

# Relational aggression in adolescents

Exploring the associations with status goals,  
status stress, perspective taking and empathic  
concern within the framework of social goal  
theory

by

Tove Flack

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University of Stavanger  
NO-4036 Stavanger  
NORWAY  
[www.uis.no](http://www.uis.no)

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hierarchy. Maybe one day, we manage to create a safe and more supportive environment for children and adolescents. That is why research within this field must continue.

# Summary

## Background

Relational aggression (RA) is a well-known phenomenon that involves behaviours that intentionally harm others' interpersonal relationships (e.g., spreading negative gossip, purposefully excluding people, sending negative signals). This behaviour peaks during adolescence, which is worrisome because relational aggression can be very damaging to an individual's well-being. Social goals, social stress and psychological resources such as empathic concern and perspective taking play an important role in determining how adolescents manage their social interactions with peers, and more research is needed to explore the associations between these variables and relational aggression in particular. Additionally, the phenomenon of relational inclusion (behaviours intentional aimed at including victimized peers) needs to be elucidated.

## Aims

Not all peer interactions are positive in nature. Some adolescents experience injuries and exclusion from their peer group, while others establish considerable popularity. Hierarchies always emerge within the peer system, and in the process of fighting over popularity, some adolescents may be victimized. Recently, researchers have asked whether RA may be a functional yet negative strategy for pursuing popularity. To better understand this possibility, this thesis explores the association between a) status goals ( i.e., popularity status) and b) status stress (i.e., threats to one's position within the peer group) and RA to determine whether there is any basis for the theory that RA is used to gain and maintain status within the peer context. Not only goals and stress but also psychological resources determine how adolescents interact within the peer group. Psychological resources such as empathic concern and perspective taking may help create prosocial coping

strategies. Another aim of this thesis was therefore to explore the role of a) perspective-taking and b) empathic concern towards victims of RA in explaining RA and RI.

## **Methods**

This thesis comprises three sub-studies (described in Paper 1, Paper 2, and Paper 3) based on cross-sectional data. The target sample consisted of 379 eighth-grade students (average age = 14 years; 200 girls and 179 boys) from 15 classes across three secondary schools in the Stavanger area of Norway. Both self- and peer reports were used to assess the dependent variables, RA and RI. Confirmatory factor analysis (CFA) was used to test all constructs used in this thesis. Structural equation modelling (SEM) was used to test the associations of interest.

**Study 1** investigated the construct validity of the peer relational stress scale (PRS) that was developed for the present study, using CFA, and tested its measurement invariance across two randomly selected subsamples and across gender.

**Study 2** used the status stress sub-scale from the PRS scale to investigate the association between status stress and relationally aggressive behaviour. Additionally, the association between status goals and RA was explored, as was the mediating effect of status stress on the association between status goals and RA.

**Study 3** examined the role of a) empathic concern for victims of relational aggression (ECV) and b) perspective taking in explaining variance in self- and peer-reported relational aggression among adolescents. The extent to which ECV influences the associations of perspective taking with a) RA and b) RI was also explored.

## **Results**

*The results of study 1* showed that affiliation-related and status-related stress are two distinct, though correlated, dimensions of stress in the peer context.

*The results of study 2* indicated that the big majority of the participants desire status goals and that experiences of status stress and RA are common. Additionally status goals were associated with both self- and peer-reported RA. Status stress contributed significantly but not very strongly to the variation in self-reported RA but not in peer-reported RA. Therefore, the results must be interpreted with caution. Status stress did not mediate the association between status goals and RA. Although nothing can be said regarding cause and effect in this study, the positive association between status goals and RA, and the positive association seen between status stress and RA in self-reported data, do give some support to the *theoretical model in this thesis* assuming that RA is a strategy to gain and maintain status in the peer context.

*The results of study 3* showed that ECV was negatively associated with RA but did not explain the variance in RI among adolescents to a notable extent. Perspective taking was positively associated with RA and RI in self-reported data but not in peer-reported data. ECV moderated the relationship of perspective taking with RI and RA in the self-reported data but not in the peer-reported data. The theory that ECV may prevent RA from occurring gained some support as ECV correlated negative to RA in both self-and peer report. Additionally, self-reports indicated that perspective taking skills were associated with both RA and RI. These findings may suggest that the ability to take the victim's perspective has the potential for motivating relationally inclusive behaviour and preventing RA among adolescents who also have a certain level of ECV. However, peer reports did not support these findings, and therefore, the result must be interpreted with caution.

### **Implications for further research and practice**

Based on the findings of this thesis, initiative could be taken to increase the value of friendship goals and decrease the value of status goals among adolescents, and research could be initiated to evaluate the effect of such initiatives. If more adolescents learn to value affiliation over status goals, status stress among peers might decrease, leading to a reduction in the use of relationally aggressive strategies to pursue status goals. Initiatives to increase adolescents' concern for victims of RA could also be introduced in schools. Especially popular and relationally aggressive adolescents could be given the opportunity to participate in initiatives aimed at increasing empathic concern for others. In addition, initiatives could be developed to establish social anti-bullying norms in the peer context.

The results of this thesis was discussed in relation to relevant research and theory about stress, goals and aggression. The results, showing a positive association between status goals and self-reported status stress gave some support to the theory that RA may be a goal-directed strategy aimed at gaining status and addressing status stress. However, the research design of this thesis cannot verify the assumption of the theoretical model. In future research, it may be important to investigate RA within the framework of goals, stress and coping using a longitudinal design. In a social goal model exploring RA as a strategy for gaining and maintaining status, emotional and cognitive factors such as perspective taking and ECV should also be included. Steps could be taken to identify different subgroups within the social hierarchy when studying the relationships between a) status goals, b) status stress, c) perspective taking and d) ECV and RA and RI. The possibility that adolescents in different positions and roles within the hierarchy may have different personal characteristics, different reasoning skills and different coping strategies for gaining and maintaining status and reducing status stress could be explored.



## Lists of papers

*This thesis includes the following three papers:*

### **Paper 1**

Flack, T., Salmivalli, C., & Idsoe, T. (2011). Peer relations as a source of stress? Assessing affiliation- and status-related stress among adolescents. *European Journal of Developmental Psychology*, 8, 473-489.

### **Paper 2**

Flack, T. (2017). Relational aggressive behaviour: the contributions of status stress and status goals. *Emotional and Behavioural Difficulties*, 127-14 <http://dx.doi.org/10.1080/13632752.2016.1255428>

### **Paper 3**

Flack, T. (under submission). Relational aggression and relational inclusion in adolescents: The contributions of empathic concern for victims of relational aggression and perspective-taking.

## List of Abbreviations

RA	Relational aggression
RI	Relational inclusion
ECV	Empathic concern towards victims of relational aggression =
Perceived popularity	(i.e., adolescents who have centrality within the peer group, are dominant and admired)
Sociometric popularity	(i.e., adolescents whom many peers like because they are friendly, prosocial and helpful)

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## 1 Introduction

*When Sara observed the girls in the schoolyard, she hesitated. She felt sick to her stomach as she walked slowly towards the girls, preparing for comments and ugly glances. The moment Sara reached the group, Mary looked at her, rolled her eyes and said to the other girls, "Lets go!" The girls took one another's arms pointedly and walked away from Sara. Sara didn't go after them. She stood back alone in the middle of the schoolyard, feeling humiliated. Her tears threatened to burst out. A new day at school had just begun*

Adolescence is a time characterized by new peer challenges. To become independent individuals who are able to take responsibility for themselves and master social life challenges, adolescents gradually need to become more independent from their parents and establish their own supportive social network among peers. Establishing friends and being accepted within the larger peer group is of great importance to adolescents (Brown, & Larson. 2009; Yoon, Barton & Taiariol, 2004). Adolescents need to figure out how to fit in and how to cope with challenges that occur in their relationships with peers. Hierarchies always emerge within the peer system. Some peers establish high status, while others have average or low status (Brown, Von Bank, & Steinberg, 2008; Horn, 2006). Within the process of establishing different roles, not all peer interactions are positive in nature. Although many adolescents establish good friendships and experience social well-being, others experience injuries and exclusion from the peer group (Brown, & Larson. 2009). Relational aggression (RA) is a well-known phenomenon that involves the use of behaviours that intentionally harm others' interpersonal relationships (e.g., spreading negative gossip, purposefully excluding others; Crick & Grotpeter, 1996). Relational aggression peaks during adolescence (Connor, 2002; Karriker-Jaffe, Foshee & Ennett, Suchindran 2008). Although the prevalence of RA varies among studies, many researchers report that it is worrisomely high during adolescence

(Hemphill et al., 2010; Raskauskas & Stoltz, 2004; Nishioka, Coe, Burke, Hanita, & Sprague, 2011; Chirwa-Mwanza & Menon, 2015). For example, Nishioka et al. (2011) found in a study of 11,561 rural and urban students in third to eighth grades that 41 percent to 48 percent of girls and 31 percent to 42 percent of boys reported exposure to RA in the previous 30 days (Nishioka, et al.,2011).

