aggression to include the use of negative facial expressions and nonverbal body language, which were reportedly the most frequently used socially aggressive behaviours among participants in their study, but which are not included in any of the previous definitions. In a qualitative study, James and Owens (2005) echoed the importance of these non-verbal behaviours for Australian girls’ who used social aggression. Underwood (2003) explained that her reason for using the term social aggression stemmed from the aggressor’s desired outcome for the use of the behaviours—that is, to cause an individual social harm. She defined social aggression as behaviours “directed toward damaging another’s self-esteem, social status, or both, including such direct forms as verbal rejection, negative facial expressions or body movements, as well as more indirect forms such as slanderous rumors or social exclusion” (Galen & Underwood, 1997, p. 589). Socially aggressive behaviours may be confrontational or not and, although Underwood did not note the necessary involvement of the social community, it is recognized that peers are often

involved in many socially aggressive behaviours (e.g., a rumour cannot be spread without a group of people to listen to and repeat it).

For the purpose of this study, the term social aggression as defined by Underwood (e.g., Galen & Underwood, 1997) and the behaviours included therein were used for a number of reasons. First, the term indirect aggression did not capture the nature of the behaviour under consideration because many of the behaviours examined were quite direct and overt. The term relational aggression did not include the nonverbal aggressive behaviours that were understudied in this field and prevalent in the lives of youth (Galen & Underwood, 1997; James & Owens, 2005) and these behaviours were of interest in the current study. Thus, the only term to include nonverbal, indirect and direct aggressive behaviours intended to harm relationships, social status, and self-esteem was the broader construct of social aggression. This term also captures the social nature of such behaviours.

With a clear definition to work from, it was important to consider what was known about why children and youth might use socially aggressive behaviours. Some possible motivations for these behaviours have been alluded to in the questions that researchers have used to measure these behaviours, for example, “when mad, gets even by keeping the person from being in your group of friends” (Crick & Grotpeter, 1995). The motivation to seek revenge is alluded to in the question above, but it may have been presumptuous to ask questions like this without fully understanding the motivations behind the behaviours. What follows is a review of what is known about why children and youth report that they use social aggression.

Motivations for the use of Social Aggression

Children have said that they used socially aggressive behaviours for self-interest, control and revenge purposes and, interestingly, these reasons are the same as those that motivated children's physically aggressive behaviours (Delveaux & Daniels, 2000). However, distinct from physically aggressive strategies used to attain goals, children have said that they use socially aggressive strategies to also avoid trouble from adults (because it is a set of behaviours commonly hidden from adults and leaves no visible harm on the targeted person) and because they wished to maintain the relationships they had with other individuals in their peer groups (Delveaux & Daniels, 2000). The goal of using social aggression then, is to cast aside the person targeted and damage their relationships, self-esteem and social status, while minimizing negative repercussions from adults and peers.

Much of the research on socially aggressive behaviours has been focused on the behaviours and explanations provided by girls for their use of this type of behaviour. Laurence Owens and his colleagues have published a number of articles describing a rich qualitative study exploring the experiences, explanations for and outcomes of social aggression (James & Owens, 2005; Owens et al., 2000a; Owens, Shute, & Slee, 2000b; Owens, Slee, & Shute, 2000; Shute, Owens, & Slee, 2002). In these studies, focus groups consisting of six to eight randomly selected 15- and 16-year-old girls from two metropolitan middle class Catholic schools in South Australia ($N = 54$) were interviewed for a 45-minute period during their class time about their experiences with social aggression.

In one of these reports, Owens and colleagues (2000a) discussed the explanations girls gave for why a hypothetical character might behave in a socially aggressive way toward her friend. The girls reported that common reasons for such behaviours were: to alleviate boredom and create excitement in their lives, to seek attention from peers, to be included in the peer group, to belong to a desirable peer group (which the girls called the ‘right’ group), for self-protection from potential social attacks by peers, because they were jealous over same or opposite sex relationships, and to seek revenge (Owens et al., 2000a). Owens and his colleagues organized these reasons in two categories: 1) amusement (alleviating boredom and creating excitement), and 2) friendship and group processes (encompassing all other reasons the girls gave). However, these two categories may not be detailed enough to reflect the diversity of the reasons girls may have for using socially aggressive behaviours. The reasons included within the second category (i.e., friendship and group processes) included several items that could actually be considered subcategories, which reflect different motivations.

In order to gain a deeper understanding of a construct such as “friendship and group processes,” for example, the item “jealousy over relationships” could be categorized under the more specific theme of friendship insecurity. Likewise, having “a desire to be included by the group” might be categorized under the broader theme of social dynamics. Furthermore, some of the reasons classified as amusement do indeed involve group processes (e.g., “the group engages in this sort of behaviour for fun when together”) and so it may be best to consider amusement under the same realm as the other group processes. A two-category classification seems too simple to accurately reflect the complex reasons for the use of social aggression. The information gained from Owens

and colleagues' (2000a) qualitative study is informative and provides a rich foundation from which researchers can explore these findings further. Working from this foundation was important in order to determine what friendship and group processes motivated the use of social aggression.

Owens and his colleagues developed a theoretical model of girls' socially aggressive behaviours (see Figure 1 for this model, which was originally presented in Owens et al., 2000b). This theoretical model included a description of the motivations for social aggression that the girls in their study had reported. These authors pointed out that the explanations girls had reported (friendship and group processes, which interacted with alleviating boredom and creating excitement) produced socially aggressive behaviours.

Guided by the work of Owens and colleagues (2000a), Reynolds and Repetti (2010) asked 114 ninth and tenth grade American girls about their motivations for actual socially aggressive behaviours they had engaged in. These authors examined the motives of amusement, anticipation of something bad happening, revenge, and social control. While *amusement*, *anticipation* and *revenge* were directly derived from the Owens and colleagues' work, the construct of *social control* examined by Reynolds and Repetti (2010) included the items "thought it would help you get closer to other girls" and "thought friends didn't like her," and seemed to be similar to the inclusion and acceptance items reported by Owens and colleagues (i.e., "to be included in the peer group" and "to belong to a desirable group"). However, Owens and colleagues' explanations, "to seek attention from peers" and "because they are jealous over same or

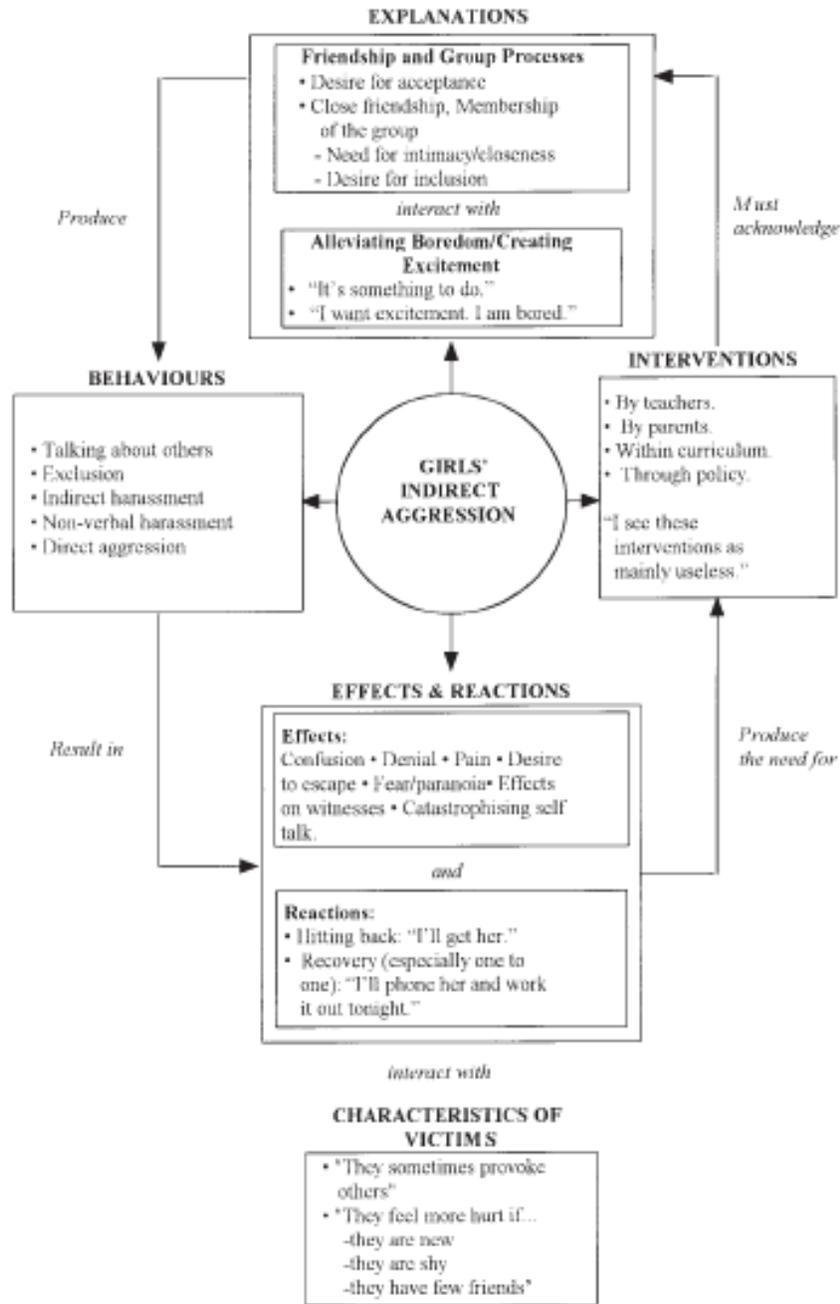


Figure 1. Model of teenage girls' indirect aggression from Owens, Shute, and Slee (2000b, p. 71). Reprinted with permission from John Wiley and Sons.

opposite sex relationships” were not included in the items Reynolds and Repetti (2010) examined.

In order from most- to least-endorsed reasons for the use of social aggression, the girls in Reynolds and Repetti’s (2010) study reported most endorsing trying to get back at the target (i.e., seeking revenge). The second most endorsed reason was they thought their friends didn’t like the target and the third, fourth and fifth reasons (out of a possible 5) were that it seemed like a fun thing to do at the time, they thought it would help them get closer to other girls, and they thought the target was going to do something bad to them, or in other words, they would use social aggression to protect themselves from it happening to them. Taken together, these findings have quantified the qualitative interview findings of Owens and colleagues (2000a), and have provided further evidence for Delveaux and Daniels’ (2000) findings of the importance of revenge, self-interest, and social control in motivating social aggression. Amusement seems to be an important component as well, having been reported as a key finding in both the qualitative (Owens et al., 2000) and the quantitative study (Reynolds & Repetti, 2010).

While these factors are clearly important in motivating socially aggressive behaviour, the perspective of boys were not considered in any of these studies. Thus, it was unclear up to this point whether these motivations factored into boys’ use of social aggression as well. In the only study to have included boys and girls in the field of motivations for social aggression, Pronk and Zimmer-Gembeck (2010) conducted a qualitative study of Australian girls and boys who were identified by their peers as having a history of different types of aggressive behaviour, victimization, or both. The researchers did individual 30 to 40 minute interviews with 33 early adolescents (11-13

years of age) during which they randomly presented them with three of six possible hypothetical vignettes depicting socially aggressive behaviours and asked, “Why might the person do this?” and “What might the person achieve from doing this?” The researchers then categorized the children’s explanations for social aggression under three themes: social dynamics, aggressor characteristics, and victim characteristics.

The first and most commonly reported explanation for social aggression in their study—social dynamics—included the themes of having power over someone (more often reported by boys), social dominance (popularity and status), and attention seeking. These young adolescents reported that social aggression facilitated their acceptance by popular peers, even when such behaviours were used against a friend. Many participants in this study reported that their peers often left friends behind in favour of associating with more popular peers. Furthermore, social attacks were reported at the dyadic, group, and grade levels; attacking a person’s reputation or attempting to isolate a person was often reported as an effective method for climbing the social ladder in their grade, regardless of whom a person attacked.

Pronk and Zimmer-Gembeck (2010) also reported on two other aspects of social aggression: the characteristics of aggressors and the characteristics of victims. Many of the characteristics of the aggressor fell closely in line with the explanations reported by the Australian girls studied by Owens and colleagues (2000a). These included explanations of jealousy, revenge, and creating excitement to alleviate boredom. New inclusions not previously reported were anger, fluctuating moods (i.e., unpredictability of daily mood) and friendship insecurity (i.e., trying to establish or maintain friendships through the use of social aggression). The aggressor’s reactive anger was also reported to

be an important explanation for social aggression, a finding supported by Quigley and Daniels (in preparation). However, Quigley and Daniels found that an aggressor's reactive anger motivated social aggression toward one's best friend but not toward other members of the peer group. Pronk and Zimmer-Gembeck (2010) examined the perspectives and experiences of both girls' and boys' social aggression. Importantly, they found a gender difference in the motivations boys and girls reported for using socially aggressive behaviour in that boys more often reported power as a motivator.

In summary, although there have been few studies that have examined motivations for social aggression among adolescents, the few that exist have provided rich qualitative accounts of why individuals might use these behaviours (Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010) as well as informative quantitative studies differentiating social aggression from physical aggression (Delveaux & Daniels, 2000) and offering a useful quantification of some of the earlier qualitative work providing insight into which motivations may be most salient, at least to adolescent girls (Reynolds & Repetti, 2010). In Table 1, the motivations from all of the studies that have been reviewed thus far are presented. Multiple studies have identified similar reasons children and youth report for using socially aggressive behaviours. For example, the goals of seeking attention, jealousy, seeking revenge, creating excitement to overcome boredom, and self-protection, have been found in qualitative and quantitative research (Delveaux & Daniels, 2000; Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010), but most of these studies have not considered the perspectives of both boys and girls and none of these studies have

Table 1

Motivation Items from Other Studies Organized into Proposed Themes

Item	Author	Gender
Social dynamics (Acceptance, Fitting in)		
1. I thought it would help me get closer to one or more other girls/guys	5	G
2. I thought one or more of my friends didn't like her/him	5	G
3. I thought it would get me closer to a guy/girl I liked	5	G
4. I just wanted to be accepted by the group	2	G
Social Dominance (Popularity, Power, Revenge)		
5. I thought it would make me more popular	2, 4	B & G
6. I was trying to get back at her/him for something she/he did that made me mad	5	G
7. I was angry about something and wanted to put her/him in her/his place	3, 5	B & G
8. I wanted to belong to the 'right' group of friends	2	G
Amusement		
9. It seemed like a fun thing to do at the time	5	G
10. I was bored	2	G
12. I thought it would be exciting	2	G
Friendship Insecurity		
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first	2, 5	G
14. I was jealous about another relationship that was developing between her/him and one of my other friends	4	B & G
15. I was jealous of a relationship that was developing between her/him and a guy/girl	4	B & G
16. I felt insecure about my friendships	3	B & G
23. I was envious of something she/he had	2	G
24. I was jealous of her/him	2	G
Social Rules		
17. I wanted to avoid getting in trouble with adults	1	B & G
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends	1	B & G
19. I figured it was a socially acceptable way of getting out my anger	6	G
20. I wanted people to still think I was nice	6	G
21. I thought she/he wasn't cool	3	B & G
22. I thought she/he was too emotional	3	B & G

Note. 1 = Delveaux & Daniels, 2000; 2 = Owens et al., 2000; 3 = Pronk & Zimmer-Gembeck, 2010; 4 = Quigley & Daniels, in prep.; 5 = Reynolds & Repetti, 2010; 6 = Underwood, 2003 (these are theoretically proposed). B = Boys were studied, G = Girls were studied.

considered all of the explanations found in previous studies (see Table 1 for all of the motivations identified in previous research).

Limitations of the Research on Motivations for Social Aggression

Research on social aggression has most recently developed because the experiences of girls had long been neglected in the more general field of aggression research. Thus, research on social aggression among boys has been scarce. That is not to say boys' experiences are completely ignored in social aggression research, especially recently (e.g., Pronk & Zimmer-Gembeck, 2010), but the research more often has included only girls' perspectives. Both researchers and media sources (e.g., the popular Hollywood film "Mean Girls" [Michaels & Waters, 2004] or the popular television show "Gossip Girl" [Schwartz, Savage, Levy & Morgenstein, 2007]) may have contributed to the stereotype that this behaviour is the exclusive domain of girls.

Meta-analyses on the subject (Archer, 2004; Card, Stucky, Sawalani, & Little, 2008) have made note of few gender differences and those found are dependent on who is rating the behaviour, with small effect sizes regardless of reporter (the average effect size found by Card et al., was very small and equivalent to $\bar{d} = .06$). Gender differences may be more likely to exist in how boys and girls experience socially aggressive events rather than how often they engage in them (Pronk & Zimmer-Gembeck, 2010). It seemed critical to deepen our understanding of the reasons why both boys and girls use socially aggressive behaviours, thus in the current study both boys' and girls' motivations were explored. A goal of the current study was to expand this theoretical model by studying a comprehensive set of motivations that best explain girls' and boys' use of social aggression by consulting adolescent boys and girls and young adult men and women as

well as to obtain a larger sample that would allow generalization of the findings to a larger population.

The restricted age range of the studies reviewed thus far is another limitation of the research on motivations for social aggression. These studies have narrowed in on boys and girls that range in age from 11 to 16 years. One goal of the current study was to extend the research on motivations for social aggression to a broader age range (between 10 and 25 years) to determine whether there were differences in the motivations for social aggression expressed by younger and older individuals. It was of interest to conduct research with participants with a broader age range because no studies on motivations for social aggression had been done with young adults.

A final issue to deal with in the study of motivations for social aggression is that most studies to date, with the exception of Reynolds and Repetti's (2010), have used the methodology where researchers have asked youth to explain why a hypothetical character might have engaged in socially aggressive behaviours. In Owens et al.'s (2000a) and Pronk and Zimmer-Gembeck's (2010) studies, participants spoke hypothetically about explanations for the aggression of others rather than commenting on their own behaviour. This use of an artificial paradigm may have resulted in an inaccurate or limited assessment of individuals' actual motivations for the use of socially aggressive strategies given that they would not have actually known what the motivations of others truly were. Adolescents may be better able to reflect on the reasons underlying their own behaviour rather than speculating about the reasons motivating the behaviour of others.

Research that has examined actual motivations for the use of actual socially aggressive behaviours toward close friends and those outside the peer group was limited

until the current study was conducted. Reynolds and Repetti's (2010) study was the first where participants were asked about their own socially aggressive behaviours, and as only girls were studied in this research, a goal of the current dissertation was to extend this research by asking both boys and girls about their own motivations for their own socially aggressive behaviours. All of these studies taken together provide for the opportunity to propose a more in-depth look at the motivators indicated in the theoretical model of socially aggressive behaviour proposed by Owens and colleagues (2000b; see Figure 1) to see how this model fares for adolescent boys and girls with a larger age range who have reported on their motivations for their own socially aggressive behaviour.

Specific Motivations for the Use of Social Aggression

For the purpose of this dissertation, the motivations that have been identified across five studies (Delveaux & Daniels, 2000; Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010) have been classified into five theoretical categories: friendship insecurity, social dominance, social dynamics, amusement, and social rules. Each of these themes will be discussed in turn next as they relate to the use of socially aggressive behaviours.

Friendship insecurity. In one study of the association between social aggression and feelings of insecurity about a close friendship, it was found that individuals who felt that an interloper (i.e., a third person who wanted to interact with their best friend) might be a threat to their best friendship – in other words, those who felt more friendship insecurity – were more likely to have endorsed social aggression as a reaction to this feeling (Quigley & Daniels, in preparation). Participants rated how likely they were to

feel anger and jealousy when their best friendship was threatened by an interloper. Those who experienced more jealousy and anger over the perceived threat said they would be more likely to use socially aggressive behaviours against their best friend or the interloper. Identifying a third party as a threat to the relationship rather than a benign player who may be a good inclusion to the friendship implies an overarching sense of insecurity to the relationship as a whole. This same feeling of insecurity over a friendship might also lead one to believe in the need to protect oneself against social attack in a relationship.

The girls in Owens and colleagues' (2000a) study reported that the anticipation of a social attack lead to a pre-emptive social attack—for example, thinking along the lines of “I’m going to do something to her before she can do it to me.” Presuming that one might need to preemptively aggress against someone else as a way to protect oneself implies a sense of insecurity over one’s place in the group or importance in the relationship. These insecurities, or allusions to them, have been found in multiple studies (Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010) and thus appear to be an important motivator for the perpetration of socially aggressive acts that require further study.

Social dominance. Another commonly cited explanation for the use of social aggression is the goal of social dominance. This takes different forms in the studies that have considered reasons for the use of social aggression, and researchers have termed it *desire for power* (Quigley & Daniels, in preparation), *popularity* and *socially downgrading or isolating a peer* (Pronk & Zimmer-Gembeck, 2010), and *belonging to the right group* and *seeking attention* from desirable others (Owens et al., 2000a).

Essentially, social dominance is an individual's desire for control and power over the peer group. An exploratory factor analysis in Quigley (2008) on various items about children's desire for coolness, popularity, power, and control over others revealed that questions about power over others loaded most strongly on a single factor. This is evidence that a desire for power is a key component to popularity and social dominance, which is a conclusion drawn by other researchers in the field as well (e.g., Vaillancourt, McDougall, Hymel & Sunderani, 2010). Thus it appears that desire for social dominance plays a key role in the decision to use social aggression.

Closely tied to individuals' use of social aggression to achieve dominance over others, some people believe they are entitled to seek revenge as they view it as an acceptable endeavor. Faced with a perceived slight, they believe they are entitled to restore social balance by damaging or threatening to damage the social status or self-esteem of the person who slighted them. This "eye for an eye" worldview where revenge is an acceptable goal reflects a desire for social dominance and control of certain social interactions. Closely tied to social dominance, Reynolds and Repetti (2010) include *social control* as one of the goals they studied. They defined social control as "aiming to improve one's social status or shape one's social world" (p. 288), but it could also be true that there may be two different factors to consider within this goal: seeking interpersonal power (i.e., the quest for social dominance, and improving one's social status) and seeking power in one's social dynamics (i.e., shaping one's social world).

Social dynamics. Much of the research on explanations for social aggression has alluded to this theme of social dynamics, which includes the motivations of: acceptance, fitting in, and obeying the social rules of the group in order to best gain and maintain this

acceptance. In their study of girls' social aggression, Reynolds and Repetti (2010) included as an explanation that the aggressor thought her friends did not like the target and that the aggressor thought it would help her get closer to the other girls or to a guy she liked. In their study of boys and girls, Delveaux and Daniels (2000) found that a differentiating factor between physical and relational aggression was that relational aggressors wanted to maintain a relationship with the rest of the peer group, thus also alluding to remaining an accepted member of the peer group. Further, Owens and colleagues (2000) identified inclusion in the group as an important reason why girls use social aggression. They maintained the function of this explanation for girls was to "gain acceptance or to cement their place in the group" (p. 31). The girls in their study described how social aggression created intimacy and acceptance within a group because it brought attention to the ostracization of individuals who were not accepted members. These findings all lead to the conclusion that acceptance in a peer group, or to garner one's desired social dynamic, is another key reason individuals use social aggression.

Amusement. One of the more surprising reasons for using social aggression reported in the study by Owens and colleagues (2000a) was that girls said socially aggressive behaviours were used to target peers for the simple reason that doing so created excitement in their lives. In fact, one of the girls in Owens and colleagues (2000a) reported that social aggression was something that kept social interaction going by saying, "...with my group, if you didn't bitch and stuff like that, there wouldn't be very much to talk about" (p. 28). They went on to report that socially aggressive events did in fact create excitement in their lives because, especially during school breaks, they did not have much else to do to keep busy. The girls in this particular study reported they

did not play many sports or engage in physical activity during school breaks (though they did outside of school hours). The girls in Reynolds and Repetti's (2010) study corroborated this finding as they also endorsed amusement as a motivation for social aggression.

Following socio-cultural rules and expectations. It has been theorized that one of the main reasons girls use social aggression is because, at least in North America, girls are socialized to suppress their anger and not outwardly express negative feelings (Saarni & von Salisch, 1993). Underwood (2003) dubbed this the bind between feeling angry and needing to project an appearance of niceness and kindness. Similarly, Brown and Gilligan have labeled this "the tyranny of nice and kind" (1993, p. 53). This theory is supported by Delveaux and Daniels (2000), who found that one of the main reasons children would use a socially aggressive strategy rather than a physically aggressive one to attain their goals, was to avoid detection by adults and maintain relationships with the rest of the peer group, while still aggressing against another child. These researchers all suggest that children who feel angry and also feel pressure to project an outward appearance of being nice may resort to the use of socially aggressive strategies to express their anger.

These pressures may also include maintaining an outward appearance that is consistent with what one perceives as the norms within their peer network (e.g., not being overly emotional and being cool). Pronk & Zimmer-Gembeck (2010) identified these motivations as "characteristics of the victim" (p. 15), but it is conceivable that they may have more to do with how the aggressor perceives someone rather than how the person victimized is actually behaving and so labeling these features the victim's actual

characteristics may be a misnomer. It is for this reason that these motivations were included under the theme of socio-cultural rules and expectations.

Five categories of motivations for social aggression derived from previous literature in this field (Delveaux & Daniels, 2000; Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010) have been proposed: friendship insecurity, social dominance, social dynamics, amusement, and following socio-cultural rules and expectations. Each of these themes is comprised of motivations that were found in previous research and in Table 1, the themes are presented along with the items and which study the items originally came from. In the current dissertation, these proposed motivations were studied with several other variables that were considered to be possible modifiers of the association between motivations and the frequency of one's use of social aggression: one's normative beliefs about social aggression, one's gender, and the context within which the social aggression took place. In the following pages, each of these variables will be discussed as they have been studied with regard to social aggression.

Normative beliefs about social aggression. Closely tied to what individuals perceive to be sociocultural pressures, are what individuals perceive to be social norms in their immediate environments. The way in which individuals interpret those norms is referred to as *normative beliefs*. Normative beliefs are attitudes held about the appropriateness of social behaviours (Huesmann & Guerra, 1997). Normative beliefs about social aggression may be the determinant of whether certain cognitions and emotions lead to the use of socially aggressive behaviour. For example, most people have experienced the feeling of jealousy at one point or another, but not everyone has

then socially aggressed against the target of their jealousy. In the current dissertation, an individual's normative beliefs about the acceptability of the use of socially aggressive strategies were examined as a moderator between all motivations that were explored in the current study and the frequency of use of social aggression over the past year.

Normative beliefs condoning physically and verbally aggressive behaviours have been associated with increases in these types of behaviours in past research; that is, the more normative an individual perceives aggression to be, the more likely they are to use aggressive behaviours (Huesmann & Guerra, 1997). Only one study has examined normative beliefs about socially aggressive behaviours (Goldstein, Chesir-Teran, & McFaul, 2008). In a study of mostly heterosexual young adults, correlates of socially victimizing a romantic partner and experiencing social victimization from a romantic partner were investigated. Goldstein and colleagues found that young adults who reported higher rates of socially victimizing their romantic partners also reported beliefs that social aggression was normative, acceptable behaviour. Normative beliefs about social aggression in platonic relationships have yet to be investigated, but from these two earlier studies, an association between one's normative beliefs about social aggression and reported use of these behaviours with peers seems likely. For example, it may be that a person's normative beliefs about social aggression may provide a condition necessary to drive the experience of friendship insecurity into the use of socially aggressive behaviour.

Considering the role of context. Another condition that might determine whether a person engages in socially aggressive behaviours is the context within which the socially aggressive event takes place. For example, although everyone might at some

point or another experience the feeling of jealousy over a relationship, this experience may drive some individuals to use socially aggressive behaviours, while this may not be the case for others. Perhaps some people may believe it is more acceptable to be socially aggressive toward others if the targets are not close friends, and this belief in the acceptability of aggression against certain individuals may link the experience of jealousy to the use of social aggression.

Pronk and Zimmer-Gembeck (2010) organized children's explanations for social aggression into three categories: social dynamics, characteristics of the aggressor, and characteristics of the victim; however these may not be comprehensive enough when the role of context is considered. Social dynamic goals (i.e., shaping the dynamics of one's social world) are more likely used within the context of the peer group and peer network. Characteristics of the aggressor and victim might be better considered as state and trait characteristics. For example, jealousy has been noted as an explanation for social aggression in some recent research (Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation); however, in Quigley and Daniels, jealousy over an interloper to a best friendship was found to be related only to social aggression used against a best friend and not to social aggression used against a member of the larger peer group (i.e., this is clearly a context-specific experience). Thus, it might be a state-dependent characteristic rather than, as Pronk and Zimmer-Gembeck categorized it, a trait of the aggressor. Therefore, relieving state-dependent jealousy may be the goal of social aggression depending on the context in which the jealousy is experienced. Because some of the goals may be context or event-specific, it is especially important to

consider the differentiation between aggressive behaviours within different contexts (close friendship and larger peer network).

Given that the context in which the aggression takes place (i.e., against a friend or someone not considered a friend) may be an important distinguishing factor for the relationships between motivations and the use of socially aggressive behaviour, it is important to consider other variables that may moderate these relationships. Another potential moderating variable to the association between motivations and frequency of social aggression is the gender of the perpetrator.

Considering the role of gender. Gender issues have been alluded to throughout this literature review, mainly that boys' perspectives have been largely ignored in research on social aggression. The few studies to include both genders have identified some gender differences, but they remain unclear. Quigley and Daniels (in preparation) found that girls' jealousy was a stronger predictor of social aggression than boys' jealousy was (though, it was still a positive predictor). Likewise, Pronk and Zimmer-Gembeck (2010) found that boys were more likely to report that the desire for power led to the use of social aggression. This same gender difference, however, was not found in Quigley and Daniels (in preparation). It is clear that gender differences need further research in this area.

In summary, the categories proposed in past research to explain the use of social aggression did not provide for a comprehensive understanding of youths motivations for social aggression, especially as all the motivations had not been included in a single study. In the current dissertation, relevant and important factors within the lives of youth including friendship insecurity, social dominance, social dynamics, amusement, social

rules and the conditions that might facilitate these factors (i.e., an individual's normative beliefs about social aggression, the context in which the behaviour takes place, and an individual's gender) were proposed to foster adolescents' use of socially aggressive behaviours. These factors and conditions that are based on empirical and theoretical literature in this field provide for a compelling addition to our understanding of adolescents' use of social aggression.

Purpose of this Dissertation

Social aggression research has been mostly limited to studying the perspectives of small samples of mostly girls, using limited methodology and mostly hypothetical scenarios. Furthermore, although there was some suggestion that normative beliefs about the acceptability of social aggression as well as context and gender influence decisions to act on the underlying motivations that can precipitate the use of socially aggressive behaviours, these relationships had not been previously examined. The purpose of this dissertation was to examine the relationships between underlying motivations and the use of socially aggressive behaviours taking into consideration the role of normative beliefs, context, and gender. What follows is a description of two studies designed to address these gaps in the literature.

It was first necessary to construct a valid measure of motivations for social aggression, as this did not yet exist. Therefore, a first study, henceforth referred to as *the validation study*, was designed to address this gap in the literature. A measure of motivations for social aggression in two contexts was constructed based on existing, mostly qualitative, literature (with the exception of Reynolds & Repetti, 2010) where individuals had been asked why they thought others generally used socially aggressive

behaviours. The answers that participants had given in past research as to why youth would use social aggression in hypothetical scenarios (Delveaux & Daniels, 2000; Owens, et al., 2000b; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010) were compiled into a single measure, and participants in the current study were asked to complete this measure in reference to socially aggressive behaviours they had actually engaged in over the past year, first against their friends and then against people they did not consider friends. The main purpose of the validation study was to explore and validate this measure of motivations for social aggression against friends and non-friends among a sample of young adult men and women. This study addressed several gaps in the literature including the role of normative beliefs about social aggression, gender of the perpetrator and context of the interactions in determining the frequency of socially aggressive behaviour as a function of the various motivations identified.

With the information garnered from the validation study on the psychometric properties of the Motivations for Social Aggression Across Contexts measure (MSAAC), a second study called *the adolescent study* was designed. This second study was conducted to explore the underlying motivations for social aggression of a sample of youth as they related to the frequency of social aggression they had engaged in against friends and non-friends over the past year. Furthermore, the roles of normative beliefs about social aggression and gender were explored in this younger sample. Finally, a comparison of the young adult's and adolescent's motivations for the use of social aggression was conducted.

Study 1: The Validation Study

It is important to note that no studies to date had considered all of the motivations for social aggression reviewed earlier in a single study, and there was no comprehensive measure of motivations for social aggression to work from. For this reason, it was necessary to review the existing literature and create a comprehensive measure of motivations for social aggression. In order for it to be comprehensive, it needed to include all explanations that children and youth had provided in qualitative studies and those that had been measured to date in quantitative studies. Once this measure was designed, it was necessary to determine whether these possible explanations derived from previous research could be reduced according to latent factors, and to determine whether this measure was psychometrically sound.

Given the difficulties inherent in obtaining ethical approval from school boards and school-level agreement to run research studies in elementary schools, it was decided that validating this measure of motivations for social aggression would require using a more easily accessible sample of 18-25 year old university undergraduate students. These young adults were deemed close enough in age to validate the measure for subsequent use with an adolescent sample, given that mostly older adolescents (11-16 years) in previous research had endorsed the items ultimately used in the motivations measure that was developed. The validation of the Motivations for Social Aggression Across Context measure measures was completed in the first study.

Hypotheses for the Validation Study

The purpose of this study was to examine the factors that have been theoretically and empirically suggested to be predictors of socially aggressive behaviour, and to

consider how certain conditions might moderate these associations. This study extended the recent research by Reynolds and Repetti (2010), who examined some of the explanations for socially aggressive behaviour that were included in the current study. As there had been two qualitative studies (Owens et al., 2000; Pronk & Zimmer-Gembeck, 2010) examining explanations for social aggression, the information provided by youth in these studies was used to develop items that were included in the motivations measure developed in the current study.

One of the most central questions in this area of research was: What factors emerged when youth were asked why they used social aggression in their lives, after they had thought about real life socially aggressive events they had actually perpetrated. To answer this question, participants were asked about all of the reasons reported in previous research and it was hypothesized that five general classifications of reasons would emerge: social dynamics (i.e., wanting acceptance and to fit in with the group; Owens et al., 2000; Reynolds & Repetti, 2010), social dominance (i.e., wanting popularity, power and revenge; Owens et al.; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti), amusement (i.e., reducing boredom, creating excitement; Owens et al.; Reynolds & Repetti), friendship insecurity (i.e., feeling jealous and insecure about relationships; Owens et al.; Quigley & Daniels; Reynolds & Repetti), and social rules (i.e., avoiding trouble, maintaining relationships; Delveaux & Daniels, 2000; Underwood, 2003). Incorporating all of the motivations from previous research into a single measure of motivations for social aggression and examining the psychometric properties of this measure was how this classification structure was examined.

It was also of interest in this study to determine what the relationship was between underlying motivations and the use of social aggression over the last year and whether these associations were moderated by a person's normative beliefs about social aggression. Based on the work of Owens and colleagues (2000a), Pronk and Zimmer-Gembeck (2010), Quigley and Daniels (in preparation) and Reynolds and Repetti (2010), it was hypothesized that youth who more strongly endorsed each of the motivations for social aggression would also report that they had used socially aggressive behaviours more frequently over the past year. In addition, based on research by Goldstein and colleagues (2008), it was hypothesized that those youth who more highly endorsed normative beliefs about the acceptability of using socially aggressive behaviours would be more likely to act on their motivations and actually use socially aggressive behaviours more frequently.

Whether the moderated associations between motivations and social aggression would differ by context (close friend or someone outside the peer group) was also examined in the current study. Based on the findings of Quigley and Daniels (in preparation) it was hypothesized that friendship insecurity would predict social aggression against a close friend and that social dominance would predict social aggression against a non-friend. Associations between the other motivations for social aggression (social dynamics, amusement, and social rules) were explored.

Another question that was examined in this study was whether gender moderated the association between any of the motivations and social aggression. Based on the work of Quigley and Daniels (in preparation), the relationship between friendship insecurity and social aggression was hypothesized to be stronger for girls than for boys and based

on the work by Pronk and Zimmer-Gembeck (2010) the relationship between desire for power and social aggression was hypothesized to be stronger for boys than girls. All other gender analyses were exploratory.

Validation Study Method

Validation Study Participants

Validation study participants included 254 undergraduate students between the ages of 18 and 25 ($M = 20.87$, $SD = 1.95$) at a large urban University registered in first year psychology or neuroscience classes who received extra credit for participating in the study. Within this sample, 68% were female and 53% identified as White/Caucasian, 12% Asian, 11% South Asian, 13% Arab/West Asian, 6% Black, and the remaining 5% as other ethnicities. This gender distribution is close to the female-male ratio in Social Sciences at the university where the data was collected, which was 58.6% female in the latest survey (Carleton University, 2012). The university where the data was collected does not collect or report information about ethnic self-identity.

Validation Study Procedure

Once university ethics approval was obtained, the measures were posted on the psychology department Experiment Management System (SONA). Students volunteered to participate in studies through this system and for this study they were directed to an online survey hosted by Qualtrics, a web-based survey site with access provided by the psychology department. Participants agreed to participate via an online consent form and filled out the survey anonymously (i.e., no identifying data was associated with their surveys as credit was provided to students through the SONA system rather than Qualtrics). Once consent was obtained, measures were provided in the order presented

below and a debriefing form was presented last (or at any point if they decided to quit the survey).

Validation Study Measures

Information collected included measures of normative beliefs about social aggression, frequency of socially aggressive behaviour, motivations for the use of these behaviours in two contexts (friend and non-friend), and demographics. What follows is a description of each of these measures. Measures of the frequency of social aggression and motivations for social aggression were gender-specific and items reflected social aggression directed toward a same-sex peer. Whereas in the description of each of these measures both gender pronouns are used, only gender-specific pronouns were used on the actual items for these scales.

Normative beliefs about social aggression. A revision by Goldstein and colleagues (2008) of the widely used Normative Beliefs about Aggression Scale (NOBAGS; Huesmann, Guerra, Miller, & Zelli, 1989) was used to assess participants' views on how normal they believed socially aggressive responses to provocation were, as well as how normal they believed general socially aggressive behaviours were. See Appendix G for this measure. Goldstein and colleagues (2008) constructed questions assessing beliefs about the acceptability of social aggression in contrast to the original version, which assessed normative beliefs about physical aggression. The revised NOBAGS included 5 items to assess general normative beliefs about social aggression (e.g., "In general, it is OK to spread rumours about people"). Participants rated their personal beliefs about the acceptability of the use of SA on a 4-point Likert scale ranging from 1 (*it's really wrong*) to 4 (*it's perfectly ok*).

Goldstein and colleagues (2008) found acceptable internal reliability for their general beliefs subscale (.70). The items were summed and averaged to create the scale with a possible range of 1-4. The original NOBAGS scale had been used with college students and the researchers found good internal reliability (Cronbach's alpha = .90) with this population (D. Armistead, personal communication, June 2, 2011). When a version of this scale was used with younger children, scores correlated significantly with self-reports of aggression for both genders and with peer-reports of aggression for boys (Huesmann & Guerra, 1997). In the current study the internal consistency for this scale was acceptable, with a Cronbach's alpha of .72 (Nunnally, 1978).

Frequency of socially aggressive behaviour across contexts. Participants were asked to rate how often they engaged in each of 15 examples of socially aggressive behaviours over the past year, including: ignoring, exclusion, gossip/rumours, and negative non-verbal body language used to inflict social harm. This measure was an extended version of that designed by Reynolds and Repetti (2010). As non-verbal body language was not included in their study, 4 items reflecting this category were added to the original measure (e.g., "gave a girl/guy dirty looks"). Further, 3 items reflecting the categories of ignoring, exclusion and gossip/rumours were added as well (e.g., "talked behind a girl's/guy's back"). All added items were derived from vignettes originally used by Galen and Underwood (1997). In total, 7 items were added to this originally 6-item scale (see Appendix H for this revised measure), which had included items such as "Kept a girl/guy from being accepted by your group of friends." The revised version of this scale included 3-4 questions about each form of social aggression. Participants were asked to rate how often they had engaged in the behaviours over the past year on a scale

from 0 (*never*) to 5 (*many times a week*). Items were averaged to create a score for how often each participant has used socially aggressive behaviour over the last year.

B. Reynolds (personal communication, April 11, 2011) examined the internal consistency of the reports of aggression for the original measure she had designed for her study (Reynolds & Repetti, 2010) and found a Cronbach's alpha of .76. The items used by these researchers had good construct validity as they were developed based on interviews conducted by Owens and colleagues (2000) and were pilot tested in the Reynolds and Repetti study. Based on the findings of Quigley and Daniels (in preparation) that provided a rationale for considering the role of context in the use of socially aggressive behaviours, the frequency of social aggression measure was administered twice: first in relation to social aggression against a friend and second in relation to social aggression against a non-friend. Internal consistency for this measure in the current study was .91 for social aggression against a friend and .93 for social aggression against a non-friend – excellent for both contexts according to general standards, especially for a newly created measure (Nunnally, 1978).

Before students had completed the frequency of socially aggressive behaviours survey, they were asked to describe an incident of social aggression they had engaged in during the last year. This was asked so youth could bring a real memory to mind while they answered the motivations measure. This strategy was preferred over asking participants to speak hypothetically about why they might use social aggression as has been done in previous research (e.g., Owens et al., 2000a), as youth were better able to reflect on their reasons for using socially aggressive behaviours if they considered events they had actually experienced rather than hypothetical scenarios.

Motivations for social aggression across contexts (MSAAC). In order to examine motivations for socially aggressive behaviour, a modified version of a scale designed by Reynolds and Repetti (2010) was used (see Appendix I for this measure). The main purpose of this measure was to examine the reasons participants used to explain recent incidents of social aggression that they engaged in (e.g., “you were trying to get back at her/him for something she/he had done to make you mad”) against friends and non-friends.

Additional goals and explanations found in the literature on social aggression (Delveaux & Daniels, 2000; Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation) were added to this scale for the purpose of this study. Twenty-two items were added to the original six to reflect all of the hypothesized domains of influence. Based on an extensive review of the literature these included: friendship insecurity, social dynamics, social dominance, amusement, and social rules. Participants rated each of the items on this measure on a scale from 0 (*this was not at all the reason*) to 4 (*this was the main reason*). Higher scores indicated more endorsement of an explanation. Initially, an exploratory factor analysis (EFA) was used to determine whether the hypothesized factors were statistically sound. The factors that emerged were used to predict the frequency of participants’ socially aggressive behaviours and internal consistency reliabilities were calculated.

The original self-report measure by Reynolds and Repetti (2010) had good face validity as it was based on the extant literature on explanations for aggression, which is mostly a body of qualitative literature describing children’s explanations for why they

believe individuals would use socially aggressive behaviours (e.g., Owens et al., 2000a; Owens et al., 2000b).

Gender and demographics. Finally, a demographics questionnaire including gender and age was used (see Appendix J for these questions).

Validation Study Results

Data were first screened for univariate and multivariate outliers, and then the Motivations for Social Aggression Across Contexts measure was created and analyzed. This was followed by a missing data analysis for all variables and then all hypotheses of interest in this dissertation were tested for this sample.

Data Screening

Data screening was undertaken to examine the three measures used in this study: motivations for social aggression in two contexts, normative beliefs about social aggression, and frequency of social aggression in two contexts. First univariate outliers were examined, followed by outliers in total scores for the variables. Finally, multivariate outliers were examined and all analyses were undertaken with the outliers brought within range and left as they originally were and these results were compared. Normality of the data was explored but was not a major concern as all variables were skewed in the same direction (positive), thus transformations would offer only marginal improvements (Tabachnick & Fidell, 2007) and furthermore, bootstrapping was used as a technique to account for non-normality of the data.

Univariate outliers were noted in two cases on the motivations against a friend items and these cases were reduced to be within range of a z score of +/-3.29, as cases with standardized scores higher than 3.29 were considered potential outliers (Tabachnick

& Fidell, 2007). The goals against a friend EFA was run with outliers brought within range (i.e., a z score of +/-3.29) and the results did not differ from the original EFA, thus the decision was made to keep data for the outliers as they were originally scored. Total scores for each variable were then screened for outliers. At least one outlier was found for each of the following variables: social aggression against a friend ($n = 2$), social aggression against a non-friend ($n = 3$), normative beliefs ($n = 1$), social image in the friend context ($n = 1$), and social image in the non-friend context ($n = 1$). All regression models were run with these outliers brought within range (z score of +/-3.29) and no models were found to differ, therefore, the raw data in its original form was used in all subsequent analyses.

Mahalanobis distance was used to screen the data for multivariate outliers and all cases had a Mahalanobis distance less than the critical value of $\chi^2 = 34.53$ (critical value obtained from Tabachnick & Fidell, 2007, p. 949). It was decided that these outliers were legitimate and not based on data entry or other error made by the researcher and therefore, it was decided to keep outliers in the dataset for all further analyses. It should be noted that outlier removal does not contribute substantially to variance in the distributions of a given measurement, but might increase effect sizes in overall findings (Orr, Sackett, & Dubois, 1991) and thus was another good reason to not remove them. In conclusion, screening of these data revealed no major concerns. The data as it was originally collected was therefore used in all subsequent analyses.

Motivations for Social Aggression

The goal of the present study was to develop an internally consistent quantitative measure of the motivations for using social aggression in two contexts: against friends

and non-friends. Items for this scale were derived from the existing literature on motivations for social aggression (Delveaux & Daniels, 2000; Owens et al., 2000b; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in prep; Reynolds & Repetti, 2010; Underwood, 2003). All motivations items reported in previous research were asked of participants first as they applied to the use of social aggression against friends, and then in as they applied to the use of social aggression against people they did not consider to be friends.

Exploratory factor analyses (EFA) were used to examine latent factors in the Motivations for Social Aggression Across Contexts measure. Principal axis factoring (Henson & Roberts, 2006) was used as the extraction method for both contexts and parallel analysis (O'Connor, 2000) was used to decide how many factors to retain in each case. Rotated solutions were produced for both and oblique rotation (direct oblimin method) was used to enhance the simple structure of the results given the correlation between the items within each measure (Henson & Roberts, 2006), however, for the sake of comparison an orthogonal rotation was used (varimax method) and the same factor structures emerged. The EFA was done first on the motivation items asked in the context of social aggression used against a friend, followed by an EFA on the motivation items in the context of social aggression against a non-friend.

Motivations against a friend. Bivariate correlations between items were used to look for multicollinearity. Item 11 (“I didn’t have anything better to do”) was dropped from the analyses because it was too highly correlated (i.e., it was multicollinear with an $r = .91$) with item 10 (“I was bored”) and it was decided that item 10 would have been easier for participants to understand and interpret, so it was retained for further analyses

(Tabachnick & Fidell, 2007). An EFA was then used to explore latent factors for the remaining items.

For this analysis, the determinant, Kaiser-Meyer-Olkin measure of sampling adequacy (.91) and Bartlett's test of sphericity ($p < .001$) statistics were good. Communalities were all greater than .40 and parallel analysis supported the retention of 5 factors. Five factors had Eigenvalues greater than 1 and cumulatively accounted for 61.95% of the variance. See Table 2 for the variance accounted for by each factor as well as the items that made up each factor according to the pattern matrix. The structure matrix was used to confirm the results of the pattern matrix and the results of the structure matrix are presented in Table 3.

Latent factors were interpreted based on the items that most highly loaded on each factor. The first factor contained items such as, "I just wanted to be accepted by the group" and "I thought it would help me get closer to one or more other girls/guys" and thus it was decided that the theme that united these items was a *desire for acceptance* by peers. Also included in this theme were items that alluded to wanting to be popular (e.g., "I thought it would make me more popular" and "I wanted to belong to the right group of friends"), therefore popularity is entangled in this more general theme of desiring acceptance. Internal consistency for this factor was very good (Cronbach's alpha = .89). The second factor contained items such as, "I was bored" and "I thought it would be

Table 2

Factor Loadings for Exploratory Factor Analysis with Direct Oblimin Rotation for Motivations for Social Aggression Against a Friend for the Validation Study (Pattern Matrix)

Item	Factor				
	Accept.	Amuse.	Jeal.	Rev.	Im.
	42.22	7.25	5.48	4.28	2.73
4. I just wanted to be accepted by the group	.97				
1. I thought it would help me get closer to one or more other girls/guys	.83				
5. I thought it would make me more popular	.68				
8. I wanted to belong to the 'right' group of friends	.59				.31
20. I wanted people to still think I was nice	.55				
2. I thought one or more of my friends didn't like her/him	.48				
16. I felt insecure about my friendships	.42		-.33		
10. I was bored		.94			
12. I thought it would be exciting		.72			
9. It seemed like a fun thing to do at the time		.68			
23. I was envious of something she/he had			-.85		
24. I was jealous of her/him			-.82		
15. I was jealous of a relationship that was developing between her/him and a guy/girl			-.56		.43
14. I was jealous about another relationship that was developing between her/him and one of my other friends			-.55		
7. I was angry about something and wanted to put her/him in her/his place				.80	
6. I was trying to get back at her/him for something she/he did that made me mad				.77	
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends				.41	
19. I figured it was a socially acceptable way of getting out my anger		.35		.40	
22. I thought she/he was too emotional					.64
17. I wanted to avoid getting in trouble with adults					.55
3. I thought it would get me closer to a guy/girl I liked					.50
21. I thought she/he wasn't cool					.48
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first					.45

Note. Loadings above .30 are presented for ease of interpretation. Accept = Acceptance, Amuse = Amusement, Jeal = Jealousy, Rev = Revenge, Im = Social image. Percentage of variance accounted for by each factor is listed under the factor number.

Table 3

Factor Loadings for Exploratory Factor Analysis with Direct Oblimin Rotation for Motivations for Social Aggression Against a Friend for the Validation Study (Structure Matrix)

Item	Factor				
	Accept.	Amuse.	Jeal.	Rev.	Im.
4. I just wanted to be accepted by the group	.92		-.44	.42	.44
5. I thought it would make me more popular	.82	.36	-.49	.47	.53
1. I thought it would help me get closer to one or more other girls/guys	.81	.33	-.38	.34	.42
8. I wanted to belong to the 'right' group of friends	.74	.33	-.37	.43	.61
20. I wanted people to still think I was nice	.72	.34	-.30	.54	.52
16. I felt insecure about my friendships	.64		-.57	.39	.50
2. I thought one or more of my friends didn't like her/him	.60			.43	.40
10. I was bored		.93			.43
12. I thought it would be exciting	.41	.83	-.43		.55
9. It seemed like a fun thing to do at the time	.46	.78	-.31	.41	.50
23. I was envious of something she/he had	.48	.41	-.91	.37	.48
24. I was jealous of her/him	.46	.36	-.87	.31	.42
15. I was jealous of a relationship that was developing between her/him and a guy/girl	.41		-.72	.42	.63
14. I was jealous about another relationship that was developing between her/him and one of my other friends	.55		-.72	.49	.49
7. I was angry about something and wanted to put her/him in her/his place	.35			.78	.33
6. I was trying to get back at her/him for something she/he did that made me mad	.40		-.32	.77	
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends	.60	.33	-.42	.65	.54
19. I figured it was a socially acceptable way of getting out my anger	.43	.51		.55	.46
21. I thought she/he wasn't cool	.49	.52	-.36	.38	.68
17. I wanted to avoid getting in trouble with adults	.51		-.43	.40	.68
22. I thought she/he was too emotional	.35	.44			.67
3. I thought it would get me closer to a guy/girl I liked	.51	.36	-.41		.65
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first	.42	.38	-.47	.36	.63

Note. Loadings above .30 are presented for ease of interpretation. Accept = Acceptance, Amuse = Amusement, Jeal = Jealousy, Rev = Revenge, Im = Social image.

exciting” and it was decided that the theme for these items was a *desire for amusement*. Internal consistency for this factor was very good (Cronbach’s alpha = .89). The third factor contained items such as, “I was envious of something she/he had” and “I was jealous of her/him” and it was decided that even though feelings of envy were contained within this theme, it would be labeled *feelings of jealousy*. Jealousy and envy have often be distinguished but it has been argued that they can be considered essentially the same affective experiences (Parrott & Smith, 1993). Internal consistency for this factor was very good (Cronbach’s alpha = .88). The fourth factor contained items such as, “I was angry about something and wanted to put her/him in her/his place” and “I was trying to get back at her/him for something she/he did that made me mad” and thus it was decided that the theme that united these items was a *desire for revenge*. Internal consistency for this factor was very good (Cronbach’s alpha = .80). The fifth and final factor contained items such as, “I thought she/he was too emotional” and “I wanted to avoid getting in trouble with adults” and though this theme was the most difficult to classify, it was decided that these items reflected a desire to maintain a *social image* that the individual wanted to project (i.e., one that is emotionally stable, presents a positive image to authority figures, etc.). Internal consistency for this factor was acceptable (Cronbach’s alpha = .72).

Taken together, these five themes closely resembled those that were proposed. Given that the ultimate goal for this measure was to be able to compare the motivations for socially aggressive behaviour used against a friend to those used against someone not considered a friend, the motivations underlying the perpetration of social aggression

against a non-friend were also factor analyzed and the factor structure for this context was examined.

Motivations against a non-friend. An EFA was run for this measure to determine what latent factors would emerge when participants considered their use of socially aggressive behaviour against people they did not consider friends. For this analysis, the determinant, Kaiser-Meyer-Olkin measure of sampling adequacy (.91) and Bartlett's test of sphericity ($p < .001$) statistics were good. Communalities were all greater than .43 and parallel analysis supported the retention of 5 factors. In this case, there were no issues with multicollinearity and thus, item 11 was included in the analysis. Five factors had Eigenvalues greater than 1 and cumulatively accounted for 64.60% of the variance. See Table 4 for the items that made up each factor. The structure matrix was used to validate the results of the pattern matrix (see Table 5 for the structure matrix).

Latent factors were interpreted based on the items that most highly loaded on each factor. For all of the factors, most of the items were retained on the same factor as in the friend context, thus it was decided that retaining the labels from the friend EFA was appropriate (i.e., desire for acceptance, desire for amusement, feelings of jealousy, desire for revenge, and social image). Though all five factors were labeled the same in both EFAs because the items that loaded most highly on the factors were the same, some of the items with smaller loadings loaded on different factors between the two contexts. The factor analyses were compared and what follows is a description of how the items that were ultimately retained were chosen. Internal consistencies for all five factors on this measure were again very good according to Nunnally (1978; Cronbach's alpha's

Table 4

Factor Loadings for Exploratory Factor Analysis with Direct Oblimin Rotation for Motivations for Social Aggression Against a Non-Friend for the Validation Study (Pattern Matrix)

Item	Factor				
	Accept.	Amuse.	Jeal.	Rev.	Im.
	43.36	8.59	4.99	4.84	2.83
4. I just wanted to be accepted by the group	.89				
5. I thought it would make me more popular	.79				
1. I thought it would help me get closer to one or more other girls/guys	.69				
8. I wanted to belong to the "right" group of friends	.59				
2. I thought one or more of my friends didn't like her/him	.43				
10. I was bored		.97			
11. I didn't have anything better to do		.90			
12. I thought it would be exciting		.80			
9. It seemed like a fun thing to do at the time		.73			
23. I was envious of something she/he had			-.85		
24. I was jealous of her/him			-.82		
14. I was jealous about another relationship that was developing between her/him and one of my other friends			-.71		
15. I was jealous of a relationship that was developing between her/him and a guy/girl			-.68		
3. I thought it would get me closer to a guy/girl I liked			-.39		
16. I felt insecure about my friendships			-.34		
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first			-.33		
7. I was angry about something and wanted to put her/him in her/his place				.92	
6. I was trying to get back at her/him for something she/he did that made me mad				.80	
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends					-.65
21. I thought she/he wasn't cool					-.60
22. I thought she/he was too emotional					-.56
20. I wanted people to still think I was nice	.41				-.48
19. I figured it was a socially acceptable way of getting out my anger					-.43
17. I wanted to avoid getting in trouble with adults					-.37

Note. Loadings above .30 are presented for ease of interpretation. Accept = Acceptance, Amuse = Amusement, Jeal = Jealousy, Rev = Revenge, Im = Social image. Percentage of variance accounted for by each factor is listed under the factor number.