There is a growing body of literature investigating the association between RA and social and psychological adjustment throughout childhood and adolescence. Research shows that relationally aggressive behaviour can be very damaging to the individual well-being and emotional and social development of both victims and perpetrators. (Crick, et al.,2001; Card, Stucky, Sawalani, & Little, 2008). However, relationally aggressive behaviour also seem to offer some benefits for the perpetrator. Popularity in the peer group has been clearly associated with this type of behaviour (LaFontana & Cillessen, 2002; Rose, Swenson, & Waller, 2004). It must be noted that not all popular adolescents engage in RA. Over the past decade, two distinct dimensions of social status have been identified (Cillessen & Rose, 2005). There are individuals within the peer context, often referred to as sociometrically popular peers, who are popular in the sense that they are considered the most liked by their peers. Peers enjoy their company because they are kind, helpful and supportive. On the contrary, other adolescents are popular not because they are nice to others but because they have status, prestige and power within the peer context. Peers often describe them as “cool” and “dominant”. Many peers admire them, imitate their behaviour and style and want to be just like them. Although adolescents in this group are highly admired, they are often not very well liked (Parkhurst & Hopmeyer, 1998; Rose, Swenson, & Waller, 2004). Peers typically consider them “the most popular ones”, and in research, they are denoted by the label *perceived popular adolescents*. (Cillessen & Rose, 2005; Lease, Kennedy, & Axelrod, 2002). *It is important to note that only the perceived popular adolescent group is associated with RA.* The



association between RA and perceived popularity has lead researchers to suggest that RA may be used to achieve social status (Hawley, Little & Card, 2008; Shoulberg, Sijtsema, & Murray-Close, 2011). According to social goal theory people behave in ways consistent with the pursuit of their goals. People evaluate situations and determine whether those situations can help them reach their goals (Lindenberg, 2008). Especially when adolescents have a high desire for popularity, RA may work as a strategy for attaining their status goals. There is some research supporting this idea (LaFonta and Cillessen, 2010; Hawley et al., 2008; Shoulberg et al., 2011). Research suggest that already popular adolescents may maintain their status by using their dominant position to include and exclude peers according to their own will (Sutten, Smith & Swettenham, 1999; Hawley et al., 2008). Adolescents with a strong desire to become popular may improve their status by engaging in relationally aggressive acts (Shoulberg, et al., 2011), and unpopular peers may engage in RA to improve their position when the group's leaders are relationally aggressive (Brown et al., 2008). Adolescents may also react with RA when they experience a threat to their social position within the peer group. As perceived popularity becomes very important during adolescence (Brown & Larson. 2009; La Fonta & Cillessen, 2010) and competition for status among peers increases (LaFontana and Cillessen 2002), individuals may develop concerns or insecurity about their social standing among peers (i.e., status stress). The possibility of being unsupported and alone can be very frightening and destructive to an individual's well being. Coping strategies in the face of popularity-related stress have hardly been addressed in research. To the best of our knowledge, only one study has indirectly focused on status stress and RA; in that study, Scoulberg et al. (2011) found that girls who had a reputation for valuing popularity but were not popular were at risk of engaging in RA when they exhibited heightened reactivity to exclusion.

In summary: If RA is an effective strategy for attaining and maintaining status, then adolescents in different positions in the hierarchy may be

motivated to behave aggressively not only to gain status or keep status but also to cope with status stress. It is important to conduct studies that increase knowledge of the functions of RA. Without a good understanding of the motives behind this damaging behaviour, initiatives to combat RA may fail. This thesis include both status goals (e.g., goals related to perceived popularity) and status stress (e.g., stress related to the loss of popularity) when exploring the association with RA. In addition, the thesis explores whether status stress mediates the association between status goals and RA.

To investigate the relationship between status stress and RA, it was necessary to develop a measurement of perceived status stress (elaborated in Paper 1). To the best of our knowledge, no previous measurement has been developed to assess this particular kind of stress. The measurement developed in this thesis assesses both status- and affiliation-related peer stress. A new measurement may offer the opportunity to measure the levels of affiliation- and status-related stress and to investigate the associations and relationships between affiliation and status stress and other variables.

Goals are not the only factor that directs behaviour; psychological resources also play an important role in determining how adolescents manage their social interactions with peers. Empathy, in particular, is a resource that is assumed to prevent aggression and foster helping behaviour among peers (Eisenberg, Eggum & Giunta, 2010). However, researchers increasingly recognize that empathy is a multidimensional concept involving cognitive (e.g., perspective taking) and affective (e.g., affective empathy and empathic concern) components that can have different implications for aggression and prosocial behaviour (Caravita, Di Blasio, & Salmivalli, 2009, 2010). The degree to which the cognitive and affective components of empathy differ in their association with aggressive behaviour and helping behaviour is an important issue that has been inadequately examined in the research literature (Zafirakis, 2008).

Empathic concern (displayed as sympathy and concern) and perspective taking (mentally understanding another person's thoughts and feelings) are highly relevant to social behaviour, and more studies are needed to extend our knowledge of how these factors are involved in the process that leads to RA and to the extension of helping behaviours to victims of RA (Caravita et al., 2009). This thesis addresses this gap. Adolescence is a time when interpreting the perspectives of others becomes more complex because of the rapid progression of cognitive ability (Selman, 1980). Adolescents with well-developed perspective-taking skills may be more likely than adolescents with fewer perspective-taking skills to possess attitudes that support prosocial behaviours. Many studies support this idea (Eisenberg, Guthrie, Murphy, Shepard & Cumberland 1999; Miller, Eisenberg, Fabes, & Shell, 1996), and this may explain why perspective taking has been viewed as a natural component of empathy. However, recent research indicates that understanding the perspective and emotions of others does not always lead to caring about others' emotions. Indeed, some researchers have found that perspective-taking skills can be linked to aggressive behaviours (Sutton et al. 1999; Caravita et al., 2009; Hawley, 2003), including RA (Batanova & Loukas, 2011).

Research shows that a general emotional reaction of concern, sympathy, or compassion towards the needs of others leads individuals to help those in need (Eisenberg, et al, 2010). However, some recent research indicates that empathic concern is modulated by the degree of affiliation; it is extended preferentially towards in-group members and less often towards unaffiliated others (Echols & Correll, 2012). Additionally, research on bullying show that peers very rarely defend victims of bullying (Pepler & Craig, 1995), including relational bullying (Jeffery, 2004). These results indicate that it may be especially important to investigate empathic concern that is displayed towards defined target groups. Empathic concern towards specific target groups has largely remained unexplored. This thesis address the question by investigating the association between empathic concern displayed toward victims of

RA (ECV), and RA. In addition, the association between ECV and relational inclusion (RI) is examined in the same study. Relational inclusion is a concept developed within this thesis. Studies of helping behaviour extended directly to victims of RA are rare. Although extensive research has measured defending behaviours during *bullying episodes* (Pouwels, et al, 2017), there is also a need to study intentional helping behaviour that is directed towards targets of RA *in everyday life*. Relational aggression is typically directed towards the victim throughout the day in school, often in sophisticated and covert forms, making the victim feel unwanted and excluded. Therefore, measurements that examine helping behaviour in relation to one specific episode may be insufficient for studying helping behaviour directed towards victims of RA. This thesis address both deliberate acts to exclude peers (RA) and deliberate acts to include excluded peers (RI) in the same study. The two variables are studied in association with general perspective-taking skills and ECV in particular.

The distinction between ECV and perspective taking may be of great importance. It is often assumed that in and of themselves, initiatives that foster the development of the cognitive ability to take another person's perspective decrease aggressive behaviour in children and adolescents and foster prosocial and helping behaviour. This is likely not always the case. In contrast, for some people, training in perspective-taking skills may increase rather than prevent their relationally aggressive behaviour. In an interesting study by Eisenberg, Zhou, and Koller (2001), perspective taking could not directly predict helping behaviour without the mediation of empathic concern. In a study by Batanova and Loukas (2011), high levels of empathic concern were predictive of decreases in both girls' and boys' self-reported RA, over and above the decreases associated with perspective taking. Additionally, Batanova and Lucas (2015) recently found that only empathic concern and not perspective taking reduced subsequent RA. If empathic concern towards victims of

RA is needed to combat RA, then initiatives should be focused more on how to develop this type of empathy in individuals and groups.