Table 5

*Factor Loadings for Exploratory Factor Analysis with Direct Oblimin Rotation
Motivations for Social Aggression Against a Non-Friend for the Validation Study
(Structure Matrix)*

Item	Factor				
	Accept.	Amuse.	Jeal.	Rev.	Im.
4. I just wanted to be accepted by the group	.89	.31	-.50	.35	-.44
5. I thought it would make me more popular	.85	.33	-.57	.40	-.41
1. I thought it would help me get closer to one or more other girls/guys	.78	.38	-.46	.36	-.51
8. I wanted to belong to the "right" group of friends	.76	.41	-.55	.36	-.55
2. I thought one or more of my friends didn't like her/him	.62		-.41	.43	-.50
10. I was bored		.91			-.37
11. I didn't have anything better to do		.88	-.36		-.38
12. I thought it would be exciting	.30	.85	-.40		-.45
9. It seemed like a fun thing to do at the time	.43	.80	-.35		-.47
23. I was envious of something she/he had	.49	.41	-.87	.31	-.44
24. I was jealous of her/him	.49	.34	-.84		-.39
14. I was jealous about another relationship that was developing between her/him and one of my other friends	.52	.30	-.80	.43	-.41
15. I was jealous of a relationship that was developing between her/him and a guy/girl	.46	.31	-.77	.53	-.39
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first	.50	.44	-.61	.50	-.58
3. I thought it would get me closer to a guy/girl I liked	.50	.45	-.61	.39	-.39
16. I felt insecure about my friendships	.56	.35	-.58	.33	-.48
7. I was angry about something and wanted to put her/him in her/his place	.42		-.37	.93	-.36
6. I was trying to get back at her/him for something she/he did that made me mad	.34		-.40	.82	-.34
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends	.63	.37	-.41	.56	-.81
21. I thought she/he wasn't cool	.55	.48	-.50	.31	-.76
20. I wanted people to still think I was nice	.67	.40	-.42	.37	-.71
22. I thought she/he was too emotional	.34	.47	-.47		-.67
19. I figured it was a socially acceptable way of getting out my anger	.40	.49	-.38	.50	-.63
17. I wanted to avoid getting in trouble with adults	.50	.35	-.51	.31	-.58

Note. Loadings above .30 are presented for ease of interpretation. Accept = Acceptance, Amuse = Amusement, Jeal = Jealousy, Rev = Revenge, Im = Social image.

were .89 for acceptance, .88 for amusement, .90 for jealousy, .86 for revenge, and .75 for social image).

Creating the final motivations for social aggression measure. The intention behind designing the Motivations for Social Aggression Across Contexts (MSAAC) measure was to compare people's motivations for using socially aggressive behaviour when this behaviour was directed at friends versus people not considered friends. For this reason, the items that made up each of the five factors were compared. As they were not exactly the same across contexts, and because having dissimilar items would not allow for direct comparisons across contexts, the decision was made to retain only those items that loaded on the same factors across the two contexts.

Although items that loaded highest on each factor were common across both contexts, the items that had smaller loadings (although still above .40) were not always retained on the same factor. See Table 6 for a comparison of which items loaded on which factor between the two contexts. These items that loaded on different factors between the two contexts did not always make theoretical sense on the factors they loaded on (e.g., "I thought she/he was going to do something bad to me so I wanted to do something to her/him first" loaded on both the jealousy and social image factors) and some of them made theoretical sense on both factors (e.g., "I wanted to get my point across to her/him but stay 'looking nice' to the rest of my friends" loaded on both the revenge and social image factors). For this reason, and because the intention behind designing this measure was to compare motivations for social aggression against friends and non-friends, it was desirable to have the same items for both contexts. Six items that

Table 6

Comparison of Motivations for Social Aggression Across Contexts Measure Items and Which Factor They Loaded for the Validation Study

Item	Motivations against friend factor	Motivations against non-friend factor
4. I just wanted to be accepted by the group	1	1
1. I thought it would help me get closer to one or more other girls/guys	1	1
5. I thought it would make me more popular	1	1
8. I wanted to belong to the 'right' group of friends	1	1
20. I wanted people to still think I was nice	1	5
2. I thought one or more of my friends didn't like her/him	1	1
16. I felt insecure about my friendships	1	3
11. I didn't have anything better to do	removed	2
10. I was bored	2	2
12. I thought it would be exciting	2	2
9. It seemed like a fun thing to do at the time	2	2
23. I was envious of something she/he had	3	3
24. I was jealous of her/him	3	3
14. I was jealous about another relationship that was developing between her/him and one of my other friends	3	3
15. I was jealous of a relationship that was developing between her/him and a guy/girl	3	3
7. I was angry about something and wanted to put her/him in her/his place	4	4
6. I was trying to get back at her/him for something she/he did that made me mad	4	4
18. I wanted to get my point across to her but stay "looking nice" to the rest of my friends	4	5
19. I figured it was a socially acceptable way of getting out my anger	4	5
22. I thought she/he was too emotional	5	5
17. I wanted to avoid getting in trouble with adults	5	5
3. I thought it would get me closer to a guy/girl I liked	5	3
21. I thought she/he wasn't cool	5	5
13. I thought she/he was going to do something bad to me so I wanted to do something to her/him first	5	3

Note. Items in boldface did not load on the same factor between the scales. Factor 1 = Acceptance, Factor 2 = Amusement, Factor 3 = Jealousy, Factor 4 = Revenge, Factor 5 = Social image.

loaded on different factors between the two contexts as well as the multicollinear item from the goals against a friend measure (item 11) were removed from the original 24, leaving 17 items in this measure.

EFA on the 17 retained items were re-run and the total variance accounted for by the five factors in the motivations against a friend context was 65.98% and for the motivations against a non-friend context was 68.68%. In conclusion, all subsequent analyses were based on total scores derived from the 5-factor solutions with the 17 common items from both EFAs. These 17 items consisted of two to five items on each of the five subscales. See Table 7 for the items retained for the motivations measures as well as the means and standard deviations for each item.

Frequency of Social Aggression

Two sets of the same fifteen items assessed how often participants used social aggression over the past year, first against a friend and second against a non-friend. Items on this measure were derived from two studies (Galen & Underwood, 1997; Reynolds & Repetti, 2010) and were chosen to represent the full range of behaviours theoretically proposed to represent the construct of social aggression (Underwood, 2003). It was decided that an EFA was not necessary for these items as an underlying latent structure was not of interest, but rather a total score representing all possible behaviours was used for all analyses for this variable in the current study. Internal consistency reliability was assessed for the measure and these results are presented next.

Social aggression against a friend. The 15 items on the frequency of social aggression against a friend questionnaire were checked for multicollinearity and internal

Table 7

Motivations for Social Aggression Across Contexts Measure Items Retained and Corresponding Means, Standard Deviations for Each Item for the Validation Study

Factor	Item included in factor	Friend	Non-friend
		<i>M (SD)</i>	<i>M (SD)</i>
Acceptance	4. I just wanted to be accepted by the group	1.47 (1.32)	1.15 (1.23)
	1. I thought it would help me get closer to one or more other girls/guys	1.38 (1.28)	1.18 (1.25)
	5. I thought it would make me more popular	1.14 (1.26)	.98 (1.20)
	8. I wanted to belong to the 'right' group of friends	1.09 (1.26)	.98 (1.23)
	2. I thought one or more of my friends didn't like her/him	1.52 (1.18)	1.43 (1.30)
Alpha		.87	.89
Amusement	10. I was bored	.94 (1.21)	.86 (1.15)
	12. I thought it would be exciting	.81 (1.10)	.70 (1.06)
	9. It seemed like a fun thing to do at the time	1.10 (1.22)	.89 (1.17)
Alpha		.89	.88
Jealousy	23. I was envious of something she/he had	.90 (1.15)	.81 (1.13)
	24. I was jealous of her/him	.87 (1.12)	.87 (1.16)
	14. I was jealous about another relationship that was developing between her/him and one of my other friends	.99 (1.16)	.96 (1.22)
	15. I was jealous of a relationship that was developing between her/him and a guy/girl	.84 (1.14)	.88 (1.20)
Alpha		.87	.90
Revenge	7. I was angry about something and wanted to put her/him in her/his place	1.75 (1.34)	1.45 (1.41)
	6. I was trying to get back at her/him for something she/he did that made me mad	1.79 (1.31)	1.48 (1.38)
Alpha		.79	.86
Social Image	22. I thought she/he was too emotional	1.09 (1.26)	.92 (1.15)
	17. I wanted to avoid getting in trouble with adults	.66 (1.05)	.64 (1.09)
	21. I thought she/he wasn't cool	.82 (1.12)	.97 (1.19)
Alpha		.71	.75

Note. Possible range was 0-4 where 0 = Completely disagree, 1 = Slightly disagree, 2 = Somewhat agree, 3 = Moderately agree, 4 = Totally agree.

consistency reliability. Cronbach's alpha for this measure was excellent at .91 and did not improve upon deletion of any items. Averaging all items on this measure created a total score for the frequency of social aggression against a friend. Very few individuals (3.5%) reported that they had never used social aggression against a friend.

Social aggression against a non-friend. None of the 15 items on the frequency of social aggression against a non-friend questionnaire were multicollinear, and internal consistency reliability was excellent (Cronbach's alpha = .93) and did not improve upon deletion of any items. Averaging all items on this measure created a total score for the frequency of social aggression against a non-friend. Few individuals (9.5%) reported that they had never used social aggression against a non-friend.

Normative Beliefs About Social Aggression

Participants' normative beliefs about social aggression were assessed with the measure designed by Goldstein and colleagues (2008). No items on this scale were multicollinear and Cronbach's alpha for this measure was adequate ($\alpha = .72$) and about the same as Goldstein and colleagues found in their study ($\alpha = .70$). All items on this scale were averaged to create the normative beliefs score, with higher scores reflecting higher belief in the acceptability of social aggression.

Missing Data for all Variables

Subscale scores were examined for patterns of missing data and across all variables to be included in the models as some variables were missing up to 9.5% of data. A missing values analysis (MVA) was done with SPSS and Little's MCAR test was not significant, $\chi^2(286) = 207.05, p = 1.00$ therefore, it was concluded that data was missing at random. Anyone who scored 0 on one of the social aggression measures was not given

the motivations questionnaire for that context and therefore for the MVA, these missing points were recoded as not applicable rather than missing (therefore the 9.5% missing on a given variable does not include these not applicable values). The amount of missing data was not of great concern and it was missing at random, therefore no subsequent procedures were needed to address this issue.

Exploring Gender Differences for all Variables

See Table 8 and 9 for means and standard deviations, by gender, for items on the frequency of social aggression against a friend and against a non-friend measure. See Table 10 for means, standard deviations, significance tests for gender differences and Cohen's d (effect size) for differences between men and women on the frequency of social aggression, motivations for social aggression, and normative beliefs about social aggression measures.

Predicting Social Aggression From Motivations

The associations between motivations and the use of social aggression were examined for two contexts: friends and non-friends, and the normative beliefs measure was used as a moderator in all regressions. For both contexts, moderated moderations (i.e., 3-way interactions) were first explored using PROCESS (Hayes, 2013) and none were statistically significant, therefore normative beliefs about social aggression and gender were used as moderators for each of the regression models.

Regression models were run separately for each of the five motivations: acceptance, amusement, jealousy, revenge, and social image. Bootstrapping was used for all models to account for non-normality of the data, however, in all cases bootstrapping did not change which variables were statistically significant therefore non-bootstrapped

Table 8

Means, Standard Deviations, and Gender Differences for Social Aggression Against a Friend for the Validation Study

	overall	females	males
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
7. Talked behind a girl/guy's back	1.72 (1.32)	1.86 (1.33)	1.41 (1.26)
10. Rolled your eyes at a girl/guy	1.28 (1.43)	1.40 (1.48)	1.04 (1.29)
2. Spread rumors or said something negative about a girl/guy who wasn't there at the time (i.e., gossiped)	1.16 (1.28)	1.28 (1.33)	.90 (1.15)
9. Gave a girl/guy dirty looks	1.08 (1.36)	1.13 (1.35)	.99 (1.37)
5. Gave a girl/guy the silent treatment	.86 (1.01)	.89 (1.00)	.78 (1.04)
14. Glared at a girl/guy	.82 (1.13)	.82 (1.13)	.82 (1.15)
8. Turned away and kept talking to someone else when a girl/guy came over to say something to you	.63 (1.05)	.52 (.93)	.86 (1.25)
12. Stopped talking when a girl/guy came over to you and a friend so she/he couldn't join the conversation	.60 (1.00)	.63 (1.03)	.52 (.95)
15. Not invited a girl/guy to a party or event you knew she'd/he'd want to come to	.59 (.92)	.54 (.87)	.69 (1.01)
1. Ignored a girl/guy with the intention of excluding, alienating, or embarrassing her/him	.54 (.93)	.44 (.76)	.73 (1.18)
6. Tried to get others not to like a particular girl/guy	.51 (.87)	.46 (.74)	.63 (1.09)
3. Kept a girl/guy from being accepted by your group of friends	.44 (.91)	.37 (.81)	.58 (1.08)
4. Tried to steal the guy/girl another girl/guy liked	.38 (.86)	.30 (.75)	.56 (1.05)
13. Made a mean face when partnered with a girl/guy in class	.37 (.86)	.32 (.81)	.48 (.97)
11. Passed a girl/guy a mean note (e.g., that says "no one likes you")	.21 (.76)	.16 (.63)	.33 (.96)

Note. Possible range is 0-5 where 0 = Never, 1 = About once a term, 2 = About once a month, 3 = A few times a month, 4 = About once a week, 5 = Many times a week.

Table 9

Means, Standard Deviations, and Gender Differences for Social Aggression Against a Non-friend for the Validation Study

	overall	females	males
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
7. Talked behind a girl/guy's back	1.65 (1.44)	1.83 (1.51)	1.27 (1.21)
10. Rolled your eyes at a girl/guy	1.25 (1.50)	1.35 (1.56)	1.05 (1.35)
9. Gave a girl/guy dirty looks	1.15 (1.43)	1.29 (1.51)	.88 (1.23)
2. Spread rumors or said something negative about a girl/guy who wasn't there at the time (i.e., gossiped)	1.07 (1.33)	1.15 (1.38)	.90 (1.20)
14. Glared at a girl/guy	.95 (1.29)	1.00 (1.34)	.85 (1.18)
5. Gave a girl/guy the silent treatment	.75 (1.07)	.74 (1.06)	.77 (1.10)
12. Stopped talking when a girl/guy came over to you and a friend so she/he couldn't join the conversation	.71 (1.13)	.70 (1.13)	.75 (1.12)
8. Turned away and kept talking to someone else when a girl/guy came over to say something to you	.68 (1.10)	.68 (1.15)	.69 (.99)
1. Ignored a girl/guy with the intention of excluding, alienating, or embarrassing her/him	.65 (1.07)	.58 (.97)	.78 (1.25)
15. Not invited a girl/guy to a party or event you knew she'd/he'd want to come to	.64 (1.08)	.55 (1.00)	.83 (1.21)
3. Kept a girl/guy from being accepted by your group of friends	.61 (1.05)	.52 (.94)	.80 (1.24)
6. Tried to get others not to like a particular girl/guy	.58 (1.01)	.57 (1.04)	.61 (.95)
4. Tried to steal the guy another girl/guy liked	.45 (.96)	.31 (.75)	.73 (1.25)
13. Made a mean face when partnered with a girl/guy in class	.39 (.89)	.34 (.84)	.48 (.98)
11. Passed a girl/guy a mean note (e.g., that says "no one likes you")	.22 (.78)	.16 (.69)	.35 (.92)

Note. Possible range is 0-5 where 0 = Never, 1 = About once a term, 2 = About once a month, 3 = A few times a month, 4 = About once a week, 5 = Many times a week.

Table 10

Descriptive Statistics for all Measures for Males and Females in the Validation Study

	Men		Women		<i>d</i>
	<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>	
Social Aggression against a friend	78	.75 (.83)	159	.73 (.65)	.03
Ignoring	81	.68 (.83)	168	.66 (.74)	.03
Rumours	80	1.16 (1.04)	166	1.57 (1.19)**	.37
Exclusion	79	.67 (.94)*	166	.44 (.63)	.29
Non-verbal body language	80	.74 (.92)	164	.76 (.84)	.02
Social aggression against a non-friend	76	.75 (.83)	159	.76 (.81)	.01
Ignoring	81	.77 (1.00)	164	.67 (.86)	.11
Rumours	79	1.08 (1.04)	167	1.49 (1.28)*	.35
Exclusion	79	.71 (.89) [†]	163	.52 (.78)	.23
Non-verbal body language	79	.71 (.92)	166	.83 (.98)	.13
Normative beliefs	80	2.10 (.57)	171	2.02 (.50)	.15
Motivations against friend					
Acceptance	67	1.36 (.87)	145	1.23 (1.12)	.12
Amusement	67	1.36 (1.11)***	143	.77 (1.00)	.56
Jealousy	69	.88 (.87)	146	.91 (1.02)	.03
Revenge	68	1.71 (.96)	148	1.79 (1.30)	.07
Social image	68	1.11 (.91)**	144	.73 (.89)	.42
Motivations against non-friend					
Acceptance	70	1.19 (.88)	141	1.19 (1.10)	
Amusement	70	1.21 (1.09)***	141	.66 (.92)	.55
Jealousy	72	.89 (.99)	139	.92 (1.06)	.03
Revenge	74	1.44 (1.15)	139	1.55 (1.38)	.09
Social image	70	1.09 (.89)*	138	.77 (.94)	.35

****p* < .001. ***p* < .01. **p* < .05. [†]*p* < .10.

statistics were reported (further, there was not a compelling need to bootstrap in moderation-only models; Hayes, 2013; Hayes, personal communication, July 12, 2013).

The pick-a-point approach, also referred to as a simple slopes analysis (discussed by Hayes, 2013 as the most popular approach to probing an interaction), was used to visualize the conditional effect of normative beliefs on the association between acceptance and frequency of using social aggression against a friend. PROCESS was used to conduct this simple slopes analysis as it selected the mean of the moderator and one standard deviation above and below the mean, corresponding to low, average and high levels of normative beliefs. It then conducted an inferential test of the conditional effect of the predictor on the criterion variable at each of those values. The conditional effect of the predictor was also estimated at values corresponding to the 10th, 25th, 50th, 75th, and 90th percentiles in the sample distribution of normative beliefs and the information gained from this analysis was no different than that gained at the low, medium and high levels (i.e., in most analyses that follow, typically the 10th and 25th percentiles were not significant and the 50th, 75th, and 90th percentiles were), thus these are the results reported. What follows are the regressions for each of the five motivations identified.

Social aggression against a friend. The frequency of social aggression against a friend was used as an outcome variable in five multiple moderated regression analyses. The gender moderation was not significant in the overall models for any of the motivations for social aggression against a friend and therefore all final models were run with only the normative beliefs interaction.

Acceptance. This model was significant, $F(3, 194) = 26.08, p < .001$ and $R^2 = .29$. The interaction between normative beliefs and acceptance was significant (unstandardized regression coefficient = .24, $p = .003$) and a modest 3% of variance in this model was accounted for by this interaction ($\Delta R^2 = .03$). As Figure 2 illustrates, for the motivation of acceptance the regression line for low normative beliefs did not differ from zero ($p = .08$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative beliefs, little change was found in the frequency of social aggression as a function of their desire for acceptance. However, for individuals with average and high levels of normative beliefs, more desire for acceptance was related to higher levels of social aggression against a friend.

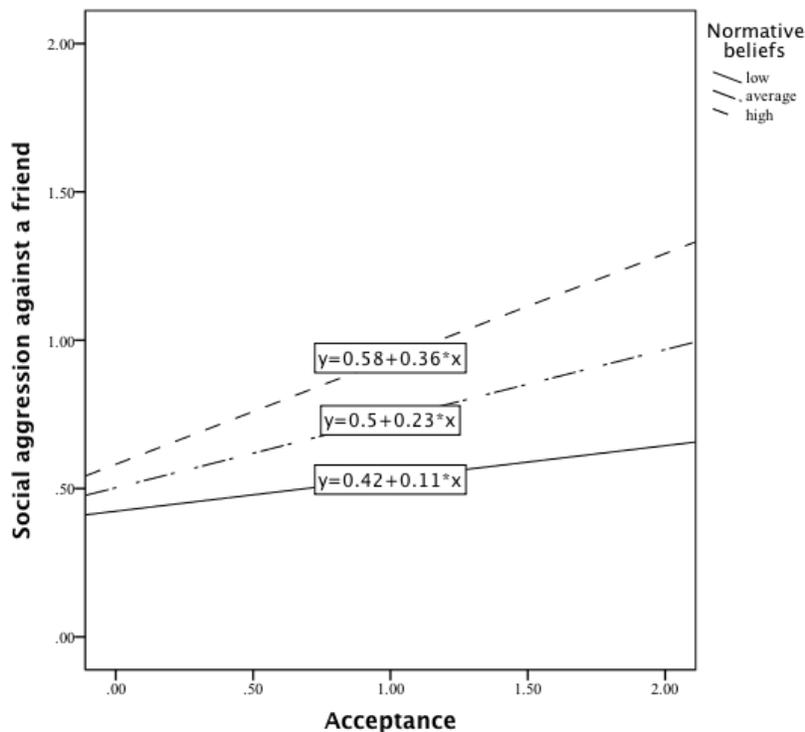


Figure 2. Associations between acceptance and social aggression against a friend by levels of normative beliefs about social aggression for the validation study.

Amusement. This model was significant, $F(3, 193) = 18.39, p < .001$ and $R^2 = .22$. The interaction between normative beliefs and amusement was significant (unstandardized regression coefficient = .18, $p = .03$) and a modest 2% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .02$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for amusement on social aggression against a friend. As Figure 3 illustrates, for the motivation of amusement the regression line for low normative beliefs did not differ from zero ($p = .25$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative beliefs, little change was found in the frequency of social aggression as a function of

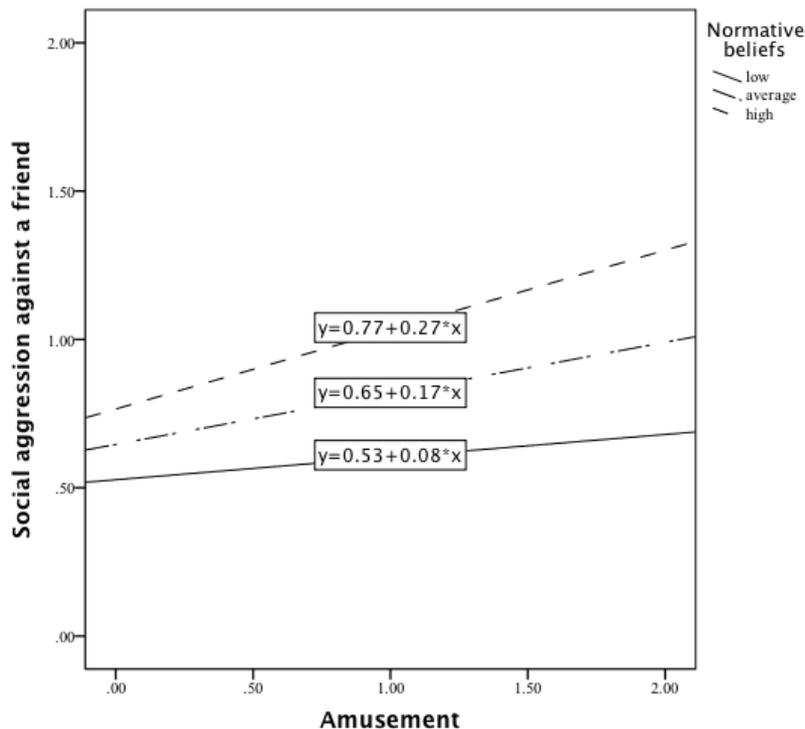


Figure 3. Associations between amusement and social aggression against a friend by levels of normative beliefs about social aggression for the validation study.

their desire for amusement. However, for individuals with average and high levels of normative beliefs about the acceptability of using socially aggressive behaviours, more desire for amusement was related to higher frequencies of social aggression against a friend.

Jealousy. This model was significant, $F(3, 197) = 25.05, p < .001$ and $R^2 = .28$. The interaction between normative beliefs and jealousy was significant (unstandardized regression coefficient = .26, $p = .003$) and a modest 3% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .03$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for jealousy on social aggression

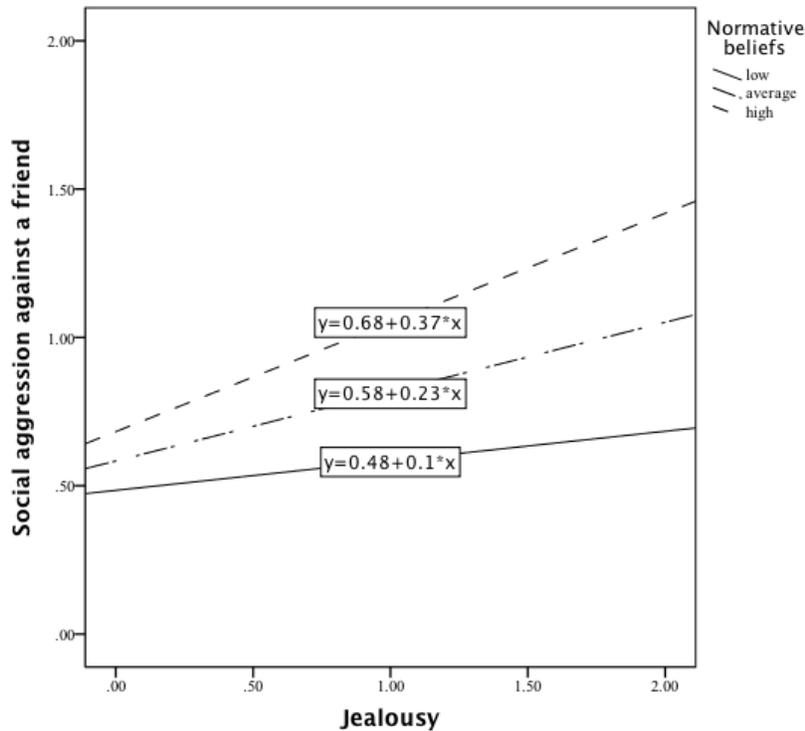


Figure 4. Associations between jealousy and social aggression against a friend by levels of normative beliefs about social aggression for the validation study.

against a friend. As Figure 4 illustrates, for the motivation of jealousy the regression line for low normative beliefs did not differ from zero ($p = .13$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's < .001). For individuals with low normative beliefs, little change was found in the frequency of social aggression as a function of their feelings of jealousy. However, for individuals with average and high levels of normative beliefs, more feelings of jealousy were related to higher levels of social aggression against a friend.

Revenge. The normative beliefs moderation was not significant in the overall model therefore a final model with no moderation effects was run. This model was significant, $F(2, 199) = 25.07, p < .001$ and $R^2 = .20$. Revenge (unstandardized regression coefficient = .16) and normative beliefs (unstandardized regression coefficient = .41) were significant predictors in the model (both p 's < .001) predicting the frequency of social aggression. Thus, when considered simultaneously, increased desire for revenge and higher normative beliefs were both associated with an increase in frequency of social aggression against a friend.

Social image. The normative beliefs moderation was not significant in the overall model therefore a final model with no moderation effects was run. This model was significant, $F(2, 196) = 32.16, p < .001$ and $R^2 = .25$. Social image (unstandardized regression coefficient = .28) and normative beliefs (unstandardized regression coefficient = .38) were significant predictors in the model (both p 's < .001) predicting the frequency of social aggression. Thus, when considered simultaneously, an increased desire to attain or maintain social image and higher normative beliefs were both associated with an increase in frequency of social aggression against a friend.

Overall, each of the motivations for social aggression against a friend predicted the use of social aggression against a friend. For all models, the variance accounted for by the predictors was between 20 and 29% meaning that about a quarter of the variance in frequency of social aggression could be accounted for by the individual's underlying motivations and when moderation effects were present, these effects accounted for a modest 2 to 3% of that variance. For acceptance, amusement, and jealousy, normative beliefs was a significant moderator of the association between the motivations and the behaviour. The motivations of acceptance, amusement and jealousy were more strongly associated with the frequency of social aggression for those who held higher normative beliefs about the acceptability of using these behaviours (in all cases, low normative beliefs were not significantly different from zero while the medium and high beliefs were significantly different from zero). Revenge and social image were associated with social aggression against a friend regardless of one's normative beliefs about social aggression. Normative beliefs were also significantly associated with social aggression against a friend regardless of one's desire for revenge and social image.

Social aggression against a non-friend. The frequency of social aggression against a non-friend was used as an outcome variable in five multiple moderated regression analyses with normative beliefs about social aggression and gender as moderators for each of the regressions.

Acceptance. The gender moderation was not significant in the overall model, therefore a final model with only the normative beliefs interaction was run. This model was significant, $F(3, 190) = 25.44, p < .001$ and $R^2 = .29$. The interaction between normative beliefs and acceptance was significant (unstandardized regression coefficient =

.35, $p < .001$) and a modest 5% of variance in this model was accounted for by this interaction ($\Delta R^2 = .05$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for acceptance on social aggression against a non-friend. As Figure 5 illustrates, for the motivation of acceptance, the regression line for low normative beliefs did not differ from zero ($p = .10$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a non-friend as a function of their desire for acceptance. However, for individuals with average and high levels of normative beliefs, more desire for acceptance was related to higher levels of social aggression against a non-friend.

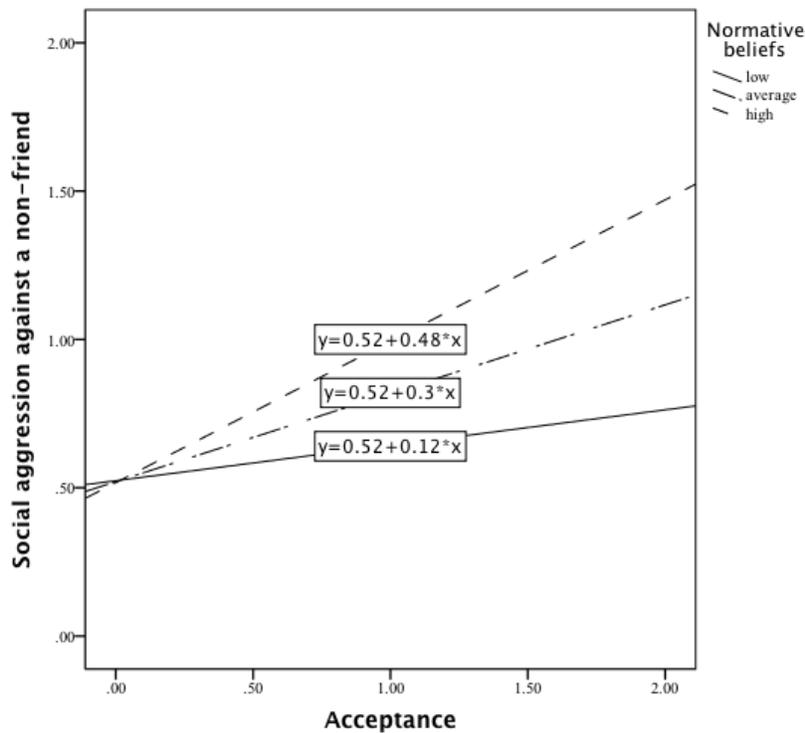


Figure 5. Associations between acceptance and social aggression against a non-friend by levels of normative beliefs about social aggression for the validation study.

Amusement. The gender moderation and normative beliefs moderation were both significant in this overall model, $F(5, 190) = 15.44, p < .001$ and $R^2 = .29$. The interaction between normative beliefs and amusement was significant (unstandardized regression coefficient = .24, $p = .03$, $\Delta R^2 = .02$) as was the gender by amusement interaction (unstandardized regression coefficient = .32, $p = .002$, $\Delta R^2 = .04$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for amusement on social aggression against a non-friend. As Figure 6 illustrates, for the motivation of amusement, the regression line for low normative beliefs did not differ from zero ($p = .46$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative

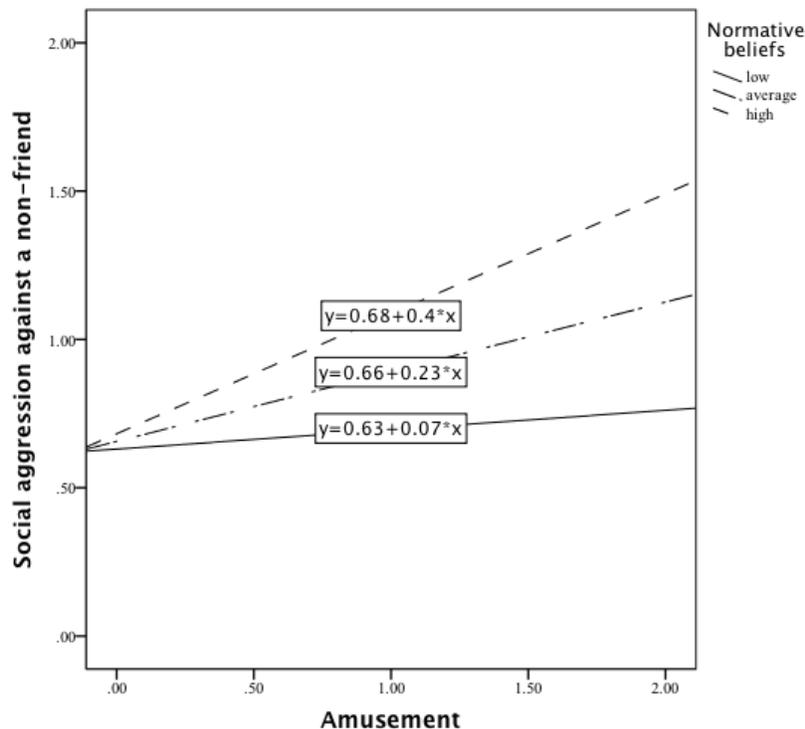


Figure 6. Associations between amusement and social aggression against a non-friend by levels of normative beliefs about social aggression for the validation study.

beliefs, little change was found in the frequency of social aggression against a non-friend as a function of their desire for amusement. However, for individuals with average and high levels of normative beliefs, more desire for amusement was related to higher levels of social aggression against a non-friend.

The pick-a-point approach as used to visualize the conditional effect gender had for amusement on social aggression against a non-friend as well. For females, the positive association between amusement and social aggression against a non-friend (the line for females was significantly different from zero at $p < .001$) was stronger than it was for males (line for males approached being significantly different from zero at $p = .06$), see Figure 7. Power was tested for this interaction and it was decided that there was

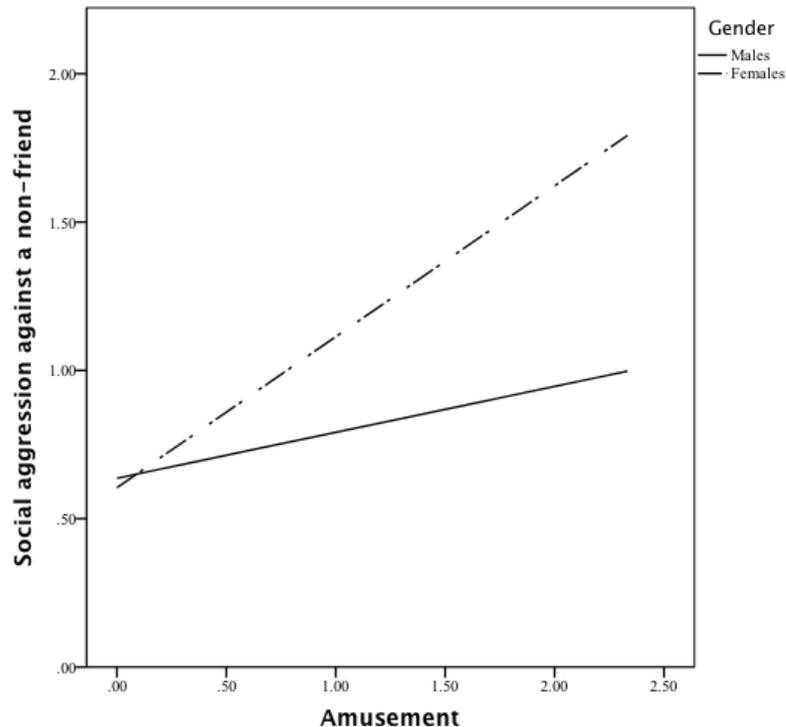


Figure 7. Associations between amusement and social aggression against a non-friend by gender for the validation study.

enough power to detect a difference (power = .83, Cohen, 1988).

Jealousy. The gender moderation was not significant in the overall model, therefore a final model with only the normative beliefs interaction was run. This model was significant, $F(3, 191) = 28.49, p < .001$ and $R^2 = .25$. The interaction between normative beliefs and jealousy was significant (unstandardized regression coefficient = .18, $p = .05$) and a modest 2% of variance in this model was accounted for by this interaction ($\Delta R^2 = .02$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for jealousy on social aggression against a non-friend. As Figure 8 illustrates, for the motivation of jealousy, the regression line for low, average and high normative beliefs all differed significantly from zero (all p 's = .003 or less). For

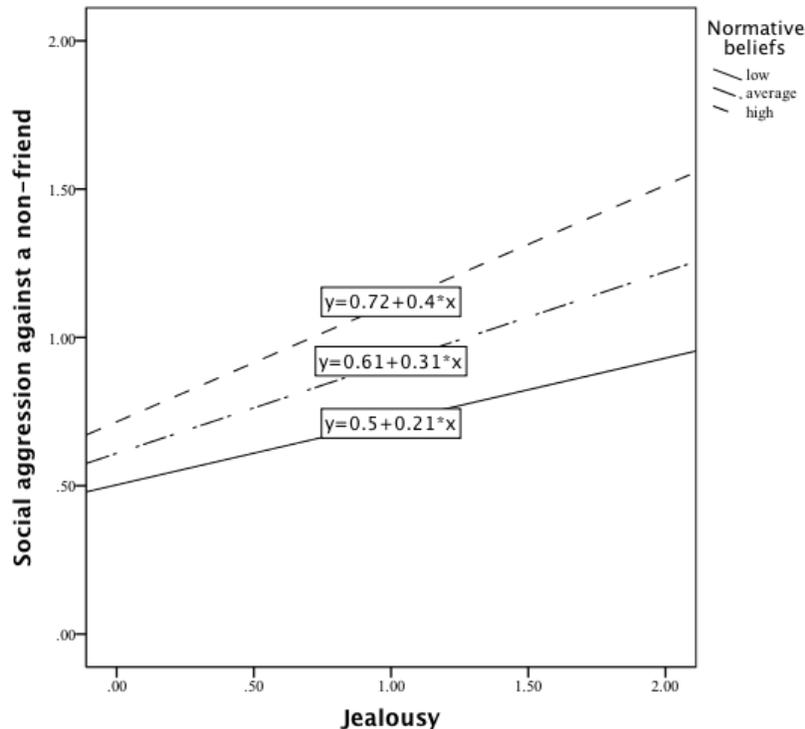


Figure 8. Associations between jealousy and social aggression against a non-friend by normative beliefs about social aggression for the validation study.

individuals with low, average and high levels of normative beliefs, more desire for jealousy was related to higher levels of social aggression against a non-friend. To probe this interaction further, the Johnson-Neyman technique was used in PROCESS (Hayes, 2013). This technique identifies the regions of the normative beliefs continuum where the effect of feelings of jealousy on use of social aggression against a non-friend are significant and where they are not. When normative beliefs scores were at 1.30 or higher on this scale of 1-4, the effect of feelings of jealousy on social aggression against a non-friend was statistically significant ($p < .05$).

Revenge. The gender moderation was not significant in the overall model, therefore a final model with only the normative beliefs interaction was run. This model was significant, $F(3, 192) = 20.26, p = .02$ and $R^2 = .24$. The interaction between

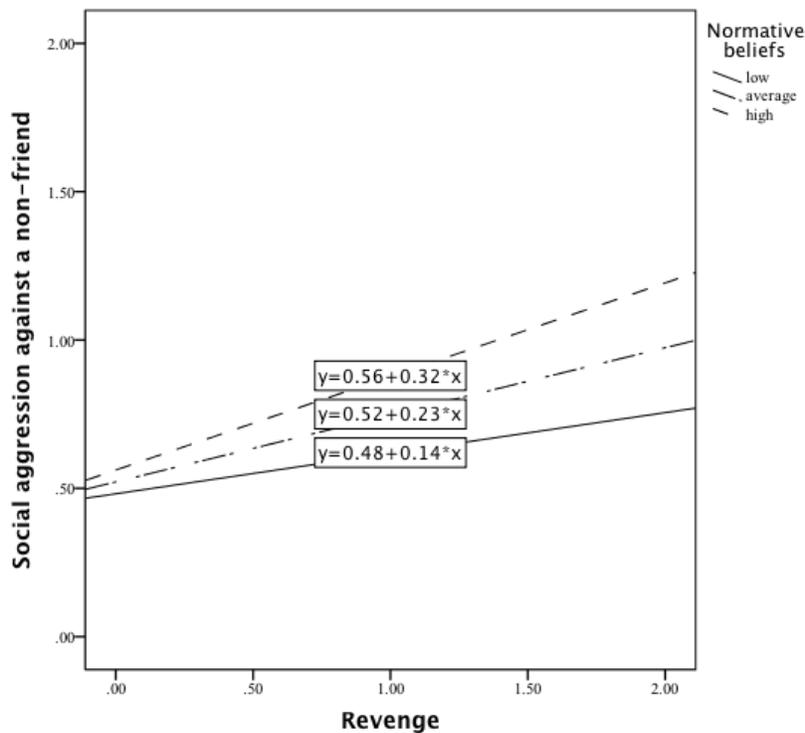


Figure 9. Associations between revenge and social aggression against a non-friend by normative beliefs about social aggression for the validation study.

normative beliefs and revenge was significant (unstandardized regression coefficient = .17, $p = .02$) and a modest 2% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .02$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for revenge on social aggression against a non-friend. As Figure 9 illustrates, for the motivation of revenge, the regression line for low, average and high normative beliefs did significantly differ from zero (all p 's = .02 or less). For individuals with low, average and high levels of normative beliefs, more desire for revenge was related to higher levels of social aggression against a non-friend.

To probe this interaction further, the Johnson-Neyman technique was used. When normative beliefs scores were at 1.48 or higher, the association between feelings of revenge on social aggression against a non-friend was statistically significant ($p < .05$) but when normative belief scores were below 1.48 on this scale between 1-4, the association between feelings of revenge and frequency of social aggression was not significantly different from zero.

Social image. The gender moderation and the normative beliefs moderation were not significant in the overall model therefore a final model with no moderation effects was run. This model was significant, $F(2, 189) = 20.35, p < .001$ and $R^2 = .18$. Social image (unstandardized regression coefficient = .29, $p < .001$) and normative beliefs (unstandardized regression coefficient = .33, $p = .002$) were significant predictors of the frequency of social aggression in the model.

In sum, all motivations were statistically significant predictors of social aggression against a non-friend with between 18 and 29% of the variance in each model accounted for by the predictors. All but one of the motivations (social image) was

significantly moderated by normative beliefs about the acceptability of social aggression, and gender was a significant moderator for only the motivation of amusement. When considering the moderation effects of normative beliefs, for the amusement and acceptance models, medium and high normative beliefs significantly predicted an increase in frequency of social aggression against a non-friend. For the jealousy and revenge models, low, medium, and high levels of normative beliefs significantly predicted an increase in frequency of social aggression against a non-friend.

The findings were quite similar for the associations between motivations and social aggression against a friend and non-friend among this sample of young adults. Outcomes for the acceptance, amusement and social image models were the same when predicting social aggression against a friend and social aggression against a non-friend. Two noteworthy differences were the significant gender moderation effect for the motivation of amusement in the prediction of social aggression against a non-friend and the significant normative beliefs moderation effect for the motivation of revenge against a non-friend when these were not significant for social aggression against a friend. Jealousy had a slightly different effect between the two contexts in that for social aggression against a friend, only average and high levels of normative beliefs predicted high social aggression against a friend. For social aggression against a non-friend, normative beliefs scores above 1.30 (i.e., very low) predicted higher levels of social aggression against a non-friend. Thus, this validated measure of motivations for social aggression against friends and non-friends has shown that similar motivations predict young adults' perceptions of their use of socially aggressive behaviours against friends and non-friends. These associations, however, are dependent on individuals' normative

beliefs about the acceptability of using socially aggressive behaviours when considering most motivations (with the exceptions of social image in both contexts and revenge in the friend context).

Discussion

Summary of Findings From the Validation Study

As the goal of this study was to develop a measure of the motivations for social aggression across two contexts, it was of interest to determine what motivations for social aggression against friends and non-friends were reported when individuals thought about real life socially aggressive acts they had engaged in. Based on a review of this literature, five reasons were anticipated to emerge: social dynamics, social dominance, amusement, friendship insecurity, and social rules. Of those five motivations, acceptance (previously termed social dynamics) and amusement emerged and were very similar to what had been proposed (i.e., almost all questions that were proposed to be related to these themes were validated). The acceptance factor that emerged was noteworthy because it was comprised of questions related to both desiring popularity and wanting to be liked by peers. These are often considered two distinctly different ways of thinking about status (Cillessen & Marks, 2011) but they were found to be related motivations for the use of social aggression, at least for young adults.

The themes that emerged in the exploratory factor analyses on the two contexts of the motivations measures were the same, although a few questions fell under different factors for the two contexts. The common factors that emerged for both contexts included: the desire for acceptance (popularity and peer liking), the desire to create amusement, the feeling of jealousy, the desire for revenge, and desire to improve or

maintain social image. Many of the items that were theoretically proposed to fall under certain categories actually loaded differently than expected. The questions related to popularity that were proposed to fall under the theme of social dominance actually emerged under the theme of desiring acceptance. Furthermore, the two items related to revenge that were proposed to fall under the theme of social dominance actually emerged as a theme of their own. It was proposed that items that related to jealousy and envy would be captured under the theme of friendship insecurity, but these items also emerged as their own theme. The social image theme that emerged was somewhat related to the proposed social rules category but a number of the items from this theme were dropped. The items that remained seemed to reflect a desire to protect one's social image (i.e., wanting to avoid trouble), or the idea that others should be policed for their behaviour or outward social image (i.e., thinking someone isn't cool enough or is too emotional). In sum, although the themes that emerged were somewhat different than expected, they were closely related to the theoretical themes that were initially proposed. The items with the highest loadings on each of the themes were used as inspiration to name the themes as it was thought that these new labels would more closely reflect the items that loaded on each.

For the most part, levels of endorsement of these motivations were similar across contexts. The most highly endorsed motivations for using social aggression against best friends and non-friends were revenge and desire for acceptance into the group. It is noteworthy that even the most endorsed motivations were endorsed to a small degree, with the mean rating falling between slight disagreement and slight agreement that this was a reason underlying their actual use of a socially aggressive strategy.

The finding that levels of endorsement for these motivations were quite low is in line with past research on the subject. Reynolds and Repetti (2010) found that the girls in their study reported similar motives: the most common being revenge and thinking friends didn't like the target (this second item fit under the theme of acceptance in the current study). These motivations were endorsed at similar levels to those found in the current study and in fact, Reynolds and Repetti used any score over 1 (*this was not a reason*) to indicate that they did not completely reject the item and thus, this was endorsement. It is not surprising these types of questions might produce some socially desirable responding as these motivations and behaviours are often discouraged by authority figures throughout life, and adults typically know that they are not prosocial (Underwood, 2003).

Similar to the finding that endorsement of motivations was low, the endorsement of socially aggressive behaviours was also low. This finding is not surprising as young adults may feel that they should not be engaging in these behaviours. Furthermore, low endorsement of social aggression is a common finding in the literature for this age group (Leadbeater, Banister, Ellis, & Yeung, 2008). It is important to understand that a low level of endorsement does not invalidate the associations found between these motivations and behaviours. In all likelihood, these are conservative estimates of how much these motivations are actually endorsed and how much these behaviours are actually used (Pellegrini & Bartini, 2000) and few individuals indicated that they had never used the behaviours over the past year.

In general, men and women reported similar experiences with socially aggressive behaviours however, the differences between men and women for average levels of

endorsement of some of the motivations was an important finding, as the inclusion of both women and men in a quantitative study on motivations was a novel aspect of this study. Men reported significantly higher levels of amusement than women in both contexts. The only other study to have examined the motivation of amusement for boys as well as girls was qualitative and did not find a gender difference (Pronk & Zimmer-Gembeck, 2010). Furthermore, in this study a gender difference on the desire for acceptance subscale was not found and this is not in line with previous research on motivations for social aggression where boys were found to have more often endorsed the motivation of wanting power over someone (Pronk & Zimmer-Gembeck, 2010). In the current study both men and women endorsed the motivation of acceptance, indicating an approximately equal desire for power over someone and more power in the peer group. The different findings between the current study and Pronk and Zimmer-Gembeck's (2010) study could be attributed to the different methodology used between the studies. Men in the current study were asked to reflect on their own behaviours, whereas the boys in Pronk and Zimmer-Gembeck's study were asked to reflect on the behaviour of others. Perhaps when reflecting on their own behaviour, men were less compelled by the desire for power over others than previously thought. Another potential reason for these differences between the two studies is the age difference of the participants. There may be a developmental effect for these gender differences, where some exist in younger adolescence but not in older ages.

It was also of interest in this study to deepen our understanding of the associations between motivations and the use of social aggression by determining how they were associated with one's normative beliefs about the acceptability of the use of social

aggression. As hypothesized based on past research (Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010), each of the motivations was positively associated with the use of socially aggressive behaviours. It was also hypothesized that youth who endorsed any of the motivations for social aggression and who had more favorable beliefs about the use of socially aggressive behaviours (i.e., higher normative beliefs) would admit to using more social aggression over the last year. This hypothesis was supported for participants who were motivated by the desire for acceptance, the desire for amusement and jealousy. That is, individuals who endorsed these three motivations and who held moderate to higher normative beliefs about the acceptability of social aggression reported having used more socially aggressive behaviours over the past year against their friends. When participants considered their socially aggressive behaviours over the past year against a non-friend, this hypothesis was supported for the motivations of acceptance, amusement, jealousy, and revenge. That is, individuals with higher normative beliefs who endorsed these four motivations reported having used more socially aggressive behaviours against people they did not consider friends. These moderated associations were in line with past research on normative beliefs where it was found that individuals with higher normative beliefs engaged in more social aggression against a romantic partner (Goldstein et al., 2008).

Normative beliefs about the acceptability of aggressive behaviour are not necessarily in line with the norms of the social environment but it has been noted that there is generally some consistency between an individual's normative beliefs, the beliefs of the person's peers and social group, as well as the norms of the greater community

(Huesmann & Guerra, 1997). What was missing in the current study was an analysis of the source of the normative beliefs assessed. Presumably, because there is a range of normative beliefs among participants, there must also be a range of normative beliefs among various components of the social environment (e.g., peer group, community, culture; Salmivalli & Voeten, 2004) of the individuals who participated in the current study. Because normative beliefs may be different from peer group or community beliefs, an assessment of where these normative beliefs have come from could be incorporated into future research into these associations.

Normative beliefs were not always a moderating factor in the associations between motivations and social aggression. The associations the motivations of between revenge and social aggression against a friend, and social image and social aggression against a friend and non-friend were not found to differ as a function of normative beliefs. It seems that, regardless of one's stance on how acceptable they considered social aggression, the desire for revenge against a friend and the motivation of maintaining one's social image or policing the image of someone else in both contexts predicted higher levels of social aggression. When individuals believed a friend has wronged them in some way and wanted to get back at that person, they seemed to feel that social aggression was an acceptable way to seek that revenge, regardless of whether they believed social aggression in general was acceptable or not. The finding was similar for social image. These two motivations – revenge (only against a friend) and social image (in both contexts) – had a unique motivating quality as they superseded an individual's beliefs in the rightness or wrongness of using socially aggressive behaviours. Perhaps these two motivations are so powerful that they interfere with a person's moral

beliefs and future research may seek to explore moral engagement (Bandura, 1999) as a moderating factor to these associations.

With regard to gender differences, only one gender-moderated regression was significant for this young adult sample, and it was not the one hypothesized. The association between amusement and social aggression was stronger for young women than it was for young men. This finding was opposed to the hypothesis that jealousy and social aggression would have a gender-moderated association, however, this hypothesis was based on research with adolescents (Quigley & Daniels, in preparation). There has been some speculation this association between girls' use of social aggression exists because they are bored and want to create some excitement (Owens et al., 2000a; Sippola, Paget, & Buchanan, 2007). Owens and colleagues had found that girls in their study reported using social aggression because they were bored and upon observing some schoolyard recess time behaviour, the researchers confirmed that while the boys used recess time to play games and sports, girls were often found huddled in smaller groups talking amongst themselves. Several girls sought to clarify this characterization during the credibility checking process of the Owens and colleagues study: It was not that girls were not involved in sports, in fact, many girls were heavily involved outside of school, but as one girls explained, "they don't want to get hot and sweaty at lunch" (p. 29). Perhaps this social and cultural context that makes girls not want to get hot and sweaty at lunch – in other words, to maintain an outward appearance closer to the cultural beauty ideals (Wolf, 1999) – is partially to blame for girls' engagement in social aggression as a way to gain excitement and reduce boredom in their lives.

This discussion of the association between amusement and social aggression was brought into context by whether the aggression was directed toward a friend or non-friend. Likewise, while most of the associations between motivations and social aggression were the same across friend and non-friend contexts (desire for acceptance, jealousy, and social image), the desire for revenge differed in its association to social aggression when the behaviour was directed toward friends and non-friends. When it was directed toward friends, whether a person's normative beliefs about social aggression were low or high determined how much social aggression they reported they had used over the past year, and when the desire for revenge was directed at non-friends, a person's normative beliefs did not matter. Perhaps when there is a relationship at stake, a desire for revenge is more easily tempered by an individual's personal beliefs whereas when there is no relationship to maintain, revenge may feel like an appropriate method of communicating one's anger. This noteworthy difference between the contexts provides further support for the consideration of the context within which socially aggressive behaviours take place (Collins & Steinberg, 2008).

Another association that was different between the two contexts was the gender moderation for the association between amusement and social aggression directed against a non-friend. Women had more tendency than men to use social aggression against someone they did not consider a friend when they were bored. For women and men, social aggression against their friends was used for the same reasons, but when women clustered in their friendship groups and were bored and perceived there was little else to do, they reported that they targeted other women outside of their friendship group. This is a similar finding to that in Owens and colleagues' (2000b) study of adolescent girls,

where they found that girls were more likely to cluster in groups on the yard rather than play sports and games at recess.

In summary, the Motivations for Social Aggression Across Contexts measure was a valid tool for examining young adults' motivations for the use of social aggression with their friends and with people they did not consider friends. Furthermore, the findings that many of the underlying motivations for social aggression were significantly associated with higher use of social aggression for individuals with higher normative beliefs contributes significantly to our understanding of social aggression. Finally, the finding that the association between the desire for amusement and use of social aggression against a non-friend was stronger for young women than young men may provide insight into the larger cultural context that may promote this behaviour among girls and women as a means to create excitement and reduce boredom (Sippola et al., 2007).