In summary: Not only is there a need for more studies that treat the concepts of perspective-taking skills and empathic concern as separate concepts, but the measures of empathic concern need to be context-specific as different contexts may yield a variety of group biases that can affect adolescents' helping behaviour. Additionally, the assessment of active attempts to include victims of RA needs to be addressed in research. To gain more knowledge of this the direct association between a) perspective-taking and b) ECV and a) RA and b) RI are investigated. In addition, the thesis investigates the extent to which ECV influences the associations of perspective-taking with a) RA and b) RI.

Thus, the main aims of this thesis are as follows:

- 1) to develop a measurement of perceived status and affiliation stress.
- 2) to get an indication of the prevalence of status stress, status goals, and RA among eight grade adolescents.
- 3) to investigate the associations of a) status goals and b) status stress with RA.
- 4) to investigate the mediating effect of status stress on the association between status goals and RA.
- 5) to investigate the associations of a) perspective-taking and b) ECV with RA and RI.
- 6) to investigate the extent to which ECV influences the associations of perspective-taking with a) RA and b) RI.

## **1.1 Structure of thesis**

**Chapter 1.** This chapter presents reasons the topics presented within this thesis are important to address in research.

**Chapter 2.** The theoretical and empirical framework for this thesis is presented.

**Chapter 3.** The structure and aims are explained

**Chapter 4.** The design and methods applied in this thesis are presented.

**Chapter 5.** The main findings are presented.

**Chapter 6.** The outcome is discussed in relation to the theoretical model presented in this thesis and in light of relevant theory and research that can elucidate the results. The chapter also give some suggestions about initiatives and future research.

**Chapter 7.** Give some concluding comments related to the results and theoretical model.

## **2 Theoretical Framework**

### **2.1 Aggression theory**

*In this section, RA as a phenomenon is presented in the context of general theory and research regarding aggression and bullying. First, the functions and types of general aggression are presented. Then, how aggression and bullying are related is explained. After that, theory and research regarding the origin, definition and functions of RA is presented. Finally, information regarding the prevalence rates and positive and negative outcomes of RA is provided.*

#### **2.1.1 Aggression**

Every human being experiences aggressive behaviour in life (Tremblay, 2010). Aggression can be defined as the intent to harm, injure, or hurt others (Dodge, 1991; Crick & Zahl-Waxler, 2003; Dodge, Coie & Lynam, 2006). Research on the origins of aggression suggests that people have a genetic predisposition for being aggressive, as in the case of individuals with “difficult” temperaments (e.g., negative emotionality), for example (Rubin, Burgess, Hastings, & Dwyer, 2003; Shaw, Owens, Giovannelli, & Winslow, 2001). However, aggressive behaviour is also influenced by relational experiences (Tremblay & Nagin, 2005; Dionne, Tremblay, Boivin, LaPlante, & Perusse, 2003), such as parents’ aggressive interaction patterns (Underwood, Beron, Gentsch, Galperion & Risser, 2008), and parental attributions regarding aggressive behaviour are thought to be important determinants of childhood aggression (Johnston & Ohan, 2005).

#### **2.1.2 The function of aggression**

Aggressive behaviour has long been categorized as reactive or proactive (Dodge, 1991; Card & Little, 2006; Mayberry & Espelage, 2007). Although there is significant overlap between the two constructs,

reactive and proactive aggression have distinct underpinnings (Mathieson & Crick, 2010; Ostrov & Houston, 2008; Salmivalli & Nieminen, 2002). The concept of reactive aggression has its roots in the frustration aggression hypothesis (Berkowitz, 1963). The frustration aggression hypothesis states that frustration arises when goals are blocked by internal or external factors. The frustration triggers anger and hostility and results in aggressive behaviour (Polman, Orobio de Castro, Kooops, van Boxtel, & Merk, 2007; Dodge, Coie 1987; Ostrov, Murrey-Close, Goleski & Hart, 2013). Proactive aggression has its origin in social learning theory (Bandura, 1973). Proactive aggression seems to be driven by positive expectations regarding the effectiveness of aggression as a social strategy (Crick and Dodge, 1996; Polman et al., 2007) and is displayed to obtain resources or instrumental goals. (Dodge & Coie, 1987). It is presumed that proactive aggression is primarily learned by observing and imitating social models (Polman et al., 2007). Systematic reviews report that proactive and reactive aggression often correlate highly (Card and Little, 2006; Polman et al., 2007) but are unique forms of aggression that are associated with different behaviours and psychosocial outcomes (Crick, Ostrov & Werner, 2006; Scarpa, Haden & Tanaka, 2010).

### *2.1.3 The types of aggression*

Aggression is also divided into relational and physical types. The two types are related but unique (Card & Little, 2006). When physical aggression occurs, people are harmed via physical force or the threat of physical force. Physical aggression consists of behaviours such as kicking, hitting, pinching, punching, and taking objects. Relational aggression is the intent to harm by damaging an individual's relationships through nonphysical behaviours (Crick, & Grotpeter, 1995). This may be done in overt or covert ways, including malicious gossip, social ignoring, social excluding, negative social signals and threats to terminate the relationship (Voulgaridou, I., & Kokkinos, C. M.



2015). Multiple studies have shown that both physical and relationally aggressive behaviours co-vary highly with proactive and reactive aggression (e.g., Card et al., 2008; Loeber, et al. 2009).

#### *2.1.4 Aggression and bullying*

Aggressive acts in general are connected to bullying behaviour in the sense that aggression is the strategy used in bullying. Bullying or victimization, in terms of being a victim of bullying, can be defined as a particular social phenomenon in which children and adolescents are exposed, repeatedly and over time, to aggressive actions from their peers (Olweus, 1973; 1978). When bullying occurs, aggressive behaviour may be manifested in various ways, including relationally aggressive acts. Relational aggression has been identified as a common form of aggression in bullying (Wang, Iannotti, & Nansel, 2009).

#### *2.1.5 Relational aggression*

The first attempts to describe and investigate nonphysical aggressive acts occurred several decades ago. As early as 1941, Gordon W. Allport examined indirect aggression (Allport, Bruner & Jandorf, 1941). Fifteen years later, Buss (1961) referred to a peer-rated measurement that included an assessment of indirect aggression developed by Eron, Laulicht & Walder in 1956. In 1969, Feshbach conducted an empirical study of indirect and direct aggression. Approximately twenty years later, in 1988, Lagerspetz, Björkquist & Peltonen examined gender differences in relationally aggressive behaviour. Since then, interest in studying nonphysical aggressive behaviour has gradually increased, and in recent years, the number of studies has exploded. However, there is still a lack of agreement on common terminology related to non physically aggressive acts (Archer and Coyne, 2005; Leff, Waasdorp & Crick, 2010; Merrell, Buchanan & Tran, 2006). This type of aggressive behaviour has been given different names, such as indirect aggression (Lagerspetz, et al. 1988), social aggression (Cairn, Cairns, Neckerman,

Fergusom, & Garièpy, 1989), and RA (Crick & Grotpeter, 1995). These terms are often used interchangeably, but there are some differences among them. While indirect aggression refers only to covert forms of aggression used to harm others, social aggression and RA include both covert and overt behaviours used to damage relationships and social position. Some researchers do not include facial expressions (e.g., ugly glares) in the definition of RA, while others do.

In this thesis, overt, covert, verbal and nonverbal behaviours that aim to disrupt relationships and friendships, and thereby social position, are included in the concept of relationally aggressive behaviour, defined as “*behaviours that harm others through damage (or the threat of damage) to relationships or feelings of acceptance, friendship or group inclusion*” (Crick, Werner, Casas, Brien, Nelson & Grotpeter, 1999 p. 77). Typical examples of RA include deliberately trying to persuade peers to reject or exclude the target person (Crick & Grotpeter, 1995; Simmons, 2002), spreading vicious rumours or lies about the target (Björkqvist, Österman, & Lagerspetz, 1994; Galen & Underwood, 1997), or expressing negative attitudes towards the target through verbal and nonverbal means (Cairns, et al. 1989).

### ***2.1.6 Reactive and proactive relational aggression***

Researchers have recently begun to examine reactive and proactive functions in relationally aggressive adolescents (Crapanzano, Frick, & Terranova, 2010; Marsee, Weems, & Taylor, 2008). Although the research is limited, there are some differences between the relational proactive (i.e., goal-directed, unemotional) and the relational reactive (i.e., emotional, impulsive) functions of RA (Hubbard et al., 2002). Reactive RA seems to be associated with poorly regulated emotions and anger (Larson & Lochman, 2003) and with heightened arousal when facing peer-related stress (Murray-Close and Rellini, 2012; Wagner & Abaied, 2016). In contrast, proactive RA is associated with Callous unemotional traits (CU traits) and positive expectations regarding the

outcome of aggression (Marsee, Barry, Frick, Kimonis, Munoz & Lau, 2011), a lack of responsiveness to distress cues from others (Frick & White, 2008), and blunted arousal when facing social stress (Murray-Close and Rellini, 2012; Wagner & Abaied, 2016 ). The inter-correlations between reactive and proactive RA show a moderate to large associations among the associated variables (e.g. Dodge & Coie, 1987; Fite, Colder, Lochman & Wells, 2008; Card & Little, 2006; Polman et al., 2007). It is possible that the high correlation between reactive and proactive aggression reflects aggression driven by the combination of emotion and cognition. An examination of instruments designed to assess reactive aggression (for example the questions developed by in Little et al., 2003) show that the item not tap any immediate reactions; rather, they ask the respondent whether emotions made them behave aggressively (e.g., *When I am mad at others, I often gossip or spread rumours about them*). In this thesis, RA is not divided into reactive and proactive items. Only the intent to exclude is assessed in all the questions (e.g., *In the last month, how often have you tried to make other girls (boys) not like a certain girl (boy) by spreading rumours about her (him) or by talking behind her (his) back?*).

### **2.1.7 Prevalence**

Data on prevalence rates of RA are very limited (Young et al., 2006). The proportion of adolescents who engage in RA to some extent seems to be high (Raskauskas & Stoltz, 2004). For example, Wang, et al. (2009), found in a sample of students in grades 6 to 10 (N = 7182) that 24% had been relationally aggressive in the previous two months. However, few studies have reported the proportion of adolescents who engage in moderate or high levels of RA.

### **2.1.8 Negative outcomes**

The majority of research studies has shown that RA has maladaptive effects on both victims (Crick et al., 2001; Prinstein et al., 2001) and

perpetrators (Card et al., 2008; Crick, 1996; Crick et al., 2001; Ostrov & Houston, 2008). Among victims, RA is associated with emotional distress, anxiety, and depression (Hawker & Boulton, 2000; Murray-Close, Ostrov & Crick, 2007; Crick et al., 2006; Card et al., 2008). For example, a meta-analysis conducted by Hawker & Boulton (2000) found that victimized adolescents consistently showed lower self-esteem and reported higher instances of loneliness and increased feelings of anxiousness.

Some research has found that among perpetrators, RA is more closely associated with internalizing problems than other forms of aggressive behaviours (Card et al., 2008). Studies have also shown that being an RA perpetrator is associated with withdrawal, anxiety, depression and somatic complaints (Murray-Close et al., 2007; Crick et al., 2006; Card et al., 2008). In addition, an association has been found between RA behaviour and externalizing problems such as delinquency, defiant and conduct disorder (Prinstein et al., 2001; Keenan, Coyne, & Lahey, 2008); borderline personality features (Crick, Murray-Close, & Woods, 2005); psychopathic-like traits (Marsee & Frick, 2007, Marsee, Silverthorn, & Frick, 2005); ADHD (Blachman & Hinshaw, 2002; Zalecki & Hinshaw, 2004); and callous, unemotional traits (Frick, Cornell, Barry, Bodin, & Dane, 2003). Given these negative outcomes, it is important to ask why many adolescents still chose to act in relationally aggressive ways. This may be due to expectations of positive outcomes.

### *2.1.9 Positive outcomes*

Growing evidence suggests that a particular form of social status, namely, perceived popularity, is particularly associated with relatively high levels of RA in adolescence (e.g., Mayeux & Cillessen, 2008; Rose & Swenson, 2009; Vaillancourt & Hymel 2006). Attaining high status in the peer group is one of the most important goals among adolescents (Dijkstra, Cillessen, Lindenberg, Veenstra, 2010), and recently,

researchers have increased their focus on the possible causes underlying the association between perceived popularity and relational aggression.

## **2.2 Social goal theory**

*In this section, theory and research regarding goals/social goals are briefly presented. Then, what is known about adolescents' status goals and status stress and their co-occurrence with RA are addressed. First, very briefly, the origin of social goal theory and research on the topic of social goals are presented. In particular, research and theory related to adolescent's status goals (i.e., popularity status) and status stress (i.e., threats to one's popularity goals) in relation to RA are presented.*

### **2.2.1 Goals**

A **goal** may be defined as that which an individual strives to accomplish (Locke & Latham, 1990). Goal setting and goal pursuit have been investigated from various theoretical perspectives (Dawes and Xie, 2014). Goal theory assumes that behaviour can better be predicted when the goals of the actor are known. In Bandura's social cognitive theory (Bandura, 1986, 1997) and Higgins' self-discrepancy theory (Higgins, 1987), goals serve as the representation against which the current state or behaviour is compared. Edwin Locke and Gary Latham (1990) incorporated nearly 400 studies about goals into a *theory of goal setting* and task performance. Locke and Latham claimed that goals direct attention and action (Locke & Latham, 1990). People set goals and try to attain them. *Goal commitment*, according to Locke, Shaw, Saari, & Latham (1981), refers to the determination to reach a particular goal. Strong goal commitment is based on the belief that a given goal is highly desirable (Ajzen, 1991; Bandura, 1997; Gollwitzer, 1990; Locke & Latham, 1990). Strong commitment to a goal improves the likelihood that the goal will be attained (Webb & Sheeran, 2006). When people feel *strong goal commitment*, they put great effort into actions that can fulfil their goals. In Lazarus's theory of stress and coping (Lazarus 1999), he

notes that all situations that involve a *strong goal commitment* will be evaluated as meaningful in relation to their outcomes. For example, in the peer context of adolescents, peer group interactions almost always carry the possibility of gaining or losing status in the peer group. If status is important to the person, he or she will evaluate the situation in regard to his or her own status. The individual's goal standards define acceptable levels of accomplishment for a particular goal. For example, different adolescents may have different opinions regarding what constitutes acceptable peer status.

### **2.2.2 Social goals**

*Social goals* can be defined as the types of *social outcomes* individuals want to avoid or achieve (Jarvinen & Nicholls, 1996). *Why social goals are important* may be explained by several theories: Resource control theory (Hawley, 1999) claims that individuals pursue social goals to achieve social benefits and social resources (Hawley, 2003; Hawley, et.al, 2008). According to self-determination theory, the pursuit of social goals (for example, popularity) is thought to help humans satisfy innate psychological needs (Deci & Ryan, 1991, 2000). Agentic/communal theory assumes that humans have two major motives in social interactions: motives for gaining agency and motives related to communality (Buhrmester, 1996; Locke, 2000, 2003). People who have agentic goals are focused on gaining status, influence or power in peer relationships. Those who emphasize communal goals seek to maintain intimacy, solidarity, connection and cooperation with others (Wiggins, 1991).

Despite differences in focus, abstraction and terminology, what these theories share is that goals are defined as motivational forces guiding behaviour and developmental pathways and that goals are key to understanding behaviour (Nurmi, 1991; Dawes and Xie, 2014).

Lazarus and Folkman (1984) claim that every person creates his or her own social construction of reality because each person has a unique identity and individual genes. No person thinks and reasons exactly like another. However, Lazarus and Folkman acknowledge that groups of people do share some observations and reactions and that to some extent, they make considerations and reflections in the same way and therefore may have many of the same goals in life. For example, previous research has identified that status in the peer group is an important goal among adolescents (Rubin, Bukowski, & Parker, 1998; LaFontana & Cillessen, 2010).

### *2.2.3 Social goals in adolescence*

Increasing attention has been paid to understanding adolescents' social goals and how they are formed (e.g., Mansfield & Wosnitza, 2010; Massey, Gebhardt, & Garnefski, 2008, 2009; Nurmi, 1991; Ojanen, Gronroos, & Salmivalli, 2005; Ryan & Shim, 2008). Within the adolescent social goal literature, many different types of goals have been studied, including agentic goals, status goals (i.e., popularity goals), communal goals, prosocial goals, social affiliation goals, social achievement goals, social responsibility goals, social approval goals, social concern goals, and social solidarity goals (e.g., LaFontana & Cillessen, 2010; Ryan & Shim, 2008; Salmivalli, Ojanen, Haanpaa, & Peets 2005; Sijtsema, Veenstra, Lindenberg, & Salmivalli, 2009).