Conclusion of Validation Study

This study was designed primarily to validate the Motivations for Social Aggression Across Contexts measure. From a thorough review of the existing qualitative and quantitative literature, a comprehensive measure of motivations was created to examine what individuals believed their motivations were when they were asked to recall, retrospectively, occasions in the past year when they had used social aggression against friends and/or non-friends. The final measure that was developed had good internal consistency reliability and was found to work well for determining young adults' motivations for social aggression in both contexts. A measure comprised of 17 items was determined to be most psychometrically sound and several factors that were established on this measure were consistent with factors previously reported by others using

qualitative and quantitative methodologies (Delveaux & Daniels, 2000; Owens et al., 2000b; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation; Reynolds & Repetti, 2010). These included the desire for acceptance, the desire for amusement, feelings of jealousy, and the desire for revenge. One additional factor, the desire to maintain one's social image, which had not been previously hypothesized, was also identified. A noteworthy finding was that some of the items that had been theoretically proposed by Underwood (2003) but had not been substantiated by interviews with girls (i.e., "I figured it was a socially acceptable way of getting out my anger" and "I wanted people to still think I was nice"; Underwood, 2003) did not load on any of the factors for this measure. Future research should explore these factors further to determine whether they are not strong motivators for socially aggressive behaviour, or whether the wording for these items was not consistent with individuals' experiences.

In the current study, the measurement of motivations for social aggression was taken further by examining a larger array of motivations than had been examined in past research, and by assessing men's and women's motivations for real life socially aggressive events. Despite the focus of gender on much of the research in this field, few gender differences were identified in the current study. Finally the role of normative beliefs was found to significantly moderate most of the associations between motivations and frequency of social aggression against friends and non-friends. What was left to be addressed after this first study was whether this instrument would be suitable for a younger sample of individuals, which is the age group much of the research in this field has been centered on, and whether the motivations of adolescent boys and girls would differ from that of their young adult counterparts. The results of this validation study

informed the development of the adolescent study. It was concluded that the measure of Motivations for Social Aggression Across Contexts (MSAAC) would be appropriate and useful to explore motivations for social aggression with an adolescent sample of boys and girls. The method, results and discussion from the adolescent study are presented next.

Study 2: The Adolescent Study

One of the most important questions in the field of motivations for social aggression research is: Why do adolescents use social aggression? The frequency of social aggression is widely believed to increase from pre-school throughout childhood and some even follow a trajectory of increased use throughout early adolescence (Underwood, Beron, & Rosen, 2009). Furthermore, intervention will never be successful until researchers and practitioners understand the reasons adolescents use social aggression.

Much of the research in this field is based on the experiences of adolescent girls, thus this study was designed to extend the field by assessing the comprehensive set of motivations validated in Study 1 with adolescents of both genders. The roles of normative beliefs about the acceptability of social aggression and whom the aggression was directed toward were explored in this study as well. These factors were all considered in the associations between motivations for social aggression and actual social aggression that participants reported they had engaged in over the past year.

Hypotheses for the Adolescent Study

The measure of Motivations of Social Aggression in Two Contexts that was validated in the first study (based on previous literature on motivations for social aggression; Owens et al., 2000b; Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels,

in preparation; Reynolds & Repetti, 2010) was used to determine which motivations for social aggression were most endorsed by adolescents. The motivations established in Study 1 (acceptance, amusement, jealousy, revenge, social image) were hypothesized to positively predict the use of social aggression, and based on the findings of the validation study and the work of Goldstein and colleagues (2008), participants' normative beliefs were expected to moderate these associations. It was hypothesized that higher normative beliefs about the acceptability of social aggression would determine whether the individual acted on their motivations and would report having used socially aggressive behaviours more frequently over the past year. Gender was explored as a moderator given the effect of gender on the association between amusement and social aggression in the validation study as well as in past research (Pronk & Zimmer-Gembeck, 2010; Quigley & Daniels, in preparation). Social aggression was explored with regard to whether it was used against a friend or a non-friend, based on previous research in this field (Quigley & Daniels, in preparation).

In addition, follow-up analyses were conducted in this study to explore the underlying motivations for specific forms of social aggression (i.e., ignoring, gossip/rumours, exclusion, and non-verbal body language), based on a similar strategy utilized by Reynolds and Repetti (2010). They found that girls reported the motivation "it seemed like fun" (i.e., amusement) significantly less as a reason for ignoring others than as a reason to gossip about or exclude others. Although this was the only difference they found, the current study examined a more comprehensive set of motivations. Specific associations between motivations and the use of individual forms of socially aggressive behavior were anticipated although the nature of these relationships was not

known a priori. Which of the motivations were significantly associated with forms of social aggression when all other motivations were held constant were tested with multiple regression analyses.

Adolescent Study Method

Adolescent Study Participants

This study was conducted with grades 6, 7 and 8 boys and girls in five schools in two Catholic school boards located in four rural Ontario towns. All towns had unemployment rates higher than the provincial average of 6.4% (unemployment rates ranged from 6.5% - 9.8%) and had lower median income rates than the provincial average of \$29,335 (median income for these towns ranged from \$19,208 - \$24,048). All demographics data was obtained from the most recent census statistics available (Statistics Canada, 2006). Participants included 151 students between the ages of 10 and 14 ($M = 12.21$, $SD = .94$), and there was a fairly even gender distribution in this sample (55.6% of participants were girls). The majority of the sample self-identified as European-Canadian/ White (68.9%), 7.8% self-identified as Native-Canadian/ First Nations/ Native Indian/ Aboriginal/ Métis/ Inuit, and 12.1% of participants reported that they did not know their ethnic self-identity. All participants received parental consent and provided their own assent to participate in the study.

Adolescent Study Procedure

Once ethics approvals from the school boards were obtained, initial contact was made with schools to determine their level of interest in the study. Once school principals agreed to participate, information regarding the study and consent forms were distributed to parents and guardians. Students received a token gift (e.g., pencil, pen) for

returning their consent forms, regardless of whether they received parental consent to participate. In addition, a pizza party was offered to the classroom in each school that returned the most consent forms. The average return rate for permission forms was 73% (range was 60-100%), which is common in school-based research (Esbensen, Melde, Taylor, & Peterson, 2008). The average consent rate of the returned forms was 96.5% across all schools.

Adolescent Study Measures

The following measures were presented to participants: normative beliefs about social aggression, frequency of socially aggressive behaviour against a friend and non-friend (gender-specific), frequency of socially aggressive behaviour against a non-friend (gender-specific), motivations for socially aggressive behaviours against a friend (gender-specific), and demographic information (i.e. age and gender). Each of these measures is described below.

Normative beliefs about social aggression. As in Study 1, the Goldstein and colleagues (2008) version of the Normative Beliefs about Aggression scale was used. Participants rated their perceptions of the acceptability of the use of socially aggressive behaviours in general on a scale ranging from 1 (*it's really wrong*) to 4 (*it's perfectly ok*). The items were averaged to create a scale with a possible range of 1-4. Higher scores represented more endorsement of the acceptability of using socially aggressive strategies. Internal consistency was acceptable for this measure with a Cronbach's alpha of .70 (Nunnally, 1978).

Frequency of socially aggressive behaviour. Frequency of social aggression was assessed using the measure developed for the validation study, originally based on

the survey developed by Reynolds and Repetti (2010). A set of questions were used that asked participants how often they had engaged in 15 socially aggressive behaviours over the past year, on a scale from 0 (*never*) to 5 (*many times a week*). Participants were first asked about their use of socially aggressive behaviours directed toward their friends and subsequently about their use of socially aggressive behaviours directed toward non-friends. Items were summed and averaged to create a score for how often each participant has used socially aggressive behaviour over the last year against friends and also against non-friends. Internal consistency reliability for this measure was excellent in both contexts for this sample: Cronbach's alpha for frequency of social aggression against a friend was .92 and for frequency of social aggression against a non-friend was .95 (Nunnally, 1978).

Motivations for Social Aggression Across Contexts (MSAAC). The Motivations for Social Aggression Across Contexts measure developed and validated in Study 1 was used to assess motivations in the current adolescent sample. The 17 items on this measure that were substantiated by the validation study were presented to participants in the current study (see Table 6 to review the items on this measure). Participants were asked to indicate, for each motivation item, how likely it was that this was an underlying reason for their use of socially aggressive behaviours they had engaged in over the last year, on a scale from 0 (*this was not at all the reason*) to 4 (*this was the main reason*). Items were averaged for each of the five subscales (i.e., acceptance, amusement, jealousy, revenge, social image), with higher scores indicating more endorsement of a motivation. Cronbach's alphas for motivations for social aggression against a friend were all very good (i.e., .85 for the acceptance scale, .78 for

the amusement scale, .80 for the jealousy scale, .83 for the revenge scale), with the exception of the social image motivation, which was .62. For motivations for social aggression against a non-friend, internal consistencies were all very good, (i.e. .88 for acceptance, .83 for amusement, .84 for jealousy, .81 for revenge), with the exception of social image which was .67. The internal consistency reliability for the social image subscales for both contexts were below the desirable value of .70 or higher for a newly created scale (Nunnally, 1978) however, Cronbach's alpha is sensitive to the number of items within a scale and may not be a good indication of reliability when there are few items (Pallant, 2007). The social image factor was based on only two items, therefore, mean inter-item correlations were calculated for these subscales and they had optimal values of .35 for social image in the friend context and .41 for social image in the non-friend context (optimal values are between .2 and .4; Pallant, 2007). Given these findings, all five factors were considered to have acceptable internal reliability.

Results

Data Screening

Little's MCAR test was used to test for the pattern of missing data. Little's test value was $\chi^2(77) = 75.52, p = .53$ and so data was determined to be missing at random. Data were also screened for univariate and multivariate outliers. All models were run with univariate outliers brought within range (z score +/-3.29) and no models were found to differ. It was decided that these outliers were legitimate and not based on data entry or other researcher error and therefore, it was decided to keep them in the dataset for all analyses as was done in the validation study. Mahalanobis distance was used to screen the data for multivariate outliers and all cases had a Mahalanobis distance less than the

critical value of $\chi^2 = 34.53$ (critical value obtained from Tabachnick & Fidell, 2007, p. 949). All data screening indicated that outliers were not a concern and the raw data was used in all subsequent analyses. Normality of the data was explored but was not a major concern as all variables were skewed in the same positive direction, thus transformations would offer only marginal improvements (Tabachnick & Fidell, 2007).

Seven youth (4.6%) reported that they had not used social aggression toward a friend in the last year and 11 (7.3%) said they had not used it against a non-friend in the last year. As a result, these participants were not included in the regression models for the relationship between motivations and frequency of social aggression in the context that they reported not having used the behaviours. See Table 11 for means and standard deviations for each of the variables under study for the adolescent sample.

Predicting Social Aggression From Motivations

Moderated moderations (i.e., 3-way interactions) were first explored using PROCESS (Hayes, 2013) and none were statistically significant. Following this, gender was explored as a moderator for each of the regressions and was not found to significantly moderate any of the associations, therefore these models are not presented. Normative beliefs about social aggression were found to moderate some associations explored, thus it is presented in the following models.

Bootstrapping was used for all models to account for non-normality of the data, however, in all cases bootstrapping did not change which variables were statistically significant therefore non-bootstrapped statistics are reported (further, there is not a compelling need to bootstrap in moderation-only models; Hayes, 2013; Hayes, personal

Table 11

Descriptive Statistics for all Measures for Males and Females in the Adolescent Study

	Boys		Girls		<i>d</i>
	<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>	
Social Aggression against a friend	66	.78 (.87)	82	.88 (.80)	.12
Ignoring	66	.80 (.98)	82	.93 (.94)	.14
Rumours	66	1.01 (1.09)	82	1.62 (1.39)**	.49
Exclusion	66	.70 (.93)	82	.56 (.71)	.17
Non-verbal body language	66	.77 (.90)	82	.86 (1.03)	.09
Social aggression against a non-friend	62	.71 (.92)	79	.88 (.99)	.18
Ignoring	62	.79 (1.15)	79	.93 (1.19)	.12
Rumours	62	.94 (1.08)	79	1.57 (1.52)**	.48
Exclusion	62	.63 (.91)	79	.72 (1.00)	.09
Non-verbal body language	61	.65 (.94)	79	.74 (1.03)	.09
Normative beliefs	67	1.74 (.52)	82	1.76 (.52)	.04
Motivations against friend					
Acceptance	62	1.23 (1.00)	81	1.52 (1.13)	.27
Amusement	62	.87 (.99)	81	.80 (.97)	.07
Jealousy	61	.65 (.90)	81	.87 (1.09)	.22
Revenge	62	1.34 (1.27)	81	1.52 (1.29)	.14
Social image	60	.76 (.88)	80	.80 (.97)	.04
Motivations against non-friend					
Acceptance	60	1.02 (1.00)	78	1.22 (1.17)	.18
Amusement	60	.59 (.90)	78	.52 (.87)	.08
Jealousy	60	.52 (.81)	78	.79 (1.03)	.29
Revenge	60	.98 (1.11)	78	1.19 (1.29)	.17
Social image	60	.72 (.91)	78	.75 (.94)	.03

***p* < .01

communication, July 12, 2013). The pick-a-point approach using PROCESS (Hayes, 2013) was used to visualize the conditional effect of significant moderators. The conditional effect of the predictors were also estimated at values corresponding to the 10th, 25th, 50th, 75th, and 90th percentiles in the sample distribution of normative beliefs and the information gained from this analysis was no different than that gained at the low, medium and high levels thus only the analyses for the three levels are reported.

Social aggression against a friend. Regression models were run separately for each of the motivations: acceptance, amusement, jealousy, revenge, and social image. The frequency of use of social aggression against a friend was used as an outcome variable in each of the following five multiple moderated regression analyses presented next.

Acceptance. This model was significant, $F(3, 132) = 41.19, p < .001$ and $R^2 = .48$. The interaction between normative beliefs and acceptance was significant (unstandardized regression coefficient = .34, $p = .001$) and a modest 4% of variance in this model was accounted for by this interaction ($\Delta R^2 = .04$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for acceptance on social aggression against a friend. As Figure 10 illustrates, for the motivation of acceptance, the regression line for low normative beliefs did not differ from zero ($p = .11$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a friend as a function of their desire for acceptance. However, for individuals with average and high levels of normative beliefs, more desire for acceptance was related to higher levels of

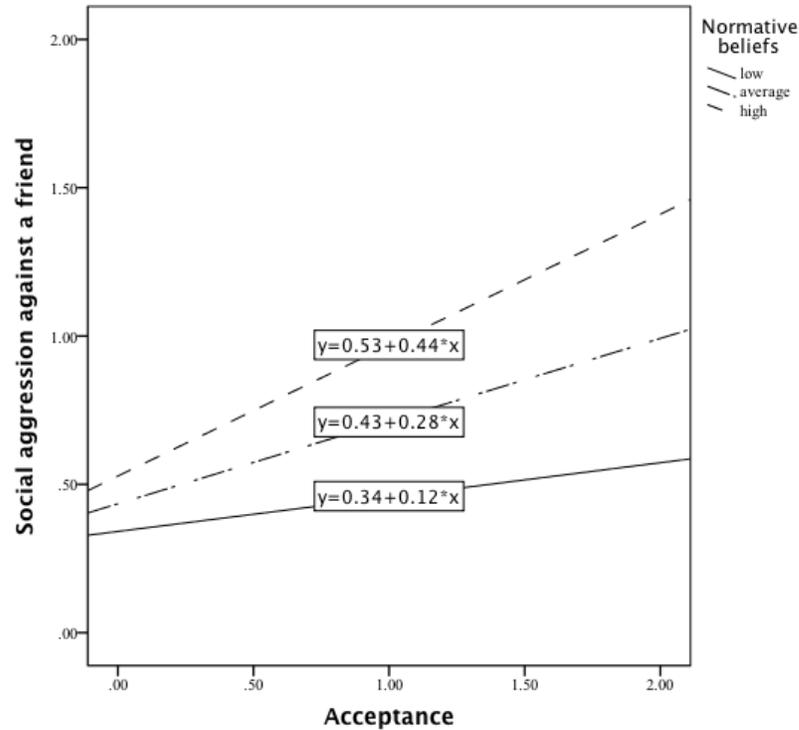


Figure 10. Associations between acceptance and social aggression against a friend by normative beliefs about social aggression for the adolescent study.

social aggression against a friend.

Amusement. This model was significant, $F(3, 132) = 30.17, p < .001$ and $R^2 = .41$. The interaction between normative beliefs and amusement was significant (unstandardized regression coefficient = $.32, p = .007$) and a modest 3% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .03$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for amusement on social aggression against a friend. As Figure 11 illustrates, for the motivation of amusement, the regression line for low normative beliefs did not differ from zero ($p = .86$), however, the regression lines for average and high normative beliefs

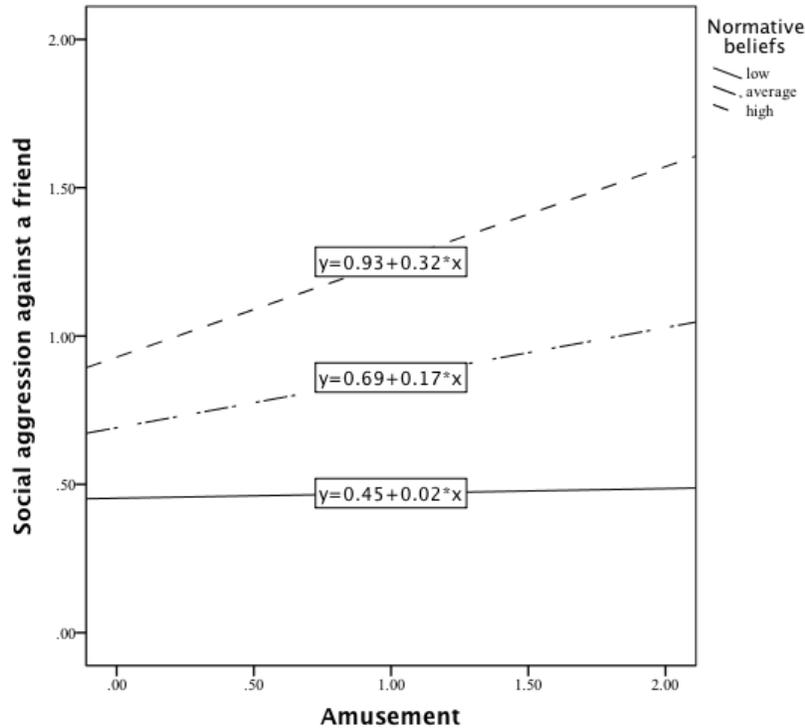


Figure 11. Associations between amusement and social aggression against a friend by normative beliefs about social aggression for the adolescent study.

did significantly differ from zero (both p 's = .008 or smaller). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a friend as a function of their desire for amusement. However, for individuals with average and high levels of normative beliefs, more desire for amusement was related to higher levels of social aggression against a friend.

Jealousy. This model was significant, $F(3, 131) = 37.93, p < .001$ and $R^2 = .47$. The interaction between normative beliefs and jealousy was significant (unstandardized regression coefficient = .24, $p = .02$) and a modest 2% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .02$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for jealousy on social aggression

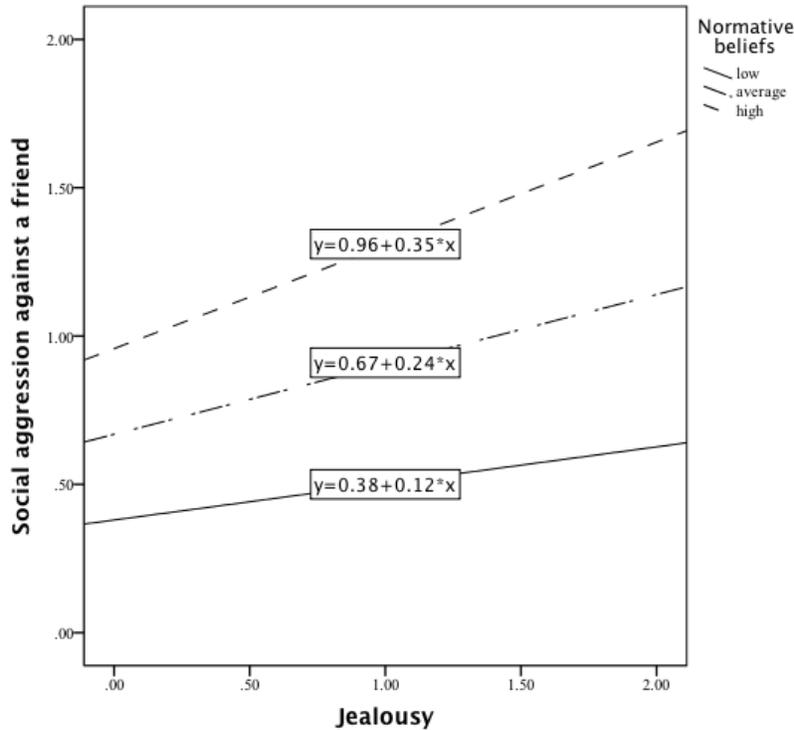


Figure 12. Associations between jealousy and social aggression against a friend by normative beliefs about social aggression for the adolescent study.

against a friend. As Figure 12 illustrates, for the motivation of jealousy, the regression line for low normative beliefs did not differ from zero ($p = .17$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's < .001). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a friend as a function of their feelings of jealousy. However, for individuals with average and high levels of normative beliefs, more feelings of jealousy were related to higher levels of social aggression against a friend.

Revenge. This model was significant, $F(3, 132) = 34.88, p < .001$ and $R^2 = .44$. The interaction between normative beliefs and revenge was significant (unstandardized regression coefficient = .21, $p = .02$) and a modest 2% of the variance in this model was

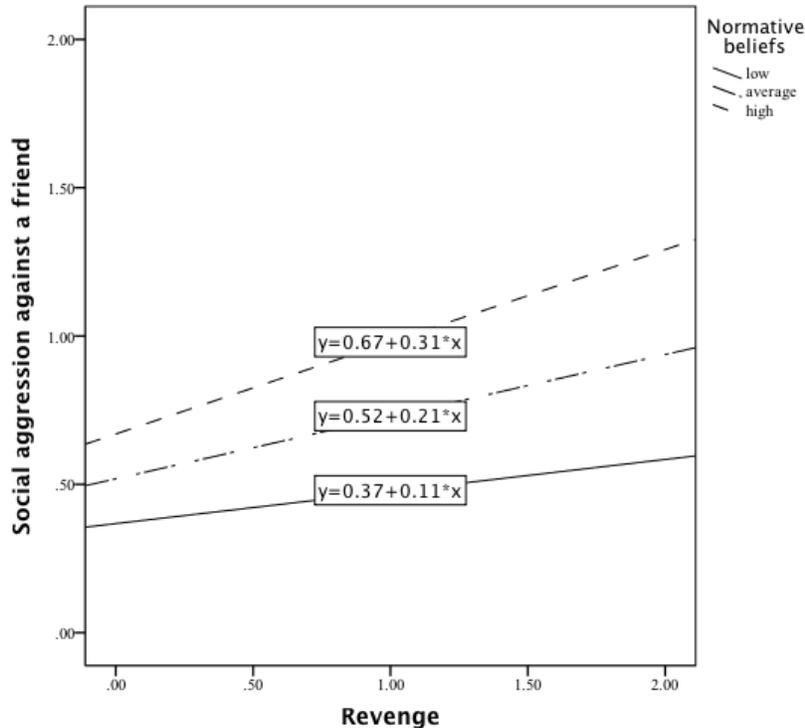


Figure 13. Associations between revenge and social aggression against a friend by normative beliefs about social aggression for the adolescent study.

accounted for by this interaction ($\Delta R^2 = .02$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for revenge on social aggression against a friend. As Figure 13 illustrates, for the motivation of revenge, the regression line for low normative beliefs did not differ from zero ($p = .13$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's < .001). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a friend as a function of their desire for revenge. However, for individuals with average and high levels of normative beliefs, more desire for revenge was related to higher levels of social aggression against a friend.

Social image. This model was significant, $F(3, 129) = 32.73, p < .001$ and $R^2 =$

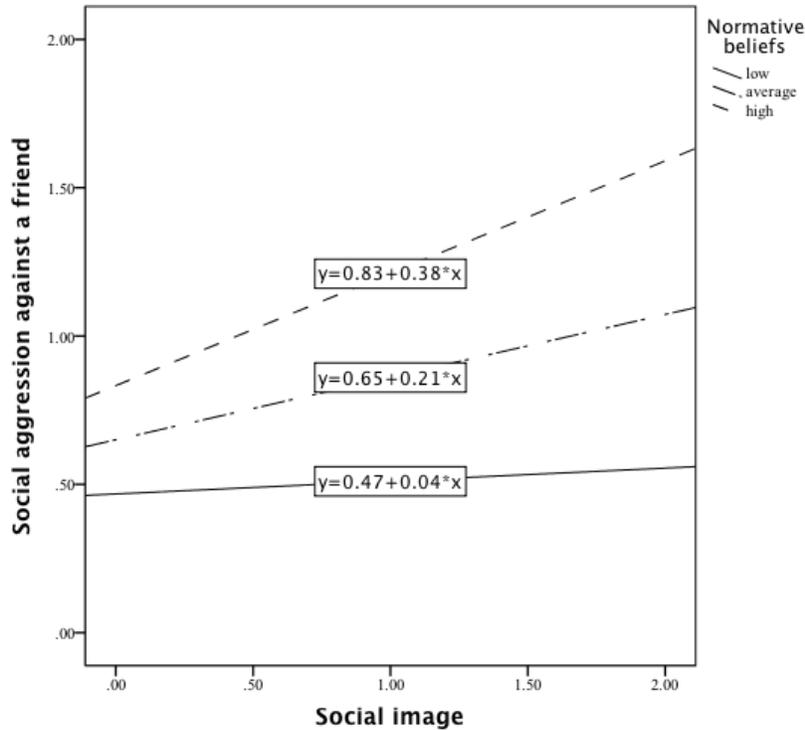


Figure 14. Associations between social image and social aggression against a friend by normative beliefs about social aggression for the adolescent study.

.43. The interaction between normative beliefs and social image was significant (unstandardized regression coefficient = .35, $p = .006$) and a modest 3% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .03$). As Figure 14 illustrates, for the motivation of acceptance, the regression line for low normative beliefs did not differ from zero ($p = .70$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's < .001). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a friend as a function of their desire to maintain their social image. However, for individuals with average and high levels of normative beliefs, more desire to maintain their social image was related to higher levels of social aggression against a friend.

Overall, each of the motivations for social aggression against a friend predicted the use of social aggression against a friend. For all motivations, normative beliefs was a significant moderator of the association between the motivation and social aggression against a friend in that the motivations were more strongly associated with social aggression for those who had higher normative beliefs about the acceptability of social aggression. For all models, the variance accounted for by the predictors was between 41% and 48%, indicating that almost half of the variance in frequency of social aggression against a friend could be accounted for by motivations, and when moderation effects were present, these effects accounted for a modest 2% to 4% of that variance.

Social aggression against a non-friend. Regression models were run separately for each of the motivations: acceptance, amusement, jealousy, revenge, and social image. The measure of social aggression against a non-friend was used as an outcome variable in each of the following five multiple moderated regression analyses.

Acceptance. The gender moderation and the normative beliefs moderation were not significant in the overall model therefore a final model with no moderation effects was run. This model was significant, $F(2, 122) = 40.94, p < .001$ and $R^2 = .40$. Acceptance (unstandardized regression coefficient = .30, $p < .001$) and normative beliefs (unstandardized regression coefficient = .92, $p < .001$) were significant predictors of social aggression in the model. Therefore, when considered simultaneously, an increased desire for acceptance and higher normative beliefs were associated with an increase in social aggression against a non-friend.