*In this thesis, status goals are the goals of interest, and they are defined as the effort to attain a desired peer status (e.g., perceived popularity) within the peer context.*

### *2.2.4 Desire of status goals*

Attaining high status in the peer group is one of the most important goals among adolescents (Dijkstra, et.al, 2010), especially during early adolescence (Cillessen and Rose 2005; LaFontana and Cillessen 2010;

Dijkstra et al., 2010). Being highly ranked in the peer group during adolescence has some obvious benefits. Peer status reflects prestige, visibility, and reputation and reduces the chance of rejection and exclusion. Popularity in the peer group means having a well-established social place among peers who want to be with you, with whom you have social standing, with whom you can hang out, and who can provide the accepting companionship you need (Cillessen and Marks 2011). Consequently, many adolescents may be motivated to engage in popularity-enhancing behaviours and abstain from behaviour that may diminish their status to help them acquire or maintain popularity (Caravita and Cillessen 2011; Cillessen, Mayeux, de Bruyn & LaFontana 2014; LaFontana and Cillessen 2010). However, not everyone is popular. In reality, group members vary in social status within the group's hierarchy (e.g., Adler & Adler, 1998; Hartup, 1993), and members are either central, average central or not central at all. Since so many people want to be popular, competition arises. The limited number of places at the top of the hierarchy make it necessary for adolescents who value status goals highly to employ strategies for climbing the social ladder. Additionally, it may be important to avoid loss of status as it is obvious that people do not want to become unpopular, unaffiliated and unprotected.

### ***2.2.5 Peer stress and goal pursuit***

Their involvement in groups and the development of close relationships outside the family may make adolescents particularly vulnerable to stress related to their group position. For an event or situation to be considered stressful, it must be perceived as stressful via appraisal processes (Lazarus, 1966; Lazarus & Folkman, 1984). People reflect on aspects of the present reality that stand in the way of attaining their desired future (for example threats to reaching status goals). Through cognitive appraisal, people evaluate events in relation to important goals and the implications or consequences a particular event may have for their well-



being and immediate or long-term goals. For example, because status in the peer group is highly valued during adolescence, many adolescents will evaluate peer situations in terms of the possibility of gaining or losing status: e.g., *Does this particular situation make me feel respected and valued? Do I get the attention I need in this situation? Do I have social control?* Discrepancy between this ideal situation, goal attainment, and the current state generates dissatisfaction and motivates purposeful action (Bandura, 1986, 1997). People evaluate whether they can execute a behaviour that is necessary to realize a specific outcome (i.e., self-efficacy expectations; Bandura, 1977, 1997). They need to believe that the behaviour will lead to a specified outcome (i.e., outcome expectations; Bandura, 1977) and make judgements regarding the general likelihood of that outcome (i.e., general expectations; Oettingen & Mayer, 2002). In other words, people imagine attaining a desired future (i.e., maintaining their current position in the peer group). Then, they evaluate whether the goal is reachable. An event can be appraised as a loss, a threat or a challenge in relation to a particular goal (Lazarus, 1991). Appraisals of threat lead to negative emotions, like for example insecurity and frustration. Appraisals of a potentially positive outcome lead to appraisals of challenge. When adolescents perceive a situation as challenging, they are more likely to use problem-solving strategies (Zimmer-Gebreck, Lees, Skinner, & Bradly, 2009). Coping experts have concluded that behaviours aimed at changing the stressful situation (i.e., instrumental coping) are very common in adolescence (Frydenberg & Lewis, 2000). RA may be a negative problem solving strategy to avoid losing status in the peer group

### *2.2.6 Is relational aggression a status goal-pursuit strategy?*

Growing evidence suggests that peer status in particular is associated with relatively high levels of RA in adolescence (e.g., Mayeux & Cillessen, 2008; Rose & Swenson, 2009; Vaillancourt & Hymel 2006).

It has also been suggested that adolescents in lower hierarchical positions may strategically use RA to improve their status (Adler & Adler, 1998). To pursue social goals, adolescents have the opportunity when interacting with their peers to strategically plan, control, and even shape or change the outcome of an interaction (e.g., Mansfield & Wosnitza, 2010; Nurmi, 1991), and RA may be an effective strategy for gaining and maintaining status. Relational aggression is by definition related to hierarchical issues. When executed successfully, the behaviour results in the exclusion of someone, which leaves the perpetrators in a higher position. In 1998, Adler and Alder suggested that both popular individuals and those who want to be popular engage in aggressive behaviours as a means of gaining status within the peer group. There is some evidence that aggressive behaviour is generally associated with status-related goals (Salmivalli, et al., 2005; Sijtsema, et al., 2009). Additionally, some previous research indicates that self-reports of the extent to which individuals prioritize popularity and adolescents' endorsement of popularity goals are positively linked to RA (Cillessen, deBruyn, and LaFontana 2009; Ryan & Shim 2008; Pronk and Zimmer-Gembeck 2010). Furthermore, having a reputation for valuing popularity (e.g., in individuals whose peers believe they seek popularity) has been associated with RA (Shoulberg, et al., 2011). In addition, it has been suggested that low- status individuals may conform to the expectations of a high-status individual to maintain their own group membership (Brown et al., 2008). For example, one study showed that low-status peripheral peers conformed to the level of social aggression that high-status members of the group displayed (Shi & Xie, 2012).

This thesis explores the possibility that not only status goals but in addition status stress may be associated with RA. The stress literature and research studies have mainly focused on the impact of stressful events (major events, daily frustrations, chronic situations) on mental health (Schwarzer & Schulz, 2003). Earlier research on peer stress shows that peer relation conflicts are among the most important predictors of

stress during adolescence (Bowker, Bukowski, Hymel, & Sippola, 2000; Wagner & Compas, 1990). However, seeking a position in the peer group and keeping that position are also important concerns that might be potential stressors, especially during adolescence. Obviously, striving for status or having status in the peer group present the possibility of occasionally facing status-related peer stress. There is always someone who wants to take over the top position and someone trying to climb the social ladder. Given that there is only moderate consistency in the hierarchical roles that students adopt within the peer context (Goossens, Olthof & Decker, 2006; Salmivalli, Lappalainen, & Lagerspetz, 1998), it is reasonable to believe that many adolescents will experience worries related to their position. Coping comprises the attempts and behaviours undertaking with the aim of changing a stressful situation. Adolescents who feel that their status is threatened in some way or another might attempt to secure their social situation through relationally aggressive acts (Sijtsema, Shoulberg, & Murray-Close, 2011; Owens, Shute, and Slee, 2000). Relational aggression may be a negative but effective problem-solving strategy in response to status stress. If a person thinks he or she can turn the situation around by using relationally aggressive methods (i.e., making others dislike someone who wants to exclude them) RA becomes the problem-solving strategy. One option that can be considered in the face of stress is seeking support. Support is sought from other people and includes emotional support and instrumental help (Zimmer-Gebreck, & Skinner, 2008; Skinner, & Zimmer-Gembeck, 2007) and adolescents are more likely than younger children to turn to peers for support and help with daily frustrations (Zimmer-Gebreck, & Skinner, 2008). A person may try to make to get support from peers in rejecting a particular peer that threaten their status.

This thesis adds to previous research by investigating the association between self-reported status goals and self-reported status stress within the same study. It explores the direct association between a) status goals and b) status stress and RA. The mediating role of status stress on the

association between status goals and RA is also investigated to explore to the degree to which status stress that occurs because of status goals can explain RA.

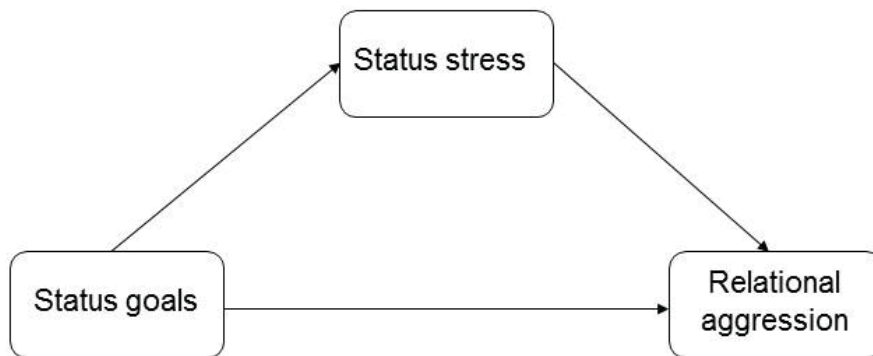


Figure 1 – The figure show the associations explored in study 2. The direct association between a) status stress b) status goals and RA as well as the mediating role of status stress in explaining the association between status goals and RA is investigated

### **2.3 Cognition, emotion and behaviour**

*In this section, relevant theory and research regarding what is know about social behaviour in terms of perspective taking and empathic concern is presented. Perspective taking as a phenomenon is described, and the links between perspective taking and a) helping behaviour and b) aggressive behaviour including RA are presented. The concept of RI is introduced and compared to the overlapping concept of bystander behaviour in bullying situations. Then, research and theory about empathic concern in general and ECV in particular are presented. Finally, what is known about the connection between ECV and RI is presented.*

Even when people have strong goal commitment, other factors may determine the strategies they are willing to use to achieve their goals and address stress. One important personal factor that facilitates social cognition and social behaviour is the ability to understand another's feelings and take other people's perspectives in social situations. In addition, in terms of adolescents' emotional abilities and processes is important for understanding and explaining social strategies.

### *2.3.1 Perspective-taking and behaviour*

Although the underlying mechanisms may vary, most researchers agree that perspective taking involves the ability to move beyond one's own point of view to consider the world from another person's perspective. Within this thesis, perspective-taking focuses on the ability to consider other people's feelings and is defined as "*the ability to imagine another's emotional experience*". As children mature, they gradually realize that different people may react differently to the same situation. In early adolescence, the understanding and interpretation of other people's perspectives become more complex as a result of rapid growth in cognitive abilities. As their perspective taking skills develops, adolescents are better able to understand the emotions and motives of others (Eccles, Wigfield, & Byrnes, 2003). This rapid cognitive growth drastically alters how they understand, communicate and function within the social world (Moshman, 2011).

Overall, significant positive relations between perspective taking and prosocial behaviours have been found. Perspective taking is associated with prosocial behaviour and more favourable treatment of the person (or group) whose perspective is taken (Underwood & Moore, 1982; Eisenberg, et al., 1999c; Miller, et al., 1996), which may explain why perspective taking has been viewed as a natural component of empathy. Adolescents with well-developed perspective-taking skills may be more likely than adolescents with fewer perspective-taking skills to possess attitudes that support prosocial behaviours. Many studies support this

idea (Eisenberg et al., 1999c; Miller et al., 1996). However, a previous study of adolescents (Eisenberg, et al., 2001) found that perspective taking could not directly predict helping behaviour without the mediation of empathic concern. Perspective taking could increase empathic concern, which in turn produced the motivation to help others.

Perspective taking can also be used for negative purposes. Previously, a common hypothesis about aggressive children and adolescents was that they suffer from poor perspective-taking skills (Selman, 1980), but more recent research does not support this theory. Aggressive people seem to fit into different sub-types with different developmental patterns. While some aggressive children and adolescents lack perspective-taking skills, others have advanced perspective-taking skills (Hawley 2003).

A growing body of research on students' engagement in aggressive behaviour emphasizes the role of cognition (Gini, 2006). Studies have found that adolescents who bully have a good understanding of other people's perspectives (Caravita et al., 2009, 2010; Gini, 2006; Gini, Pozzoli, & Hauser, 2011; Sutton, et al., 1999). Limited research has been conducted to investigate the role of cognition in explaining relationally aggressive behaviour (Crain, Finch & Foster, 2005). A few studies indicate that relationally aggressive behaviour is predicted by cognitive aspects of social intelligence (Andreou, 2006; Batanova and Loukas, 2011). It has been suggested that social manipulation requires the ability to understand another person's perspective and interpret available emotional and social cues (e.g., Batanova & Loukas, 2011; Andreou, 2006; Kaukiainen, et al., 1999). A study by Caravita et al. (2009) suggests that a cognitive understanding of other people's feelings (e.g., pure perspective taking) can be used against others, supporting the idea that perspective taking is a neutral tool that can be used for both positive and negative behaviour. Additionally, Pöyhönen, Juvonen, & Salmivalli, (2012) found that eighth graders were less likely to defend victims than fourth graders despite scoring higher in cognitive empathy. A good understanding of other's emotional states can be used by psychopaths to

manipulate their victims (Hart, Cox, & Hare, 1995) and is used by businesspeople to undermine competitors (Hodges & Biswas-Diener, 2007). Inspired by the research exploring perspective taking as a neutral tool, this thesis investigates the association between perspective taking and RA and RI.

### **2.3.2 Relational inclusion**

Relational inclusion (RI) is a concept developed in this study to investigate the association between perspective taking and active attempts to include victims of RA. As no measures existed to assess adolescents' attempts to include victimized peers during everyday life, a new measure was developed as part of this thesis. Relational inclusion is considered a subtype of prosocial helping behaviour (e.g., voluntary behaviour that benefits others, Avgitidou, 2001), and I have defined it as *intentional prosocial behaviour that strengthens victimized peers' relationships and feelings of acceptance and group inclusion*. Typical examples of RI include deliberately trying to persuade peers to accept or include the target person, talking nicely about the person or expressing positive attitudes toward the target through nonverbal signs.

RI overlaps with the concept of *defending behaviour*. Defending behaviour typically describes attempts to help victims of bullying during specific episodes. Within the peer context, defending behaviour includes telling a teacher about bullying episodes, comforting the victim, and directly intervening in bullying situations (e.g., Salmivalli & Voeten, 2004). Relational inclusion is a broader concept that includes all instrumental and intentional attempts to include victimized peers in everyday life (including defender behaviour). A new instrument was needed because relationally aggressive victimization is not characterized by clear episodes of bullying. Relationally aggressive victimization occurs over time, and the humiliation of the target is often covert and subtle in nature. Peers gradually change their attitude towards the target person, talk about the target behind his or her back, and express their

disrespect through different (often covert) behaviours during the day. Helping behaviour directed towards victims of RA should therefore include active attempts to include the person, send the person positive signals and encourage other peers to include the person in everyday life. Because RI is a new concept developed for this thesis, no research has investigated the relationship between perspective taking and RI.

This thesis explores the association between perspective taking and RA and RI to investigate whether it supports the theory that perspective taking is a neutral tool that can be used for either positive or negative behaviour.

### *2.3.3 Empathic concern towards victims of relational aggression and social behaviour*

Empathic concern refers to other-oriented emotions elicited by and congruent with the perceived welfare of someone in need. Empathic concern include not just empathizing but having a positive regard or a non-fleeting concern for the other person. Empathic concern involves feeling *for* the other person and is therefore other-oriented (Batson, 2011). Bateson (2011) claims that feeling for a person who is suffering is the form of empathy most often invoked to explain what leads one person to respond with sensitive care to the suffering of another. Empathic concern and the principle of care are often identified as the most important determinants of helping behaviour. Eisenberg, Eggum & Giunta (2010), Batson (1991, 1998) and Davis (1994) have all reviewed the large body of research showing that an emotional reaction of concern, sympathy, or compassion for the needs of others leads individuals to help others in need.

However, empathic concern may not always lead to helping behaviour. Whether a person will help may depend on the strength of competing motives and on how helping behaviour relates to the competing motives. It seems that although adolescents can suggest relevant strategies to



support victims (e.g., Rock & Baird, 2012), they do not apply these strategies very often. In fact, when children grow older, more approval of bullying (Gini, Pozzoli, Borghi, & Franzoni, 2008; Rigby and Slee, 1991) and less supportive behaviour towards the victims is observed (e.g., Craig, Pepler, & Atlas, 2000; O'Connell, Pepler, & Craig, 1999). Additionally, when victims are asked why their bullying stopped, very few report support from peers as a reason (Frisén, Hasselblad, & Holmqvist, 2012). Defenders in bullying cases take some personal risks regarding their own social standing. Bystanders who defend victims of bullying may also consider themselves potential victims of the bully (Huitsing, Veenstra, Sainio, & Salmivalli, 2012; Nishina, Juvonen & Witkow, 2005). Individuals who defend others do not appear to receive much peer support for their behaviour (e.g., Camodeca and Goossens 2005; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996). Children may choose to not stand by the most rejected victims because other children are likely to distance themselves from low-status peers (Juvonen & Galvan, 2008).