Amusement. This model was significant, $F(3, 121) = 32.26, p < .001$ and $R^2 = .44$. The interaction between normative beliefs and amusement was significant

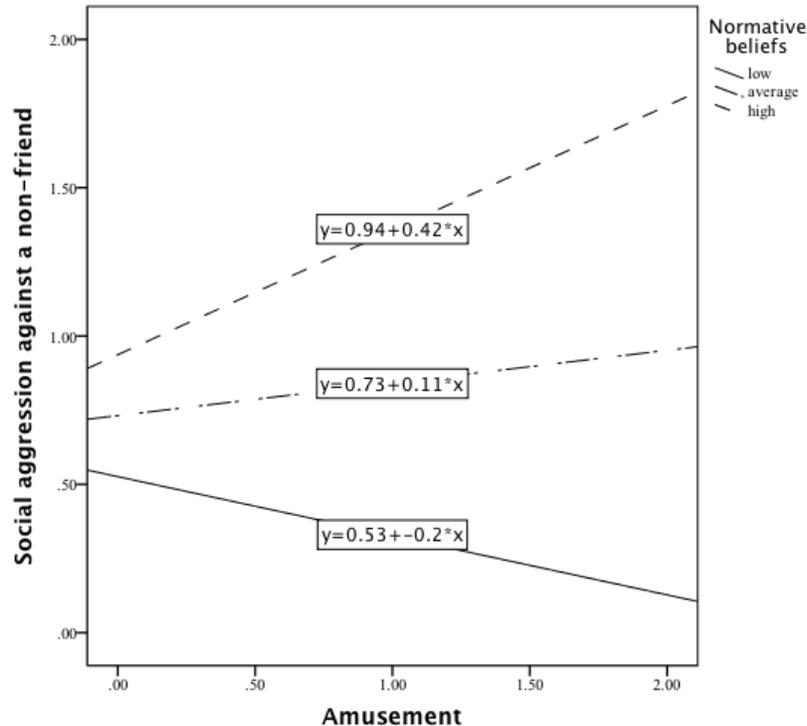


Figure 15. Associations between amusement and social aggression against a non-friend by normative beliefs about social aggression for the adolescent study.

(unstandardized regression coefficient = .64, $p < .001$) and a moderate 9% of the variance in this model was accounted for by this interaction ($\Delta R^2 = .09$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for amusement on social aggression against a non-friend. As Figure 15 illustrates, for the motivation of amusement, the regression lines for low ($p = .15$) and average ($p = .24$) normative beliefs did not differ from zero, however, the regression line for high normative beliefs did significantly differ from zero ($p < .001$). For individuals with low and average normative beliefs, little change was found in the frequency of social aggression against a non-friend as a function of their desire for amusement. However, for individuals with high levels of normative beliefs, more desire for amusement was related to higher levels of social aggression against a non-friend.

Jealousy. This model was significant, $F(3, 121) = 38.45, p < .001$ and $R^2 = .49$. The interaction between normative beliefs and jealousy was significant (unstandardized regression coefficient = .32, $p = .01$) and a modest 3% of variance in this model was accounted for by this interaction ($\Delta R^2 = .03$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for jealousy on social aggression against a non-friend. As illustrated in Figure 16, for the motivation of jealousy, the regression line for low normative beliefs did not differ from zero ($p = .10$), however, the regression lines for average and high normative beliefs did significantly differ from zero (both p 's $< .001$). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a non-friend as a function of their feelings of jealousy. However, for individuals with average and high levels of normative beliefs,

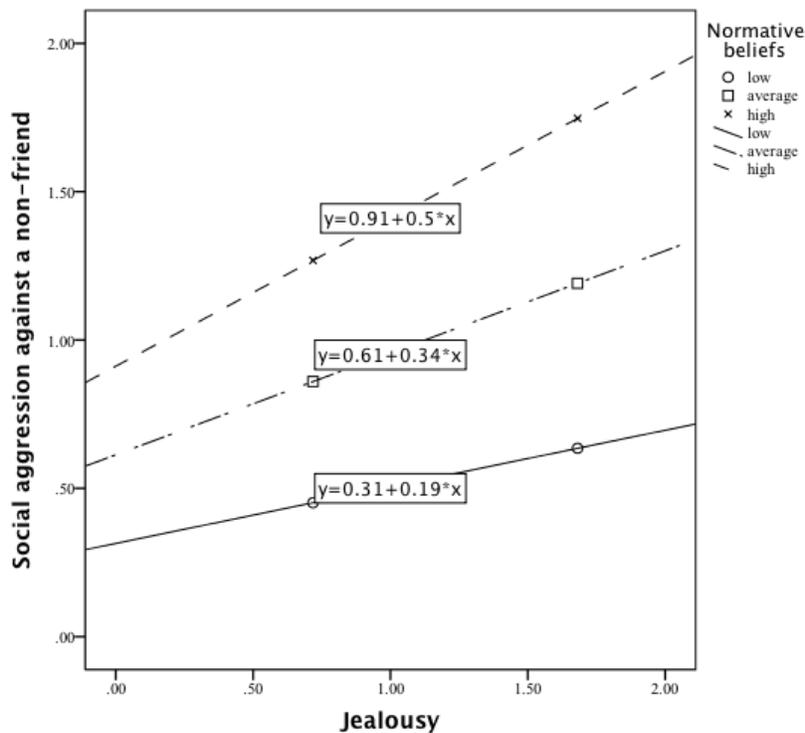


Figure 16. Associations between jealousy and social aggression against a non-friend by normative beliefs about social aggression for the adolescent study.

more feelings of jealousy were related to higher levels of social aggression against a non-friend.

Revenge. This model was significant, $F(3, 121) = 36.12, p < .001$ and $R^2 = .47$. The interaction between normative beliefs and revenge approached significance (unstandardized regression coefficient = .17, $p = .08$) and a modest 1% of variance in this model was accounted for by this interaction ($\Delta R^2 = .01$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for revenge on social aggression against a non-friend. As Figure 17 illustrates, for the motivation of revenge, the regression line for low average and high normative beliefs differed significantly from zero (all p 's = .002 or less). For individuals with low, average, and high levels of normative beliefs, more desire for acceptance was related to higher levels of social aggression against a non-friend. The Johnson-Neyman technique was used to probe this interaction further, and it was found that when normative beliefs scores were at 1.004 or higher, the effect of feelings of revenge on social aggression against a non-friend was statistically significant ($p < .05$) in the prediction of increased use of social aggression against a non-friend.

Social image. This model was significant, $F(3, 121) = 36.05, p < .001$ and $R^2 = .47$. The interaction between normative beliefs and social image was significant (unstandardized regression coefficient = .54, $p < .001$) and a modest 6% of variance in this model was accounted for by this interaction ($\Delta R^2 = .06$). The pick-a-point approach was used to visualize the conditional effect normative beliefs had for social image on social aggression against a non-friend. As Figure 18 illustrates, for the motivation of

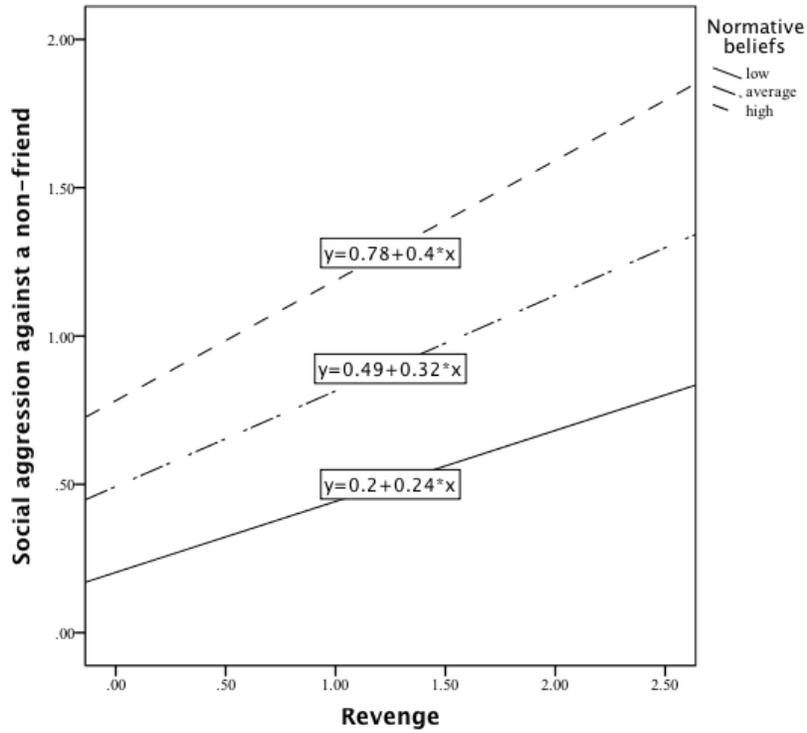


Figure 17. Associations between revenge and social aggression against a non-friend by normative beliefs about social aggression for the adolescent study.

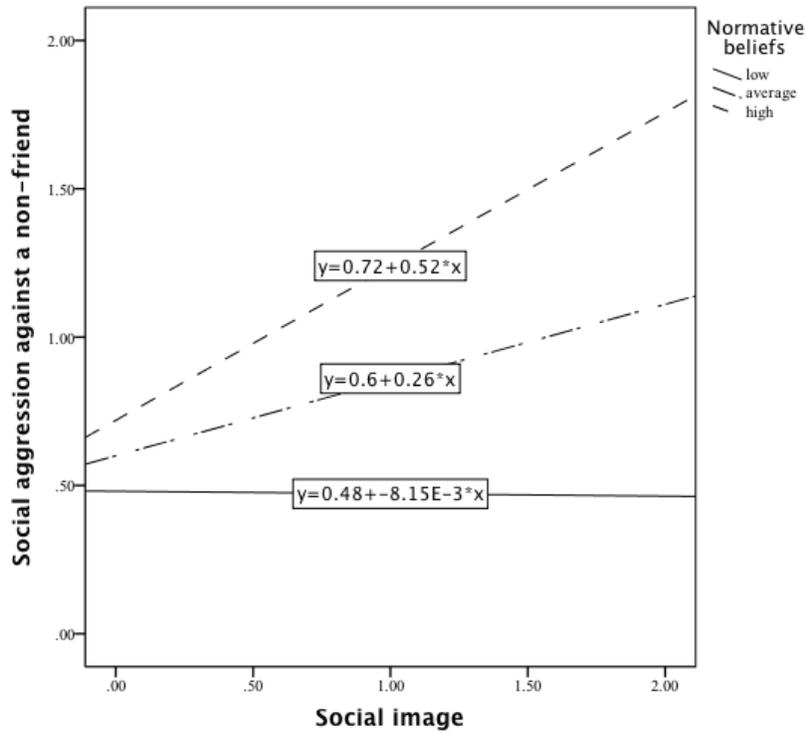


Figure 18. Associations between social image and social aggression against a non-friend by normative beliefs about social aggression for the adolescent study.

social image, the regression line for low normative beliefs did not differ from zero ($p = .96$), however, the regression lines for average and high normative beliefs did significantly differ from zero (p 's = .007 or less). For individuals with low normative beliefs, little change was found in the frequency of social aggression against a non-friend as a function of their desire to maintain their social image. However, for individuals with average and high levels of normative beliefs, more desire to maintain their social image was related to higher levels of social aggression against a non-friend.

Overall, almost all associations between the individual motivations for social aggression against a non-friend and the frequency of social aggression against a non-friend were moderated by normative beliefs, with the exception of the desire for acceptance. For all models, the variance accounted for by the predictors was between 40% and 49%, and when moderation effects were present, these effects accounted for 1% to 9% of that variance.

In sum, the findings from the associations between motivations and social aggression against a friend and non-friend were quite similar. Gender was not a significant moderator in any of the associations. Outcomes for the amusement, jealousy, revenge, and social image motivations were the same when predicting to social aggression against a friend and against a non-friend. Most relationships were moderated by normative beliefs such that average to high endorsement of the belief in the acceptability of social aggression in general increased the association between motivations and the use of socially aggressive behaviours. Only for the motivation of acceptance was normative beliefs not a significant moderator of the association with

frequency of social aggression against a non-friend but it was in the association with social aggression against a friend.

Exploring age differences between the two studies. There was only one significant difference between the young adult sample and the adolescent sample when the means for all variables were considered (frequency of social aggression, normative beliefs, all motivations), Wilks Lambda = .83, $F(13, 279) = 4.45$, $p < .001$. Specifically, young adults in the validation study had significantly higher normative beliefs scores ($M = 2.04$, $SD = .52$) than participants in the adolescent study ($M = 1.76$, $SD = .52$), $F(1, 291) = 21.03$, $p < .001$, indicating that young adults thought that the use of social aggression in general was more acceptable than adolescents. See Table 12 for descriptive statistics for all variables between the two studies.

Table 12

Descriptive Statistics for Scales Between Validation Study and Adolescent Study

Scale	Adolescent data		Validation data	
	<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>
Social Aggression against a friend	148	.83 (.83)	237	.74 (.71)
Social aggression against a non-friend	141	.80 (.96)	235	.76 (.82)
Normative beliefs	149	1.76 (.52)	251	2.04 (.52)***
Motivations against friend				
Acceptance	143	1.39 (1.08)	212	1.31 (1.05)
Amusement	143	.83 (.97)	210	.96 (1.07)
Jealousy	142	.77 (1.01)	215	.90 (.97)
Revenge	143	1.44 (1.28)	216	1.77 (1.20)
Social image	140	.78 (.93)	212	.85 (.91)
Motivations against non-friend				
Acceptance	138	1.13 (1.10)	211	1.19 (1.03)
Amusement	138	.55 (.88)	211	.84 (1.01)
Jealousy	138	.67 (.94)	211	.91 (1.03)
Revenge	138	1.09 (1.21)	213	1.51 (1.30)
Social image	138	.74 (.92)	208	.88 (.94)

*** $p < .001$.

Follow-Up Analyses Predicting Specific Socially Aggressive Behaviours

Frequencies of each form of socially aggressive behaviour against a friend and non-friend were examined for the adolescent sample. Rumours and gossip against friends and non-friends were the most reported socially aggressive behaviours with the average frequency between once a term and once a month. All other behaviours were reportedly used on average less than once a term, with exclusionary behaviours against friends and non-friends being used least by participants.

Differences in levels of use of these socially aggressive behaviours were compared for boys and girls and only spreading rumours/gossip differed, in that girls reported spreading rumours against friends ($M = 1.62, SD = 1.39$) more often than boys ($M = 1.01, SD = 1.09$), $t(145.92) = -2.99, p = .003, \eta^2 = .06$ (moderate effect) and against non-friends ($M = 1.57, SD = 1.52$) more frequently than boys ($M = .94, SD = 1.08$), $t(137.68) = -2.85, p = .005, \eta^2 = .06$ (moderate effect).

It was also of interest to explore motivations as they related to four different forms of socially aggressive behaviours reported (i.e., ignoring, spreading rumours/gossip, exclusion, and non-verbal body language). Separate regressions were run using the motivations under consideration (i.e., acceptance, amusement, jealousy, revenge, social image) as predictor variables and each specific socially aggressive behaviour as an outcome variable for each context.

All motivations were entered in a single step, as these analyses were exploratory. Individual socially aggressive behaviours directed toward a friend and non-friend were explored in separate regressions. Bootstrapping was used to account for non-normal variables in all models and as some bootstrapped statistics were different from the raw

data, bootstrapped findings were reported. Models predicting social aggression used against a friend are presented first and those predicting social aggression against a non-friend are presented next.

Regressions predicting specific socially aggressive behaviours against a friend. The model predicting ignoring a friend was significant, $F(5, 134) = 15.62, p < .001$ and $R^2 = .37$. Revenge (unstandardized regression coefficient = .21, $p = .001$) and social image (unstandardized regression coefficient = .24, $p = .04$) were significant predictors in this model. The desire for revenge and the desire for maintained or improved social image were associated with the increased use of ignoring as a socially aggressive strategy directed toward a friend.

The model predicting spreading rumours and gossip about a friend was significant, $F(5, 134) = 17.19, p < .001$ and $R^2 = .39$. Acceptance (unstandardized regression coefficient = .36, $p = .003$) and revenge (unstandardized regression coefficient = .33, $p = .001$) were significant predictors in this model. The desire for acceptance among peers and the desire for revenge were associated with the increased use of rumour spreading and gossip about a friend.

The model predicting excluding a friend was significant, $F(5, 134) = 14.25, p < .001$ and $R^2 = .35$. Acceptance (unstandardized regression coefficient = .20, $p = .02$) and revenge (unstandardized regression coefficient = .12, $p = .03$) were significant predictors in this model. Thus, the desire for acceptance among peers and the desire for revenge were significantly associated with an increased use of exclusionary behaviours directed towards a friend.

The model predicting non-verbal body language against a friend was significant, $F(5, 134) = 21.42, p < .001$ and $R^2 = .44$. Revenge (unstandardized regression coefficient = .25, $p = .001$) was a significant predictor in this model. Thus, the desire for revenge against a friend was associated with an increased use of non-verbal body language.

In summary, all of the specific socially aggressive behaviours against a friend were associated with at least one of the motivations. Revenge was significantly associated with all four socially aggressive behaviours, and social image and acceptance were associated with some. Jealousy and amusement were not significantly associated with any of the specific socially aggressive behaviours.

Regressions predicting specific socially aggressive behaviours against a non-friend. The model predicting ignoring a non-friend was significant, $F(5, 130) = 9.99, p < .001$ and $R^2 = .28$. Social image (unstandardized regression coefficient = .45, $p = .02$) was a significant predictor in this model. Thus, the motivation of maintaining or improving one's social image was significantly associated with an increased use of ignoring someone not considered a friend over the past year.

The model predicting spreading rumours and gossip about a non-friend was significant, $F(5, 130) = 12.26, p < .001$ and $R^2 = .32$. There were no significant predictors in this model when the bootstrapped coefficients were considered, however revenge (unstandardized regression coefficient = .27, $p = .06$) was very close to being statistically significant. Therefore, the desire for revenge approached significance as the only motivator associated with spreading rumours and gossip about someone not considered a friend.

The model predicting excluding a non-friend was significant, $F(5, 130) = 18.30, p < .001$ and $R^2 = .41$. Revenge (unstandardized regression coefficient = .16, $p = .05$) was a significant predictor in this model. The desire for revenge over a perceived slight was associated with an increased use of exclusionary behaviours directed toward someone not considered a friend.

The model predicting non-verbal body language against a non-friend was significant, $F(5, 130) = 20.87, p < .001$ and $R^2 = .45$. Revenge (unstandardized regression coefficient = .33, $p = .001$) was a significant predictor in this model. Thus, the desire for revenge against someone not considered a friend was associated with an increased frequency of negative non-verbal body language over the last year.

In summary, almost all of the specific socially aggressive behaviours against a non-friend were associated with at least one of the motivations. Spreading rumours was not significantly associated with any of the motivations, however, revenge showed a trend towards significance in this analysis and was associated with exclusion and non-verbal body language. Social image was associated with ignoring only. Desire for acceptance, desire for amusement and jealousy were not significantly associated with any of the specific socially aggressive behaviours when they were directed toward individuals not considered friends.

Summary of models predicting specific socially aggressive behaviours. In summary, revenge predicted all forms of social aggression directed toward a friend and all forms of social aggression directed toward a non-friend, with the exception of ignoring. Social image predicted ignoring friends and non-friends, and acceptance predicted spreading rumours about a friend and excluding a friend. The motivations of

amusement and jealousy did not predict any of the specific socially aggressive behaviours either toward friends or non-friends.

Adolescent Study Discussion

The purpose of this study was to explore adolescents' motivations for their use of social aggression. In this study, the Motivations for Social Aggression Across Contexts measure developed and validated in Study 1 was used to explore and determine which motivations were most highly endorsed by adolescents in this sample. Similar to the validation study and in line with previous research on motivations for social aggression with youth (Owens, et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Reynolds & Repetti, 2010), adolescents in the current study endorsed the desire for revenge and the desire for acceptance most highly out of the five possible motivations. For the most part, normative beliefs moderated the relationships between adolescents' motivations and their use of socially aggressive behaviours against both friends and non-friends. Furthermore, only revenge, acceptance and social image were significantly related to specific socially aggressive behaviours when considered simultaneously.

The finding that adolescents endorsed revenge the most highly as a reason they engaged in socially aggressive behaviours of all forms over the last year suggests that the desire for revenge is a powerful motivator for adolescents. A desire to seek revenge or retaliate against someone for a perceived slight is characterized as an ancient response used by primates and humans, and is often used with the intention of creating or restoring balance in social relationships (Bloom, 2001). Revenge is defined as, "the infliction of harm in return for perceived wrong" (Stuckless & Goranson, 1992; p. 25). The desire for revenge in the context of this study represents being angry and wanting to restore what

was perceived as an imbalance (“I was angry about something and wanted to put her/him in her/his place”) and retaliation for a perceived slight (“I was trying to get back at her/him for something she/he did that made me mad”). Given that reports of the desire for revenge were related to reports of higher frequencies in the use of all forms of socially aggressive behaviour, determining what might make adolescents believe revenge is an acceptable or worthwhile goal is an important endeavour in future research.

Revenge seems to be a particularly important motivator for adolescents, but how the desire or belief in the acceptability of seeking revenge originates is unknown, and future research should address this question. Perhaps key is whether the beliefs or norms of a person’s peer group condone the desire for revenge (Salmivalli & Voeten, 2004). Furthermore, parents and guardians have been implicated in influencing the social goals of children (McDonald, Baden, & Lochman, 2013).

Little is currently known about what the consequences of having sought revenge might be, and future research should be directed at this goal. For example, many might believe their feelings of being slighted or betrayed will be alleviated once they have sought or enacted some form of revenge (Fitness, 2001) but whether this is true for adolescents who desire revenge is unknown. It would also be interesting to know how the desire for revenge and the use of social aggression to address this desire affects the social relationships and dynamics of their peer group of those involved.

There has been much written on revenge and this desire in the fields of law and social justice as well as in clinical cases of trauma and victimization, however, revenge-seeking has not garnered much research attention among typically-developing, normative populations of school-aged children and adolescents. As the most highly endorsed

motivation for social aggression, and given its association with multiple specific socially aggressive behaviours, learning more about adolescents who wish to seek revenge is an important venture.

The finding that desire for acceptance was also highly endorsed as a reason for the use of socially aggressive acts is also important as a desire for acceptance by others is widely regarded as a basic human need (Maslow, 1970). Adolescents may be particularly sensitive to the desire to be accepted by other youth, and this may be especially true for Canadian youth. In a study by Claes (1998), Canadian youth reported that their friends were more central in their lives than family and they reported that they spent more time (outside of classroom time) with their friends compared to youth in Belgium and Italy. This desire is not inherently problematic, but it can become a problem when such desire motivates a behaviour that has potential harmful consequences to the self or others as in the use of social aggression. There are many ways to achieve the goal of being accepted by individuals or a group – many of them prosocial behaviours – and determining ways to encourage prosocial means of acquiring group acceptance must be the focus of future research. Researchers in the field of positive youth development are among those who currently focus on these issues (e.g., Larson, 2000), but there is much research to do in this field. Research on the well-being of groups (Peterson, Park, & Sweeney, 2008) and peer group beliefs and norms (Salmivalli & Voeten, 2004) may be important sources for developing a theoretical understanding of prosocial ways to gain peer group acceptance in adolescence.

The desire to be accepted by the group was specifically associated with the socially aggressive behaviours of spreading rumours about a friend and excluding a friend, and of

all the socially aggressive behaviours, these are the most direct and noticeable or salient to others in the group. The overt nature of these behaviours might be the very reason they are engaged in. Someone who uses an overt form of social aggression against another person may ultimately have the goal of having that aggressive behaviour noticed by the group. Without the use of overt socially aggressive behaviours their conformity with the expectations of this group might go unnoticed. It may be the group itself that has such potent influence over a person's behaviour, perhaps through peer pressure, conformity to group norms, conformity to whatever behaviours are engaged in frequently by the group, or conformity to behaviours that are perceived to be what socially dominant peers in the group want enacted (Salmivalli & Voeten, 2004). Perhaps certain personality traits or moral disengagement (Bandura, 1999) account for these associations as well, and the influence of other moderators should be explored.

Closely related to the desire to be accepted by the group is a person's desire to protect or maintain one's social image (defined as using socially aggressive behaviours because of a desire to avoid trouble from adults, thinking a person wasn't cool and thinking a person was overly emotional). Social image was associated with ignoring friends and non-friends. This provides some insight into Reynolds and Repetti's (2010) finding that ignoring was less likely to be used as a way to create amusement; perhaps, instead using ignoring with the intention of excluding, alienating or embarrassing a person has the more instrumental purpose of dissociating with peers that do not fit with the person's desired social image. Social image has long been thought to motivate behaviour (e.g., Barton, Chassin, Presson, & Sherman, 1982), and is associated with a variety of experiences such as shame and embarrassment, social behaviours such as mate

selection and especially its role in the function of interpersonal relationships (Rodriguez Mosquera, Uskul, & Cross, 2011). Given its implication in such a variety of experiences and behaviours, it is perhaps not surprising that social image was found to motivate adolescents' use of ignoring with the intention to exclude, alienate, or embarrass a peer.

The finding by Reynolds and Repetti (2010) that ignoring was less likely to be used for amusement purposes than other forms of behaviour could not be addressed in the current study in the same way that it was in their study as these authors used a different methodology. In contrast to the finding of Reynolds and Repetti (2010), in the current youth sample, amusement did not predict any specific socially aggressive behaviours, nor did jealousy. As these behaviours were associated with an increase in frequency of social aggression when all socially aggressive behaviours were considered together (i.e., in the overall use of aggression as opposed to specific behaviours), this finding is somewhat perplexing. The importance of jealousy and amusement as motivators of social aggression has been identified in previous research (e.g., Owens et al., 2000a; Quigley & Daniels, in preparation), although their importance was somewhat overshadowed by the motivations of revenge, acceptance and social image in predicting individual socially aggressive behaviours. Jealousy and the desire for amusement were nonetheless motivations that some adolescents endorsed and as with all motivations in the current study, they had particular importance as motivators when individuals had high normative beliefs about the acceptance of social aggression.

In their study of normative beliefs about social aggression within the context of romantic relationships, Goldstein et al. (2008) referred to normative beliefs about social aggression as "risky beliefs" (p. 261) because these beliefs correlated highly with social

aggression perpetration and victimization in romantic relationships. The characterization of these beliefs as “risky” is confirmed by the results of the current study. For almost all of the motivations examined, those who held average to high normative beliefs about the acceptability of social aggression used more social aggression against friends and non-friends over the past year. Holding the belief that social aggression is normative and acceptable behaviour is dangerous given the copious research highlighting the detrimental effects of social aggression on those who use it and those who are targeted by users (e.g., peer rejection; McEachern & Snyder, 2012). These normative beliefs are thought to regulate one’s use of aggressive behaviour (Werner & Nixon, 2005), thus future research should explore where these normative beliefs originate, what perpetuates them, and what resources may function to change them. Research on normative beliefs around the use of social aggression is in its infancy, but the results of the current study highlight the importance of these beliefs for the use of socially aggressive behaviours in adolescence.

Several implications for intervention with adolescents can be derived from this study. With regard to the endorsement of revenge as a motivation for the use of socially aggressive behaviours against friends and non-friends, and because this motivation was associated with almost all individual forms of social aggression, this motivation is of particular concern for intervention. Adolescents must be taught how to seek out a restoration of balance in their relationships when they perceive an imbalance by using prosocial rather than aggressive means, and learning how to do this is an important skill. Perhaps most importantly, however, concern must not be directed indiscriminately toward youth who endorse any of the given motivations that were considered in this

study, but rather concern might be better directed toward individuals who believe social aggression is justified and normative behaviour. For those youth, the association between endorsing the motivation and reporting they more frequently use socially aggressive behaviours was strong.

In conclusion, this second study on a sample of adolescents was used to achieve the ultimate goal of this dissertation: exploring motivations for social aggression in youth. Almost all motivations for social aggression that were explored in this study (desires for acceptance, amusement, feelings of jealousy, desire for revenge and a desire to maintain a social image) were significantly positively associated with more frequent use of social aggression when adolescents held high normative beliefs about the acceptability of this form of behaviour. The only exception to this was the desire for acceptance when the social aggression was directed toward a non-friend. This study provides support for the exploration of these motivations and behaviours within the context in which the behaviour takes place (i.e., friend or non-friend).

General Discussion

The primary goal of this dissertation was to investigate motivations for adolescents' use of social aggression across two contexts (i.e., against people they considered friends and those they did not consider friends) and to examine the potential moderating effects of gender and normative belief systems. To do this, it was first necessary to design and validate a measure of motivations for social aggression based on the existing literature in the field of motivations for social aggression. While the results of these studies have each been discussed in detail, this general discussion section will highlight and compare some important findings across the two studies, as well as

examine a theoretical model for motivations and the use of social aggression. Following this, limitations of the current research and directions for future research are noted. This section begins with an examination of the two most highly endorsed motivations across both studies: the desire for revenge and the desire for acceptance.