To date, most studies have investigated bullying and defending behaviour in general, and studies of RA and defending behaviour are almost absent. Nonetheless, the identified characteristics of those who defend victims in bullying situations include a high moral sensibility (Hoffman, 2001), anti-bullying norms (Salmivalli & Voeten, 2004), acceptance and popularity (Caravita et al., 2009; Goossens et al., 2006; Salmivalli et al., 1996) and the combination of empathy and social self-efficacy (Gini et al., 2008).

Adolescent empathic concern related to specific contexts has largely remained unexplored and should be addressed. An interesting study by Mc Evoy and Leff (2012) found that greater sympathy towards victims of aggression was associated with less overt aggression and RA according to both peer and teacher reports. In this thesis, the relationship between empathic concern towards victims of RA in particular (ECV) and RA and RI is investigated.

*Theoretical Frame*

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ECV is defined as “*an other-oriented emotional response elicited by and congruent with the perceived welfare of a person who is a victim of relational aggression*”.

In addition, inspired by the study of Eisenberg, Zhou and Koller (2001) suggesting that perspective taking interacts with empathic concern to instigate helping behaviour, the interaction between perspective-taking skills and empathic concern (PT\*ECV) in relation to a) RA and b) RI was explored.

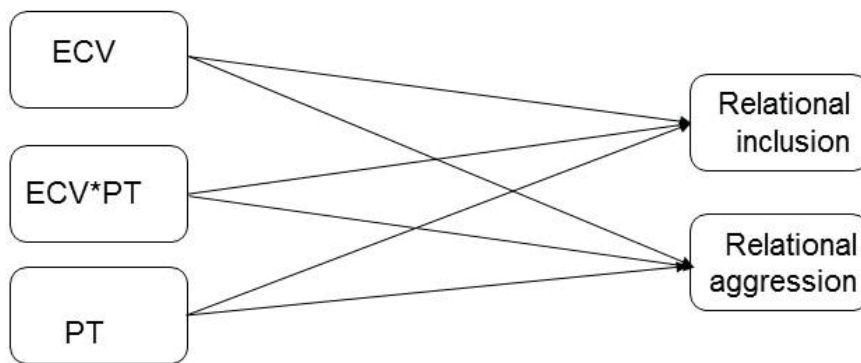


Figure 2 – The figure show the associations investigated in Study 3. The direct associations between a) perspective taking and b) ECV and c) ECV\*PT was investigated.

## 3 Structure and Aims

### 3.1 Research aims

Based on earlier findings presented in this introduction showing that status and affiliation are important and distinct relationship goals for adolescents, and on theory suggesting that all important goals, when threatened, may become specific sources of stress, a new measurement of perceived peer-relational stress was developed within this thesis. The creation of a new measure was necessary because no existing instrument tapped into this particular type of stress.

The following research question was asked:

*Are status stress and affiliation stress distinct but correlated constructs?*

To investigate the level of status goals, status stress and relational aggression in this thesis the following research question was asked:

*What will the reported prevalence of status goals, status stress and RA in this sample of eight grade students be?*

According to the information presented in the introduction, it is evident that RA is associated with perceived popularity. The reason for this association has been the subject of recent attention. Some researchers have asked whether RA may be a functional yet negative strategy for pursuing popularity. Additionally, theories of stress and coping suggest that when adolescents face threats to important goals, they are likely to use problem-solving strategies to cope with the threat. Relational aggression may be used as a strategy to maintain status when status is threatened. To explore this possibility, the following research question was asked:

*To what extent are status goals and status stress positively associated with RA?*

Furthermore, as the introduction shows, stress is more likely to occur in the context of strong goal commitment. It is possible that status goals trigger status stress, which in turn triggers relationally aggressive behaviour. Therefore, the following research question was asked:

*To what extent does status stress mediate the association between status goals and RA?*

As the introduction shows, researchers have asked whether perspective taking may be a neutral tool that people may use for positive as well as negative social behaviour. Based on this theory, this thesis asks the following research question:

*To what extent is perspective taking positively associated with both RA and RI?*

As the introduction indicates, empathic concern seem to prevent aggression and predicts helping behaviour in general; however, at the same time, studies show that adolescents do not seem to defend victims of bullying very often. These findings led to the following research question:

*To what extent is ECV negatively associated with RA and positively associated with RI?*

A review of the literature suggests that empathic concern likely plays a role in the degree to which individuals engage in other-oriented prosocial behaviour and anti-social behaviour. This information led to the final research questions addressed in this thesis:

*To what extent does ECV moderate the associations of perspective-taking with a) RA and b)RI?*

Although this study is cross-sectional and cannot draw conclusions about cause and effect, a theoretical model was developed in this thesis (based on review of previous research and theory) showing the assumptions of

the direction between the studied variables.

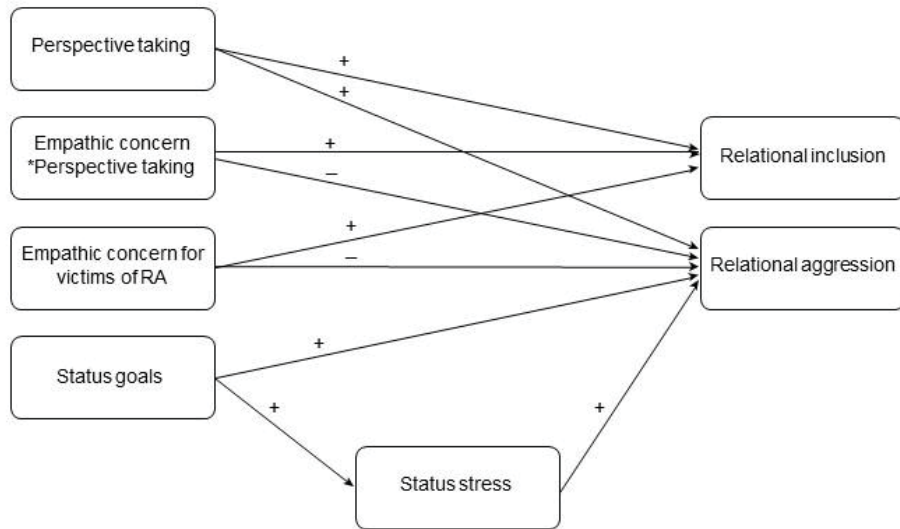


Figure 3 – This figure shows the theoretical model used within this thesis. Plus and minus signs show the positive and negative assumptions regarding the studied associations.

*Structure and Aims*

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## 4 Method

This thesis builds on quantitative data collected specifically for this study. Quantitative research can be defined as a “*systematic scientific investigation of quantitative properties and phenomena and their relationships*”.

### 4.1 The sample

Only a subset of the population (eighth-grade adolescents in Norway) of a particular area, the Stavanger area, was involved in this study. Although a randomized sample would have been more representative, the data collection method required was considered too resource-intensive for this thesis. Because convenience sampling is much faster and less expensive, it was used in this thesis. The researcher selected three public schools in three different areas of Stavanger, Norway, to ask if they would participate in the investigation. Since this investigation involved eight graders from only three schools, it was important to avoid schools with specific characteristics (e.g., a low/high socioeconomic background or a majority of immigrant minority students). The schools’ characteristics were checked through consultation with the heads of the schools. Additionally, the principals of the selected schools had to be willing to ensure good participation rates.

The sample consisted of 379 eighth-grade students (average age = 14 years; 200 girls and 179 boys) from 15 classes across three secondary schools in the Stavanger area of Norway. Active parental consent was obtained, and all the students were informed that their participation was voluntary. Thirty-four students (14 girls and 20 boys) did not want to participate in the study or had parents who did not consent. The reasons these students did not agree to participate are unknown. It is possible that the nonparticipants may be responsible for small differences in the variables’ prevalence rates. However, participation bias in the

associations is unlikely as linearity was assumed in the studied associations. The final sample of 345 students (186 girls and 159 boys) represented 91% of all potential participants.

## **4.2 Research design**

One of the most common and well-known study designs, the cross-sectional design, was used in this thesis. Both self- and peer-reported data were collected. A cross-sectional study is a relatively easy way to perform a preliminary study, and it allows the researcher to focus on certain population groups to gain an understanding of the broader picture. Cross-sectional data can measure the prevalence of all factors of interest and investigate multiple outcomes and exposures. A cross-sectional study is limited in its ability to draw valid conclusions about cause and effect. In this thesis, the main task was to investigate associations between selected variables to determine whether there was any support for the theoretical assumptions of the model. A theory driven questionnaire was developed to assess the variables used to investigate the prevalence rates and the associations of interest in this thesis. A cross-sectional study cannot offer support for any causality in the research design; only future longitudinal studies can determine whether the theoretical assumptions of causality indicated in the model (see figure 3) are supported.