The Importance of the Desire's for Revenge and Acceptance

Perhaps the most central finding in this dissertation was that revenge was the motivation most highly endorsed as the reason adolescent and young adult participants had used socially aggressive strategies in the last year toward both friends and people they did not consider friends. This was found in both the young adult and the adolescent samples and for both genders. It appears that adolescents and young adults believe that they most often use socially aggressive behaviours as a reactive response to a provocation of some kind. In fact, the title of this dissertation (i.e., "I did it because she hurt me") was a response provided by one participant who wanted to expand on her response to the motivations measure. This is noteworthy as depictions of social aggression in popular culture (e.g., as in the film *Mean Girls* [Michaels & Waters, 2004] or the television show *Gossip Girl* [Schwartz, Savage, Levy, & Morgenstein, 2007]) most often depict socially aggressive characters using these behaviours to gain or maintain high status. Based on this popular depiction, many might be inclined to believe that social aggression is most often used for instrumental purposes rather than reactive purposes, but according to young adults and adolescents this is not the case.

Perhaps the fact that adolescents and adults alike endorse revenge as a motivation for social aggression is not surprising given that the desire for retribution when faced with a perceived slight is often characterized as "undoubtedly powerful and profoundly

human” (Fitness, 2001, p. 13). While some may view the desire to get even with those who have betrayed them as a fundamental aspect of human nature, it has also been posited that the desire for revenge is unhealthy (see McCullough, Kurzban, & Tabak, 2013 for a review). Revenge may potentially be the most damaging reaction to the long term future of a relationship (Fitness, 2001) but little research has been done on the desire and enactment of revenge among children and adolescents so only speculation can be made about these associations. Revenge may allow the harmed individual to shift a balance of power in the relationship; however, taking revenge could have the effect of escalating problems, as the act of revenge itself constitutes a relational betrayal (Fitness, 2001). Revenge is a commonly endorsed motivation, and this frequency of endorsement may aid researchers in developing a deeper understanding of its significance.

The second most endorsed motivation across both studies was the desire to be accepted by the group. A desire to be accepted by one’s peers is a normative developmental desire (Maslow, 1970), however, the problem is that participants in both studies reported such desire motivated them to use socially aggressive behaviours. If there is a need to curb socially aggressive behaviours within any given group, the desire to fit in will likely prove a difficult motivation to reconcile, as this basic human need can have a strong influence on an individual’s behaviour. Wanting to fit in is not the problem, however, prevailing attitudes that accept socially aggressive behaviours as normative can be. The cultural influences that shape such attitudes are at the root of this problem. Group norms have a powerful effect on an individual’s aggressive behaviour (Salmivalli & Voeten, 2004). Thus, a shift in group norms and attitudes is required to curb social aggression and foster prosocial means of fitting into the peer group

(Salmivalli, 2010). Once prosocial ways of fitting in are the norm of a given group or peer network, individuals may not feel the need to resort to socially aggressive behaviours to gain this peer acceptance.

The Importance of Gender

Across age groups, context and motivations for social aggression, very few differences between males and females in their experiences with social aggression were found. Gender differences have often been highlighted in research on social aggression, especially in the earlier work (for example, Underwood, 2003 is a thorough discussion of girls' use of social aggression). However, in support of the "gender similarities hypothesis" – that there exist far more similarities than differences between genders (Hyde, 2005), two meta-analyses on gender differences in social aggression failed to find substantial differences in the frequency of this form of behaviour (Archer, 2004; Card et al., 2008). The findings with regard to gender differences in the current dissertation provide further evidence for the similarities between males and females in their motivations for, and use of, socially aggressive behaviours.

One area where a gender difference was found that may be of importance was in the use of amusement as a motivator for socially aggressive behaviours among adult women directed towards non-friends. Only speculations can be made about why this gender difference was found in the young adult sample but not the adolescent sample, and to be sure, more research should be done with the aim of understanding this developmental difference further. At some point between early adolescence and adulthood, young men and young women may learn different lessons from their parents

(Beyers & Goossens, 2008) or others in their social environments (e.g., peers; Salmivalli & Voeten, 2004) about the acceptability of this behaviour as a form of entertainment.

Some speculation as to why this gender difference existed for adults but not adolescents may be made in reference to qualities of same-sex friendships among young men and women. Even though college-aged men and women have the same sized friendship groups (Wrzus, Hänel, Wagner, & Neyer, 2012) and value same-sex friendships equally, women seem to prefer emotional sharing, and revealing more about their feelings, problems, and personal relationships with their close friends (Caldwell & Paplau, 1982). Girls and women have been shown to express more communal friendship needs and received more communal friendship provisions from same-sex friends (i.e., intimacy, nurturance, support, etc.) than their male counterparts (Zarbatany, Conley, & Pepper, 2004) and girls also expect more intimacy from their friends (Claes, 1992). Alternatively, men's friendships have been characterized as less intimate and supportive than women's (Bank & Hansford, 2000). Furthermore, girls are more likely to have subgroups of closer friends within their larger group of friends than boys are (Xie & Shi, 2009). Perhaps these qualitative differences in same-sex friendships led women to use more social aggression with their friends for fun because it involved talking about others, sharing about personal relationships and revealing emotions, and these interactions aren't necessarily positive and prosocial. It may also be true that young women crave that intimacy in their same-sex close friendships more so than young men, and they learn as adolescents that being socially aggressive together is a way to create and maintain that intimacy in relationships (Daniels et al., 2010). At some point between adolescence and adulthood, women's desire to create amusement motivates their use of social aggression

more strongly than men's desire for amusement does. What accounts for this developmental difference is unclear and future research should aim to account for this shift in the association between amusement and social aggression.

Consistent with recent meta-analyses (Archer, 2004; Card et al., 2008), the current study supports the finding that gender differences in social aggression are less evident than reported in the early literature in this field (e.g., Crick & Grotpeter, 1995). Gender differences in social aggression are also perhaps more nuanced than originally thought, occurring in only one context (against a non-friend), with only one motivation (amusement). It has become clear that gender differences should be explored in the context within which the social aggression is used, especially considering the age of those using the behaviour. The finding that young men and women differ in their frequency of use of social aggression for the purpose of amusement, but that adolescent boys and girls do not is a particularly curious finding from the current dissertation. This highlights the importance of considering these behaviours in the context in which they occur. Perhaps other personal or social characteristics play a role here as well, and future research should aim to explore other moderating factors in the associations between motivations and social aggression.

The Importance of Normative Beliefs

A notable difference between the two studies was that young adults held higher normative beliefs about the acceptability of social aggression than adolescents. Children and young adolescents often turn to adults for guidance in situations where aggression is being used at school or in other community settings and if these adults consider social aggression normative behaviour, they may not consider it necessary to intervene. This

finding is in line with research by Bauman and Del Rio (2006), who found that pre-service teachers had less empathy for targets of social bullying and were less likely to intervene in these situations and reported that they would impose the least severe punishment for these incidents than other forms of aggressive events. Unless adults consider these behaviours unacceptable and harmful, as they have been shown to be (Coyne, Archer, & Eslea, 2006), they are unlikely to be effective at responding to or intervening with these situations.

The finding that young adults believed social aggression was more normative than adolescents should also be considered with regard to the moderation effects found for the associations between motivations and frequency of social aggression. For the adults studied, higher normative beliefs about social aggression were associated with motivations of acceptance, amusement and jealousy in predicting the use of social aggression against friends and non-friends and revenge in predicting the use of social aggression against non-friends. In contrast, for the adolescents studied, normative beliefs were associated with all motivations except for acceptance when the social aggression was directed toward a non-friend. More often than not, normative beliefs predicted the strength of the association between motivations and frequency of social aggression and therefore, these normative beliefs are something practitioners should be concerned about addressing among individuals, regardless of age.

Normative beliefs are especially important in adolescence as they related to the associations between motivations and use of social aggression, as nearly half of the variance in frequency of social aggression against friends and non-friends was accounted for by the motivations studied (whereas around a quarter was accounted for in the

prediction of social aggression for the young adults studied). Researchers should aim to understand these normative beliefs in more depth, with the goal of exploring where they come from, how they are maintained by individuals and other people (e.g., peers) and what might work best to change these beliefs so that individuals see social aggression for what it really is: hurtful behaviour that has the capacity to seriously harm people.

Furthermore, qualitative research and longitudinal research may be able to provide a deeper understanding of normative beliefs about social aggression, where they originated from, how they develop, and how they are maintained over time. Future research should aim to address these goals.

Toward a Theoretical Model of Social Aggression

There are some clear differences between the models indicating that social aggression may serve different functions when it is directed toward a friend versus someone not considered a friend. Figures 19-22 depict models of the how each of the motivations is associated with frequency of socially aggressive behaviour and normative beliefs for adolescents and adults. The differences across models indicate that researchers and practitioners need to be very careful about making generalizations when talking about social aggression because there may be different motivations, different processes, different functions, and perhaps even different effects depending on who is enacting the aggression and whom the aggression is being directed toward, as well as the reasons for the aggression and the form of social aggression selected for use.

The motivations portion of the theoretical model of girls' social aggression as originally presented by Owens and colleagues (2000b) in Figure 1 can be expanded based

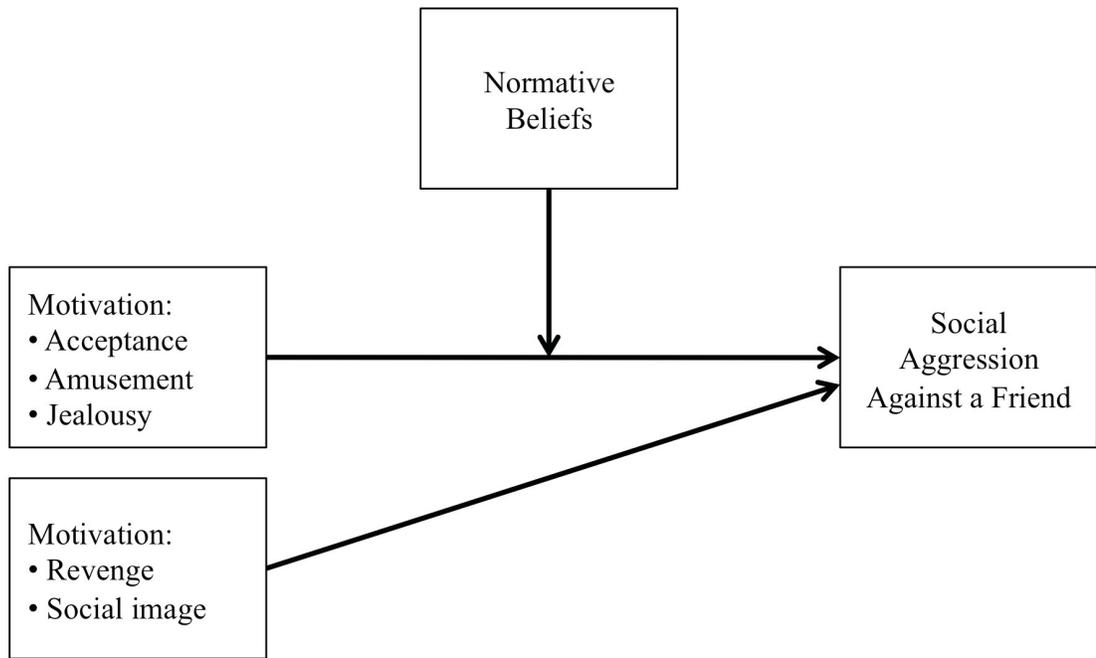


Figure 19. Adults, friend model.

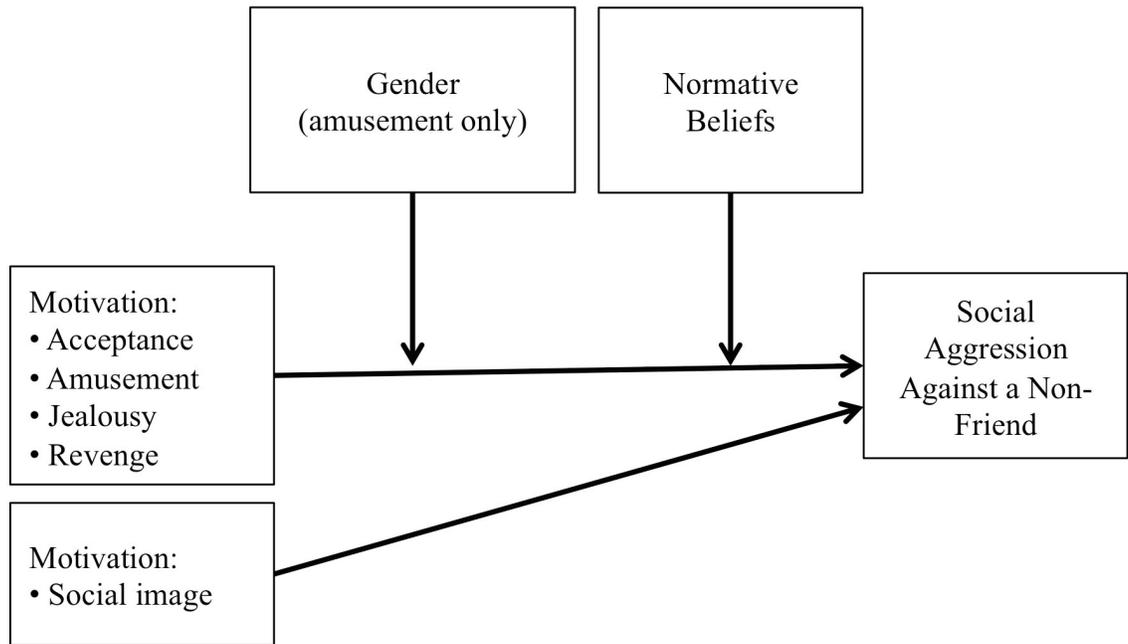


Figure 20. Adults, non-friend model.

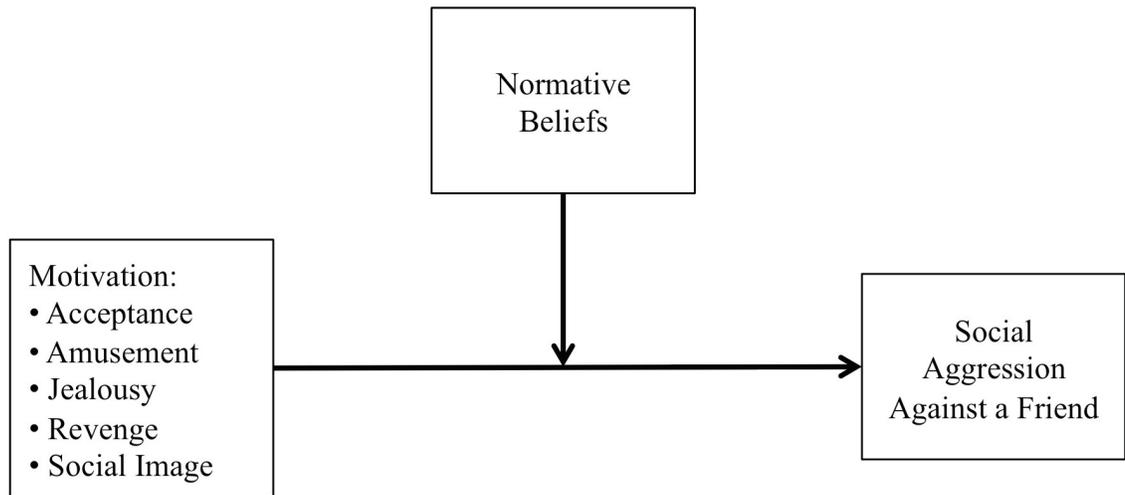


Figure 21. Adolescents, friend model.

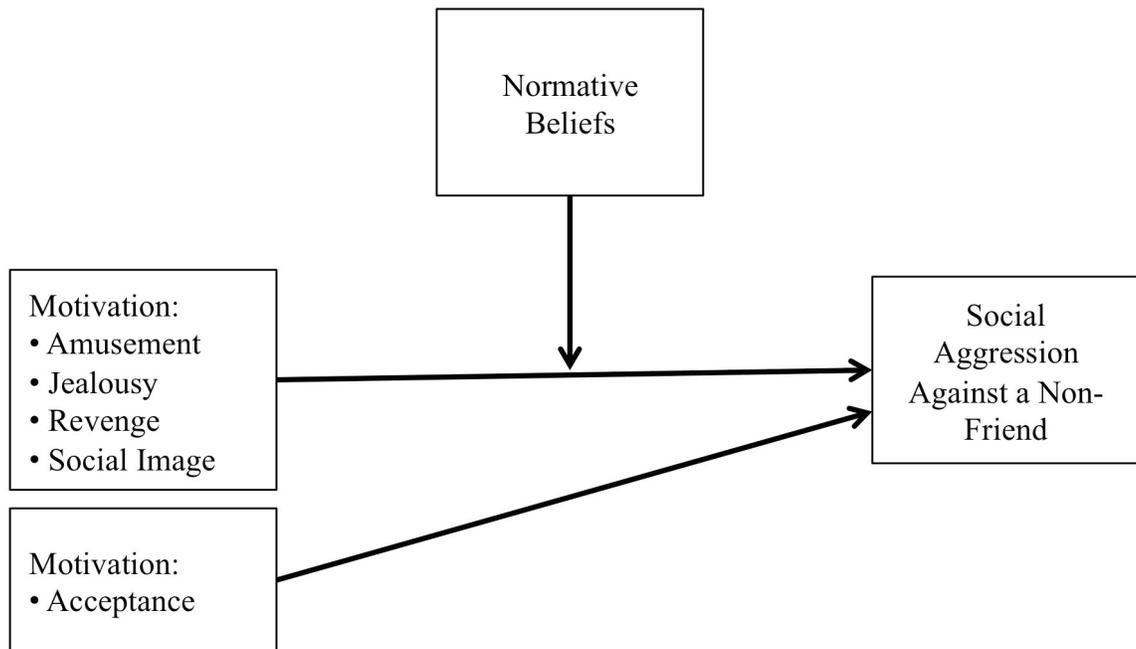


Figure 22. Adolescents, non-friend model.

on the current findings to include all of the motivations studied in the current dissertation (i.e., desire for acceptance, desire for amusement, feelings of jealousy, desire for revenge, and a desire to protect one's social image). In the original model it was also proposed that alleviating boredom interacted with the friendship and group process functions to produce socially aggressive behaviours, whereas in the current dissertation, the desire for amusement was proposed as a motivation on its own and in all contexts, this desire predicted increased social aggression when individuals had higher normative beliefs about the acceptability of the use of social aggression.

Furthermore, it is imperative that the roles of context in which the behaviour is utilized as well as one's beliefs about the acceptability of social aggression be included in this theoretical model. While the motivations component of this model was originally proposed only for girls, a more comprehensive set of motivations were tested with adolescent boys and girls and young adult men and women in the current study. The findings from the current dissertation that boys and girls engage in social aggression with similar frequency and that their motivations for social aggression were almost identical, confirmed that the motivations portion of Owens' et al.'s (2000b) theoretical model can now be confidently applied to males as well as females.

A reconceptualization of this model is presented in Figure 22, where the role of motivations, normative beliefs, and context is depicted in boys' and girls' use of socially aggressive behaviour. There is still much work to do in testing this model with males as well as further expanding the age range of individuals it may apply to. As many differences exist between the models, it may even be helpful to consider theoretical

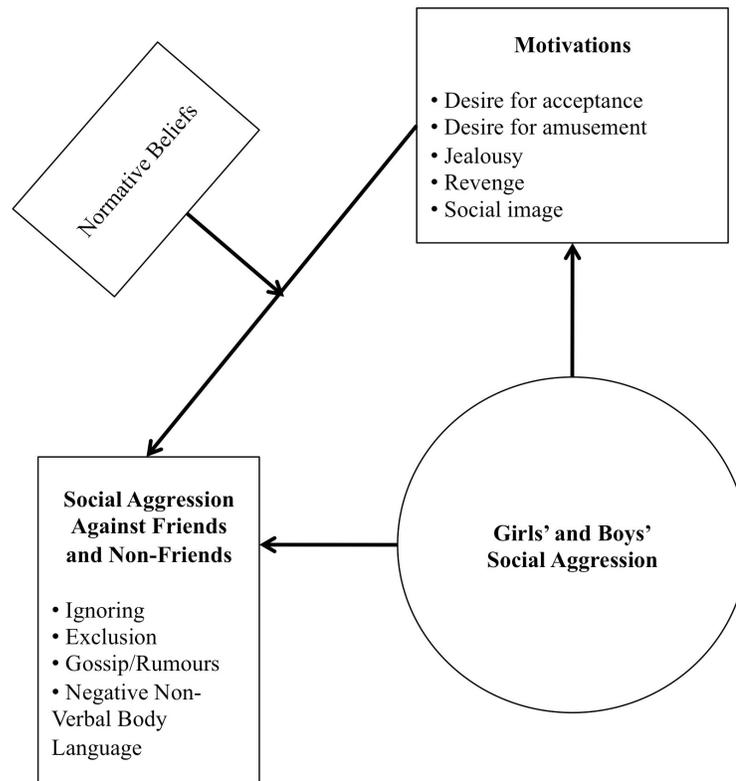


Figure 23. A revision to the motivations component of Owens' et al. (2000b) theoretical model of girls' social aggression.

models separately for social aggression in different age groups depending on the context of the aggression, as has been presented in Figures 18-21.

Limitations

It is important to note some limitations of the current research. One of particular importance was that the measure of motivations was derived from qualitative literature and other research on motivations, but perhaps there is more that motivates individuals to use social aggression than what participants in other studies have said. There is an inherently social nature to social aggression and an attempt was made to capture some social motivations with the motivations measure, but perhaps other social forces were missed in the current study when individuals were recalling their motivations for using social aggression. For example, societal or cultural pressures may not have been captured in the motivations measure, and the ones that were asked about (e.g., feeling the pressure to be nice) did not load on the motivations measure and had to be dropped for psychometric reasons. Perhaps there are some underlying motivations that individuals cannot readily access in their descriptions of their behaviour to explain why they might have engaged in it. If possible, future research should aim to explore these underlying causes, perhaps by analyzing diary entries or gathering information immediately after an incident of social aggression.

Previous research on motivations has called for the analysis of participants' real-life experiences with social aggression, rather than their perceptions of hypothetical characters and scenarios (Reynolds & Repetti, 2010). To this end, participants in the current study were asked about their use of social aggression over the past year and what motivated any of the socially aggressive behaviours they reported using. They were not

asked what motivated one socially aggressive behaviour they had used, as Reynolds and Repetti (2010) had. The extent to which conclusions can be made about what motivates specific socially aggressive behaviours is limited.

Related to the motivations measure was the issue of sample size. In order to run a reliable exploratory factor analysis, some researchers recommend at least 300 participants, though 200 has been noted as fair (Tabachnick & Fidell, 2007). In the validation study, the sample size was 254, and so it would be desirable to re-run this exploratory factor analysis with a larger sample to determine whether the same factors emerge as the ones found in this study. It would also be desirable to run an exploratory factor analysis with a larger youth sample to see whether the same factors emerge as those that were found in the adult sample, as this was not possible in the current adolescent study due to the limited size of the sample ($n = 151$).

Another limitation in this dissertation was that although a decent response rate from schools for the adolescent study overall was noted, some schools had much higher rates of consent form return than others (schools ranged between 60-100%). During data collection for this dissertation, there was a “work to rule” strike action in Ontario public schools at one point and a voluntary pause on extracurricular activities at another, wherein teachers were not participating in school activities beyond the mandated curriculum. Although these actions did not directly affect the Catholic school boards where these data were collected, it is conceivable that this climate in the public school system affected the desirability of some teachers to participate in this research. Thus, the sample that was achieved may not have been representative of all youth currently in Ontario Catholic schools. Likewise, the adult study was limited in that it consisted of

self-selected participants who chose to gain extra credit in their first year psychology or neuroscience classes and who chose from all of the available studies to complete this particular study. It is possible that this self-selection bias and/or the lower return rate at some schools may have biased these samples in some way. Unfortunately there is no way to know this and future research should aim to replicate the findings from this dissertation with other samples to test for the robustness of the effects found here.

Related to this point is that the current study relied solely on self-reports and although anonymity was ensured so that participants could be honest about their behaviours and what they believed motivated them, some participants may still have responded in a socially desirable way, especially as teachers were present in some classrooms when the survey was administered. These behaviours are unpleasant for some, and individuals may have a hard time admitting that they have used the behaviours. A few participants indicated that they had never used the behaviours, but the frequencies of all behaviours reported were low (e.g., 12 adults and 3 adolescents denied using socially aggressive behaviours against both friends and non-friends). Future research may aim to corroborate reports of socially aggressive events by asking more than one individual involved in the event (i.e., aggressor, person(s) targeted, bystanders, teacher(s) or other adults present or involved in a given incident). While the findings from this study should be considered within the context of these limitations, taken together, they do not negate the findings from the current dissertation.

Implications and Conclusion

Some researchers in the field have made arguments about the adaptive functions of social aggression in some contexts such as status, goal attainment, and social

dominance (Hawley, Little, & Rodkin, 2007). Although it is recognized that these behaviours have adaptive functions and may not always cause harm, there is compelling literature that warns of the potential serious and long-lasting harm caused by social aggression (Archer & Coyne, 2005; Coyne et al., 2006). In light of the potential harm caused, researchers and practitioners should be concerned with developing a better understanding of the motivations underlying the use of socially aggressive behaviours and the role normative beliefs play. It has been shown in this dissertation and is supported by past research on motivations for social aggression (e.g., Owens et al., 2000a; Pronk & Zimmer-Gembeck, 2010; Reynolds & Repetti, 2010) that we can identify these motivations and try to understand them better, within context and consider potential developmental differences, especially related to gender.

There were two main goals in this dissertation: 1) creating and validating a measure of motivations for social aggression, which was successfully completed in the first study, and 2) empirically exploring how motivations relate to the use of social aggression among young women and men, which was done in the first study, and among girls and boys, which was done in the second study. Normative beliefs about social aggression were found to play a particularly important role for certain motivations under certain contexts – whether the aggression was directed toward a friend or non-friend – and these associations were found to differ depending on whether adolescents or adults were consulted. The findings of this dissertation, considered within the realm of the limitations noted above, contribute significantly to the limited body of literature on motivations for social aggression. The novel inclusion of both genders, all motivations for social aggression derived from previous literature, all behaviours considered socially

aggressive (including non-verbal body language, which is rarely studied), context within which the behaviour took place (used against a friend or non-friend), and the relatively understudied inclusion of normative beliefs about social aggression make an important contribution to our understanding of the motivations underlying the use of socially aggressive behaviours.

Ultimately, it has been noted that there are some qualitative differences in the motivations of adults and adolescents when it comes to their use of socially aggressive behaviours. For adults, normative beliefs might be more entrenched, but these normative beliefs link only certain motivations to their use of social aggression (i.e., revenge against a friend and social image in both contexts are exceptions). For adolescents, although they are not as entrenched in their normative beliefs around social aggression, their normative beliefs link almost all of their motivations to the frequency of their use of social aggression (with the exception of acceptance against a non-friend). Normative beliefs, especially for adolescents, are a potential intervention point. Although most people may feel any number of these motivations (e.g., jealousy, desire for acceptance, etc.), it was found that in most cases the belief that social aggression is normative and acceptable links the motivations with an increase in use of socially aggressive behaviours.

Although social aggression may have some positive functions such as increased intimacy in relationships (Daniels et al., 2010), and it may happen a lot (Vaillancourt et al., 2010), social aggression is always at the expense of another person, and is not normative behaviour. Curbing the incidences of social aggression is a worthwhile endeavour as every person has the right to a safe and supportive environment, and

deepening our understanding of why adolescents and adults engage in these behaviours will allow us to reach this goal.

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Appendix A

Recruitment for SONA Participants

Study Name: What's behind our interactions with friends and frenemies?

Dear Carleton University students using SONA,

We are conducting research that examines the association between beliefs about relationships, perceptions of normal responses to social events and feelings about what underlies commonly enacted socially unkind behaviours between friends and peers. Anyone who is enrolled in PSYC 1001, 1002, 2001, or 2002, and has access to SONA, may participate. In exchange for your participation, 0.5% will be added to your final mark in your psychology course (**one of** PSYC 1001, 1002, 2001, or 2002; you must be currently enrolled in the course to receive participation percentage). Participation in this study is voluntary and surveys will take approximately 30 minutes to complete.

What is this study about?

The questionnaires you complete will ask about your beliefs about behaviours like gossiping, excluding someone, and using body language that expresses these sentiments. We also ask you to provide information on the reasons that you think might underlie the use of these behaviours, the emotions that surround them and how often you have experienced these events. The study has been designed to minimize any anxiety or distress after answering questions that concern your experiences; however, if this occurs you may omit questions without penalty. Additional information and resources will also be provided upon completion of the study for those who need it.

You will not be asked for your name or any other identifying information. You will be given a unique numeric code, which protects all identifying information, including your name. Your answers will be kept strictly confidential. This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference #12-256).

Why participate?

- You will be contributing to the developing field of social behaviour research
- You will earn 0.5% toward your final grade in psychology by completing the questionnaire
- When the research is complete, we would be glad to share a summary of the results with you, and these conclusions may inspire your thoughts about your potential future research projects!

Appendix B

Informed Consent for SONA Participants

The purpose of an informed consent is to insure 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.

Study Name: What's behind our interactions with friends and frenemies?

Research personnel. The following people are involved in this research project, and may be contacted at any time if you have questions or concerns: Danielle Quigley (dquigley@connect.carleton.ca), Kat Magner (kmagner1@connect.carleton.ca), and the Faculty Sponsor, Dr. Tina Daniels (tina_daniels@connect.carleton.ca). Should you have any ethical concerns about this research, please contact Dr. Monique Sénéchal, at monique_senechal@carleton.ca (613-520-2600 ext. 1155). For any other concerns, please contact the Chair of the Department of Psychology, Dr. Anne Bowker (613-520-2600, ext. 8218 or psychchair@carleton.ca).

Purpose. The purpose of this study is to investigate the relationship between personal beliefs about relationships and what underlies common social interactions between friends and peers. We are interested in examining how these personal beliefs influence the sometimes unkind behaviours people use when in different social contexts.

Task requirements. In this study, you will be asked to fill out various questionnaires online through the University's data collection system, SONA. The questionnaires will take about 30 minutes to complete. Questionnaires will ask questions about peer to peer conflict, what you think underlies this conflict, your beliefs about social situations, your emotions around these situations, and how often you are involved in these types of events.

Duration and location. This study will take approximately 30 minutes to complete and it will be available to online through Carleton University's data collection service, SONA. Please ensure that you have enough time to complete the survey once you start answering questions; i.e., allow yourself approximately 30 minutes to complete all sections of the survey.

Remuneration. For your participation in this study, you will be given a 0.5 percent credit towards your PSYC 1001, 1002, 2001 or 2002 final grade.

Potential risk/discomfort. There are no physical risks to participating in this study. Some individuals might feel uncomfortable when asked to think about some of the social situations about peer conflict. If you feel any discomfort or distress, you may choose not to answer specific questions, and will not be penalized in any way if you choose to do so.

The debriefing form at the end of the study provides contact information for local support services that you may contact if you need or want help.

Anonymity and confidentiality. Your participation in the study is both anonymous and confidential. You will be assigned a unique numeric code, by the SONA system, which will not be associated with your name. This code will be linked to your SONA account; this unique code will not be linked to your name or any other identifying information. The researchers involved with this project have no access to your name or any other identifying information. When you consent to participate in the study, the SONA system will automatically grant you course credit for your participation. The online data remains secure on the Carleton University server site.

Right to withdraw. Your participation in this study is entirely voluntary. At any point during the study, you have the right to not answer any questions or to withdraw with no penalty whatsoever. Course credit is not contingent upon completion of the survey. You will see a button on each page that says “Withdraw” that you can use if you would like to withdraw from the study. Whether or not you decide to participate in this research will have no impact on your course performance. Participation, lack of participation or withdrawal from the study will not be disclosed to your course instructor.

Data protection and disposal. Data collected for this research will be accessible only to the researchers associated with this project. As the data will be collected online, security measures have been put into place to protect your anonymity and confidentiality. All data will be made anonymous through assignment of your unique numeric code and will be transferred through web browsers to the secure server using a secure database. Finally, only approved researchers of this project will be able to access submitted questionnaires, and will be unable to identify participants based on any of their responses throughout the survey.

This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference #12-256).

By clicking “yes”, you have given your consent to participate and can begin the survey.
Click “no” if you do not wish to complete the survey.

Appendix C

Debriefing form for SONA participants

What are we trying to learn in this research?

We're interested in knowing more about our beliefs about relationships and feelings about what makes us act certain ways with friends and non-friends.

Why is this important to scientists or the general public?

Previous research in this area is based on interview data, which has given us a good sense of why children and youth say they use social aggression. Although we have this information, we still don't know much about which reasons are the most important motivators for social aggression and knowing this will be helpful for healthy relationships training. We also do not know how important these reasons are to young adults.

What are our hypotheses and predictions?

We predict that the more normal people believe socially aggressive responses to events are, the more frequently people will report having used socially aggressive behaviours. We also think that people who think social aggression is pretty normal will feel OK about using it, while people who think it's not that normal will feel less OK about using it.

Where can I learn more?

- PREVNet.ca (The Promoting Relationships and Elimination Violence Network) is a website that has many downloadable resources for parents and teachers.
- Social Aggression Among Girls (2003) by Marion K. Underwood is a popular academic book about social aggression used by girls.
- Odd Girl Out: The Hidden Culture of Aggression in Girls (2002) by Rachel Simmons is a popular and very accessible book about social aggression used by girls.
- Raising Cain: Protecting the Emotional Life of Boys by Dan Kindlon & Michael Thompson
- Real Boys: Rescuing Our Sons from the Myths of Boyhood by William Pollack
- The Anger Workbook for Teens: Activities to Help You Deal with Anger and Frustration by Raychelle Cassada Lohmann
- Don't Let Your Emotions Run Your Life for Teens: Dialectical Behavior Therapy Skills for Helping You Manage Mood Swings, Control Angry Outbursts, and Get Along with Others by Sheri Van Dijk

Is there anything I can do if I found this experiment to be emotionally upsetting?

Yes! If you feel any distress or anxiety after participating in this study, please feel free to contact the Carleton University Health and Counselling Services (613-520-6674 or online at <http://www1.carleton.ca/health/counselling-services/>) or the Distress Centre of Ottawa and Region at 613-238-3311 (<http://www.dcottawa.on.ca>).

What if I have questions later?

If you have any remaining concerns, questions, or comments about the experiment, please feel free to contact Danielle Quigley (dquigley@connect.carleton.ca) or Kat

Magner (kmagner1@connect.carleton.ca) or Dr. Tina Daniels (Faculty Sponsor), at: tina_daniels@carleton.ca. If have any ethical concerns about this research, please contact Dr. Monique Sénéchal (Chair, Psychology Ethics Board, monique_senechal@carleton.ca, 613-520-2600 ext 1155. For other concerns, please contact Dr. Anne Bowker (Chair, Department of Psychology, psychchair@carleton.ca, 613-520-2600, ext. 8218).

Appendix D

Assent for Children

You are being asked to participate in a research study led by Carleton University students Danielle Quigley and Kat Magner, with their supervisor, Dr. Tina Daniels. Danielle, Kat, and Dr. Daniels are researchers in the Psychology department at Carleton.

It's very important that you know that even though your parent(s)/guardian(s) have given you permission to participate in the study and fill out the survey, it is your choice whether you want to participate.

The reason we're doing this study is to learn more about how personal beliefs are related to the sometimes unkind behaviours people use in social situations.

We are asking you to fill out questionnaires that will take about 30 minutes to complete. Questionnaires will ask questions about conflict with your class and school mates, why you think this conflict happens, how you feel about these situations, and how often you are involved in these types of events.

There are no physical risks to participating in this study. Some of you might feel uncomfortable when asked to think about conflict among your peers. If you feel uncomfortable answering any of the questions, you may choose not to answer specific questions, and you will not be penalized in any way if you choose to do so. At the end of the study we will give you a phone number you can call if you need or want help.

Your responses on the survey can never be traced back to you as your name or any other identifying information will not be collected in this study. It is totally anonymous, so if you wish to participate, please don't write your name anywhere on the questionnaire.

Your participation in this study is entirely voluntary. At any point during the study, you have the right to not complete certain questions, or to withdraw from the study without penalty.

This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference #12-256).

Appendix E

Consent for Parents

We are doing a study called “What’s behind our interactions with friends and frenemies?” and we need your help!

The purpose of an informed consent is to ensure that you understand why we are doing this study and what will be expected of your child if you would like to be involved.

Purpose. Social aggression and social bullying is really common today. It’s all around us in movies and television, the news media, and even in our work places and schools. It consists of behaviours like gossiping, leaving others out, and spreading rumours. We are trying to learn more about why people use social aggression and how they feel about using it.

What we will ask your child to do. Your child will fill out an anonymous questionnaire about beliefs about relationships, reactions to certain social situations, and how often she or he is involved in these types of events. The questionnaires will take about 30 minutes to complete. Your child will be given a small token of appreciation for returning her/his consent form, regardless of whether you have provided consent to participate in the study. Filling out the questionnaires will take place at your school during class time.

Potential risk/discomfort. There are no physical risks to participating in this study. Some people might feel uncomfortable when asked to think about peer conflict. If your child feels any discomfort, she or he may skip questions, and will not be penalized if she or he does this. At the end of the study, we will provide contact information for local support services that you may contact if you want help dealing with these issues.

Anonymity/Confidentiality. We will not collect any identifying information with your child’s surveys, so that your child’s responses can never be traced back to her/him. Any identifying information that you provide to us (i.e., your name, signature and a way to contact you if you wish to hear about the results of the study) will be confined to a single page that will be kept separate from the questionnaires, secured in a locked research office and will be destroyed after 5 years.

Right to withdraw. Your child’s participation in this study is entirely voluntary. At any point during the study, she or he has the right to not complete certain questions, or to withdraw from the study without penalty. This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference #12-056).

Research personnel. The following people are involved in this research project, and may be contacted at any time if you have questions or concerns: Danielle Quigley (dquigley@connect.carleton.ca), Kat Magner (kmagner1@connect.carleton.ca), and the Faculty Sponsor, Dr. Tina Daniels (tina_daniels@connect.carleton.ca). Should you have any ethical concerns about this study, please contact Dr. Avi Parush (Chair, Psychology Research Ethics Board, 613-520-2600 ext. 6026, avi_parush@carleton.ca). For any other

concerns, please contact the Chair of the Department of Psychology, Dr. Anne Bowker (613-520-2600, ext. 8218 or psychchair@carleton.ca).

.....

I have read the above form and understand the conditions of my child's participation. My child's participation in this study is voluntary, and I understand that if at any time I wish to withdraw my consent to participate, 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 signature indicates that I agree to have my child participate in this study.

Child's name:

Would you like to hear about the results of this study? (If yes, please provide an email or postal address.)

Parent/Guardian name:

Signature:

Date

Appendix F

Debriefing for Parents

What are we trying to learn in this research?

We're interested in knowing more about our beliefs about relationships and feelings about what makes us act certain ways with friends and as well as people we're not friends with.

Why is this important to scientists or the general public?

Previous research in this area is based on interview data, which has given us a good sense of why children and youth say they use social aggression. Although we have this information, we still don't know much about which reasons are the most important motivators for social aggression and knowing this will be helpful for healthy relationships training.

What are our hypotheses and predictions?

We predict that the more people think socially aggressive responses to events are normal, the more frequently people will report having used socially aggressive behaviours. We also think that people who think social aggression is pretty normal will feel OK about using it, while people who think it's not that normal will feel less OK about using it.

Where can I learn more?

- PREVNet.ca (The Promoting Relationships and Elimination Violence Network) is a website that has many downloadable resources for parents and teachers.
- Social Aggression Among Girls (2003) by Marion K. Underwood is a popular academic book about social aggression used by girls.
- Odd Girl Out: The Hidden Culture of Aggression in Girls (2002) by Rachel Simmons is a popular and very accessible book about social aggression used by girls.
- Raising Cain: Protecting the Emotional Life of Boys by Dan Kindlon & Michael Thompson
- Real Boys: Rescuing Our Sons from the Myths of Boyhood by William Pollack
- The Anger Workbook for Teens: Activities to Help You Deal with Anger and Frustration by Raychelle Cassada Lohmann
- Don't Let Your Emotions Run Your Life for Teens: Dialectical Behavior Therapy Skills for Helping You Manage Mood Swings, Control Angry Outbursts, and Get Along with Others by Sheri Van Dijk

Is there anything I can do if I found this survey to be emotionally upsetting?

Yes! If you feel any distress or anxiety after participating in this study, please feel free to contact the Kids Help Phone (1-800-668-6868 or online at kidshelpphone.ca) or the Distress Centre of Ottawa and Region at 613-238-3311 (<http://www.dcottawa.on.ca>).

What if I have questions later?

If you have any remaining concerns, questions, or comments about the experiment, please feel free to contact Danielle Quigley (dquigley@connect.carleton.ca) or Kat Magner (kmagner1@connect.carleton.ca) or Dr. Tina Daniels (Faculty Sponsor), at: tina_daniels@carleton.ca. Should you have any ethical concerns about this study, please contact Dr. Avi Parush (Chair, Psychology Research Ethics Board, 613-520-2600 ext. 6026, avi_parush@carleton.ca). For other concerns, please contact Dr. Anne Bowker (Chair, Department of Psychology, psychchair@carleton.ca, 613-520-2600, ext. 8218).

THANK YOU FOR YOUR HELP TODAY!

Appendix G

Normative Beliefs about Relational Aggression Scale

Next we're going to ask you some questions about how you feel about some common things people do. Remember, there are no right or wrong answers to these questions, so just check off the answer that seems right to you.

	1	2	3	4
	It's really wrong	It's sort of wrong	It's sort of ok	It's perfectly ok
1. In general, it is OK to stop talking to people if you are mad at them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. It is usually OK to try to get other people to dislike somebody who you personally dislike.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. It is usually OK to talk about other people behind their backs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. It is usually OK to give people the "silent treatment" if you are mad at them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. In general, it is OK to spread rumors about people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. It is usually OK to cancel plans with somebody if you are mad at them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note. Item 3 was changed from the validation study (*it is wrong to talk about other people behind their backs*) to the adolescent study (*it is usually OK to talk about other people behind their backs*) because it was thought to be confusing to participants as the only item that seemed reversed, but was not intended to be reversed scored.

Appendix H

Frequency of Social Aggression

[Note that first a gender-specific primer was presented, followed by gender-specific versions of the frequency of social aggression scale. First the social aggression against a friend scale was presented, followed by the motivations measure, and then the social aggression against a non-friend scale is presented, followed by the motivations measure.]

Female version

Here is an example of something that a lot of girls your age have done:

Jessie is an average student at an average school. Jessie is average at her schoolwork and is involved in swimming in the summer and hockey in winter. In the past Jessie and Sam were good friends. Sam was well accepted, had a close group of friends and got along well with most people. After a day home sick, Sam returned to school to find that things had changed. Sam walked over to her usual group, including Jessie and tried to talk to them, but their responses were abrupt and they mostly just glared at her. In first lesson, Sam usually sat with Jessie but she came to class to find that Jessie was sitting with someone else. At recess time, Sam joined Jessie and the group late but just in time to overhear Jessie saying, "Sam is so annoying."

What Jessie did is really common and that's why we're trying to learn more about it. Can you think of a time when you did something like Jessie did?

Think about *one memorable time* when you **did** something like Jessie did and briefly describe it below. This is only to help you remember the incident, so write whatever you need to help you remember it. If you can remember, write down who was involved including whether they were boys or girls, what happened, how long it lasted, and how things are now. To ensure this survey is anonymous, please don't write down anyone's name.

Male version

Here is an example of something that a lot of boys your age have done:

Jessie is an average student at an average school. Jessie is average at his schoolwork and is involved in swimming in the summer and hockey in winter. In the past Jessie and Sam were good friends. Sam was well accepted, had a close group of friends and got along well with most people. After a day home sick, Sam returned to school to find that things had changed. Sam walked over to his usual group, including Jessie and tried to talk to them, but their responses were abrupt and they mostly just glared at him. In first lesson, Sam usually sat with Jessie but he came to class to find that Jessie was sitting with someone else. At recess time, Sam joined Jessie and the group late but just in time to overhear Jessie saying, "Sam is so annoying."

What Jessie did is really common and that's why we're trying to learn more about it. Can you think of a time when you did something like Jessie did?

Think about *one memorable time* when you **did** something like Jessie did and briefly describe it below. This is only to help you remember the incident, so write whatever you need to help you remember it. If you can remember, write down who was involved including whether they were boys or girls, what happened, how long it lasted, and how things are now. To ensure this survey is anonymous, please don't write down anyone's name.

11. Passed a girl a note with something mean written on it or written the note and gotten someone else to pass it (e.g., a note that says “no one likes you”)	<input type="checkbox"/>					
12. Stopped talking when a girl came over to you and a friend so she couldn't join the conversation	<input type="checkbox"/>					
13. Made a mean face when asked to be partners with a girl for a school project	<input type="checkbox"/>					
14. Glared or stared at a girl meanly	<input type="checkbox"/>					
15. Not invited a girl to a party even though you knew she wanted to come	<input type="checkbox"/>					

Note. Items 1 to 8 were taken from Reynolds and Repetti (2010). Items 6 and 9 to 15 were taken from Galen and Underwood (1997).

Appendix I

Motivations for Social Aggression Across Contexts (MSAAC)

There are many reasons why a girl would do any of those things. To understand why people do these things, next we would like you to think about any of those behaviours that you may have done over the last year to one of your friends and rate how much you agree that any of the following reasons explain why you did what you did by checking one of the boxes.

First we'll ask you about these things as they relate to someone you consider a friend. Then we'll ask about them as they relate to someone you don't consider a friend.

	0	1	2	3	4
	Completely disagree	Slightly disagree	Somewhat agree	Moderately agree	Totally agree
1. I thought it would help me get closer to one or more other girls	<input type="checkbox"/>				
2. I thought one or more of my friends didn't like her	<input type="checkbox"/>				
3. I thought it would get me closer to a guy I liked	<input type="checkbox"/>				
4. I just wanted to be accepted by the group	<input type="checkbox"/>				
5. I thought it would make me more popular	<input type="checkbox"/>				
6. I was trying to get back at her for something she did that made me mad	<input type="checkbox"/>				
7. I was angry about something and wanted to put her in her place	<input type="checkbox"/>				
8. I wanted to belong to the 'right' group of friends	<input type="checkbox"/>				
9. It seemed like a fun thing to do at the time	<input type="checkbox"/>				
10. I was bored	<input type="checkbox"/>				
11. I didn't have anything better to do	<input type="checkbox"/>				

12. I thought it would be exciting	<input type="checkbox"/>				
13. I thought she was going to do something bad to me so I wanted to do something to her first	<input type="checkbox"/>				
14. I was jealous about another relationship that was developing between her and one of my other friends	<input type="checkbox"/>				
15. I was jealous of a relationship that was developing between her and a guy	<input type="checkbox"/>				
16. I felt insecure about my friendships	<input type="checkbox"/>				
17. I wanted to avoid getting in trouble with adults	<input type="checkbox"/>				
18. I wanted to get my point across to her but stay 'looking nice' to the rest of my friends	<input type="checkbox"/>				
19. I figured it was a socially acceptable way of getting out my anger	<input type="checkbox"/>				
20. I wanted people to still think I was nice	<input type="checkbox"/>				
21. I thought she wasn't cool	<input type="checkbox"/>				
22. I thought she was too emotional	<input type="checkbox"/>				
23. I was envious of something she had	<input type="checkbox"/>				
24. I was jealous of her	<input type="checkbox"/>				
25. Were there any other reasons you did the behaviour that you described? If so, please list them below and rate how important they were: _____	<input type="checkbox"/>				

Note: Items 1, 2, 6, 9, and 13 are from the original measure by Reynolds and Repetti (2010).

Now thinking about why you might have done this to a girl who is not your friend, how much do you agree that these reasons explain why you did what you did?

	0	1	2	3	4
	Completely disagree	Slightly disagree	Somewhat agree	Moderately agree	Totally agree
1. I thought it would help me get closer to one or more other girls	<input type="checkbox"/>				
2. I thought one or more of my friends didn't like her	<input type="checkbox"/>				
3. I thought it would get me closer to a guy I liked	<input type="checkbox"/>				
4. I just wanted to be accepted by the group	<input type="checkbox"/>				
5. I thought it would make me more popular	<input type="checkbox"/>				
6. I was trying to get back at her for something she did that made me mad	<input type="checkbox"/>				
7. I was angry about something and wanted to put her in her place	<input type="checkbox"/>				
8. I wanted to belong to the 'right' group of friends	<input type="checkbox"/>				
9. It seemed like a fun thing to do at the time	<input type="checkbox"/>				
10. I was bored	<input type="checkbox"/>				
11. I didn't have anything better to do	<input type="checkbox"/>				
12. I thought it would be exciting	<input type="checkbox"/>				
13. I thought she was going to do something bad to me so I wanted to do something to her first	<input type="checkbox"/>				
14. I was jealous about another relationship that was developing between her and one of my other friends	<input type="checkbox"/>				
15. I was jealous of a relationship that was developing between her and a guy	<input type="checkbox"/>				

16. I felt insecure about my friendships	<input type="checkbox"/>				
17. I wanted to avoid getting in trouble with adults	<input type="checkbox"/>				
18. I wanted to get my point across to her but stay 'looking nice' to the rest of my friends	<input type="checkbox"/>				
19. I figured it was a socially acceptable way of getting out my anger	<input type="checkbox"/>				
20. I wanted people to still think I was nice	<input type="checkbox"/>				
21. I thought she wasn't cool	<input type="checkbox"/>				
22. I thought she was too emotional	<input type="checkbox"/>				
23. I was envious of something she had	<input type="checkbox"/>				
24. I was jealous of her	<input type="checkbox"/>				
25. Were there any other reasons you did the behaviour that you described? If so, please list them below and rate how important they were: _____	<input type="checkbox"/>				

Note: Items 1, 2, 6, 9, and 13 are from the original measure by Reynolds and Repetti (2010).

Male version

There are many reasons why a guy would do any of those things. To understand why people do these things, next we would like you to think about any of those behaviours that you may have done over the last year to one of your friends and rate how much you agree that any of the following reasons explain why you did what you did by filling in one of the circles.

First we'll ask you about these things as they relate to someone you consider a friend. Then we'll ask about them as they relate to someone you don't consider a friend.

	0	1	2	3	4
	Completely disagree	Slightly disagree	Somewhat agree	Moderately agree	Totally agree
1. I thought it would help me get closer to one or more other guys	<input type="checkbox"/>				
2. I thought one or more of my friends didn't like him	<input type="checkbox"/>				
3. I thought it would get me closer to a girl I liked	<input type="checkbox"/>				
4. I just wanted to be accepted by the group	<input type="checkbox"/>				
5. I thought it would make me more popular	<input type="checkbox"/>				
6. I was trying to get back at him for something he did that made me mad	<input type="checkbox"/>				
7. I was angry about something and wanted to put him in his place	<input type="checkbox"/>				
8. I wanted to belong to the 'right' group of friends	<input type="checkbox"/>				
9. It seemed like a fun thing to do at the time	<input type="checkbox"/>				
10. I was bored	<input type="checkbox"/>				
11. I didn't have anything better to do	<input type="checkbox"/>				
12. I thought it would be exciting	<input type="checkbox"/>				
13. I thought he was going to do something bad to me so I	<input type="checkbox"/>				

wanted to do something to him first					
14. I was jealous about another relationship that was developing between him and one of my other friends	<input type="checkbox"/>				
15. I was jealous of a relationship that was developing between him and a girl	<input type="checkbox"/>				
16. I felt insecure about my friendships	<input type="checkbox"/>				
17. I wanted to avoid getting in trouble with adults	<input type="checkbox"/>				
18. I wanted to get my point across to him but stay 'looking nice' to the rest of my friends	<input type="checkbox"/>				
19. I figured it was a socially acceptable way of getting out my anger	<input type="checkbox"/>				
20. I wanted people to still think I was nice	<input type="checkbox"/>				
21. I thought he wasn't cool	<input type="checkbox"/>				
22. I thought he was too emotional	<input type="checkbox"/>				
23. I was envious of something he had	<input type="checkbox"/>				
24. I was jealous of him	<input type="checkbox"/>				
25. Were there any other reasons you did the behaviour that you described? If so, please list them below and rate how important they were: _____	<input type="checkbox"/>				

Now thinking about why you might have done this to a guy who is not your friend, how much do you agree that these reasons explain why you did what you did?

	0	1	2	3	4
	Completely disagree	Slightly disagree	Somewhat agree	Moderately agree	Totally agree
1. I thought it would help me get closer to one or more other guys	<input type="checkbox"/>				
2. I thought one or more of my friends didn't like him	<input type="checkbox"/>				
3. I thought it would get me closer to a girl I liked	<input type="checkbox"/>				
4. I just wanted to be accepted by the group	<input type="checkbox"/>				
5. I thought it would make me more popular	<input type="checkbox"/>				
6. I was trying to get back at him for something he did that made me mad	<input type="checkbox"/>				
7. I was angry about something and wanted to put him in his place	<input type="checkbox"/>				
8. I wanted to belong to the 'right' group of friends	<input type="checkbox"/>				
9. It seemed like a fun thing to do at the time	<input type="checkbox"/>				
10. I was bored	<input type="checkbox"/>				
11. I didn't have anything better to do	<input type="checkbox"/>				
12. I thought it would be exciting	<input type="checkbox"/>				
13. I thought he was going to do something bad to me so I wanted to do something to him first	<input type="checkbox"/>				
14. I was jealous about another relationship that was developing between him and one of my other friends	<input type="checkbox"/>				
15. I was jealous of a relationship that was developing between him and a girl	<input type="checkbox"/>				

16. I felt insecure about my friendships	<input type="checkbox"/>				
17. I wanted to avoid getting in trouble with adults	<input type="checkbox"/>				
18. I wanted to get my point across to him but stay 'looking nice' to the rest of my friends	<input type="checkbox"/>				
19. I figured it was a socially acceptable way of getting out my anger	<input type="checkbox"/>				
20. I wanted people to still think I was nice	<input type="checkbox"/>				
21. I thought he wasn't cool	<input type="checkbox"/>				
22. I thought he was too emotional	<input type="checkbox"/>				
23. I was envious of something he had	<input type="checkbox"/>				
24. I was jealous of him	<input type="checkbox"/>				
25. Were there any other reasons you did the behaviour that you described? If so, please list them below and rate how important they were: _____	<input type="checkbox"/>				

Appendix J

Demographic Information Questionnaire

1. What is your gender? Please circle one MALE FEMALE

2. What is your age? _____ years

3. People sometimes think about themselves in terms of race or the colour of their skin. If you feel comfortable identifying yourself in this way, please answer the question below. You do not have to answer this question if you do not wish to do so. Check more than one if appropriate.

- 1. European-Canadian (White)
- 2. Middle Eastern-Canadian (Iranian, Iraqi, Saudi Arabian, etc.)
- 3. African/West Indian-Canadian (Black)
- 4. Asian-Canadian (Chinese, Japanese, Korean, etc.)
- 5. South Asian-Canadian (East Indian, Pakistani, Sri Lankan, etc.)
- 6. Native-Canadian (First Nations, Native Indian, Aboriginal, Métis, Inuit)
- 7. South/Latin American-Canadian (Mexican, Puerto Rican, Columbian, etc.)
- 8. I don't know
- 9. Other (please specify) _____