## **4.3 Data collection procedure**

All the participating schools received the same instructions and information about the procedure. The schools received parental consent forms, envelopes and questionnaires. Data were collected using a questionnaire distributed to the students and completed during a school lesson. The lead teacher administered the questionnaire in class according to written instructions. The research leader and an assistant were present at each school to assist in case the procedure or questions were unclear. All the students at the same school completed the



questionnaire at the same time to prevent the students from influencing one another and to ensure reliability (Gall, Gall & Borg, 2007).

The students' anonymity was secured through several procedures. First, the responses were collected using questionnaires on which no names were recorded; instead, students, classes and schools were identified by numbers. Second, the students were seated in a way that prevented them from seeing other students' answers. This was considered important because if students fear that their responses are not confidential, they may be reluctant to answer truthfully, especially if they fear retribution from those they identify as guilty of relationally aggressive behaviours. Third, the participants sealed the questionnaire booklets in an envelope prior to returning them to the teacher. A research assistant was present to ensure that the teacher placed all the student responses from one class in an envelope and sealed it properly.

#### **4.4 Validation of measurements**

According to Messick (1995), measurement validity is a judgement of the degree to which empirical evidence and theoretical rationale support the appropriateness of test score interpretation (Messick 1995). Valid results and interpretation depend on appropriate operationalization of the latent variables under study (Little, Lindenberger, & Nesselroade, 1999). Messick (1995) claims that there are two major threats to construct validity:

- a) Important dimensions of a construct may be absent from the assessment.
- b) Irrelevant variance may bias the measurement instrument.

Messick (1995) lists six issues that are relevant to the validity of an assessment: 1) content validity, 2) the substantive aspect, 3) structural validity, 4) generalizability, 5) the external aspect and 6) the consequential aspect.

- 1) **Content validity** is a subjective judgement that refers to the extent to which the measure adequately samples the content of the domain that constitutes the construct (e.g., the different behavioural expressions of RA that should be included in a measure of RA). Content validity relates to the meaning of the survey score.
- 2) **The substantive aspect**  
The substantive aspect considers the strength of the theoretical rationales for interpreting the survey scores. The substantive aspect adds to the content aspect of construct validity by addressing the need for examining the processes that are involved in the measurement task. (Embretson, 1983; Messick, 1989b).
- 3) **Structural validity** is concerned with evidence based on the internal structure of measurements derived from a given instrument. Such evidence is derived from the examination of model-data fit via factor analysis, item loadings, inter-factor correlations, and so forth. The structure underlying a measure or scale is central to the interpretation of the resulting scores and thus must be addressed as part of construct validation.
- 4) **The generalizability aspect** pertains to the extent to which the construct allows score interpretation to be broadly generalizable within the specified construct. It examines whether an outcome can be predicted in similar circumstances with a certain degree of accuracy (Feldt & Brennan, 1989).
- 5) **The external aspect** of construct validity relates to the degree to which empirical relationships are consistent with the meaning of the construct; i.e., does the concept correlate in predicted ways with other variables at an empirical level (Campbell & Fiske, 1959).

- 6) **The consequential aspect** of validity pertains to the positive or negative social consequences of the test scores. This type of validity almost always refers to educational testing, although theoretically, it could be extended to other areas (Messick, 1989a).

In the method section, important validity issues related to the data collection procedure and measurement development will be discussed. Validity is also addressed in the discussion section.

#### *4.4.1 Content validity*

The content aspect pertains to the boundaries for the construct domain of relevance in relation to all the constructs used within this thesis and the selection of items that represent the concepts that are relevant to the construct domain. It is important to note that an item should represent the construct in a way that ensures that the important parts of its domain are represented (Messick 1995). Steps were taken to ensure that all measurements adequately samples the content of the domain.

First, the research questions were generated according to a social goal theoretical approach. The next step was to generate items to assess the measurements of interest, using construct definitions based on content validation procedures. This was done to ensure that the indicators used to assess the concepts represented the empirical domain. The empirical domain contains all the items that could possibly be assumed to represent the construct. The measurement domain represents an operational definition of the theoretical domain by specifying exactly which observables comprise the construct (Benson, & Hagtvvet, 1996). The items used to assess different concepts in this thesis represent a sample of items stemming from a large pool of potential items that could be used within the empirical domain of the different concepts within the theoretical framework.

In the literature, most research regarding *relational aggression* examines a broad range of socially manipulative behaviours that includes both covert (indirect) behaviours and overt (direct) behaviour; therefore, the harm inflicted through both overt and covert forms of RA had to be assessed. Another important issue when assessing RA is the developmental aspect. RA methods used by small children differ from those used by adolescents. During adolescence, increases in social cognitive abilities lead to sophisticated forms of RA, such as using nonverbal signs and spreading rumours (Murray-Close, Ostrov, & Crick, 2007). The typical RA acts used by adolescents should be reflected by the measurement.

*Relational inclusion* is a new concept developed for this study. The concept overlaps with bystander behaviour, but there are clear differences between the concepts. While items that assess defending behaviour are related to bullying situations (e.g., telling the teacher about bullying, comforting the victim and directly intervening in the bullying situation) (Salmivalli & Voeten, 2004), RI was designed to tap different attempts to include victims in everyday life. Such initiatives may be covert or overt. The same factors that had to be considered when assessing RA also had to be considered when assessing RI. The only difference between RA and RI is the intention of the behaviour. RA relates to the exclusion of peers, while RI pertains to the inclusion of excluded peers. The intention of RI was clearly expressed in each question (e.g., *In the last month, how often have you tried to make other girls (boys) include a certain girl (boy) who is excluded from the peer group?*). All the questions pertaining to RA and RI are presented in the appendix.

To ensure content validity, the assessment of *affiliation and status stress* had to be in line with the theoretical foundation of this thesis. According to Lazarus's theory of stress and coping (Lazarus, 1999), a person evaluates a specific situation in relation to his or her goal commitments. If a goal is important, stress reactions will occur. Therefore, when

assessing status and affiliation stress, it is important to ask participants questions that can precisely capture their appraisal of the status- and affiliation-related stress they experience in relation to their peers. To do so, the specific situations of interest had to be combined with typical stress reactions. Questions about general stress from a previously validated and commonly used measurement, the general PSS scale, (Cohen, et.al, 1983) were connected to specific situations involving the loss of either status or friends within the peer group (e.g., *In the last month, how often have you felt “nervous and stressed” because you were about to lose popularity among the girls (boys) in your class?*). Because it was important to assess newly experienced stress, the participants were asked about their experiences of such situations over the past month.

To ensure the content validity of the assessment of *status goals*, the word “popularity” was used because adolescents use this word to express popularity status (perceived popularity) within the peer group, and the meaning seemed to be quite clear to them. Four different items (e.g., *How important it is for you to be the most popular of all the girls (boys) in your group or class?*) were used to assess the concept of status goals.

Another concept that this thesis aimed to assess was *perspective taking*. Because one aim of the study was to explore the possibility that perspective taking is a neutral tool that may be used for both RI and RA purposes, it was important to tap the participants’ general ability to sense what others might be feeling without assessing any form of affective empathy. Four items from the Feshbach Scale (1975) that reflect cognitive perspective taking (e.g., *I can sense when somebody I am with is getting irritated, even if he/she doesn’t say so*; for a full description of the items, see the Appendix) were used.

Another purpose of the study was to investigate the association between peers who feel concern for victims of RA and RA and RI. The questions developed in Paper 3 to tap *empathic concern* had to be connected to wording that assessed the emotional reaction of concern for victims of

RA in particular (e.g., *When someone tries to make others dislike a person, I feel sorry for that person*). All items are presented in the Appendix.

In this study, boys were asked only about other boys, and girls were asked only about other girls in their class or group. Adolescent girls and boys interact with same-sex peers more frequently than with opposite-sex peers (Mehta & Strough, 2010), and different relationship styles are formed within same-sex male versus female peer groups (Maccoby, 1998).

#### **4.4.2 *The substantive aspect***

Within this research, the substantive issues involved using scores to study the associations between different constructs. Therefore, the participants' interpretation of the questions had to be in line with what the questions were intended to measure. Steps were taken to determine the degree to which the adolescents understood the wording and content of the questionnaire as intended. When the questionnaire was completed, 16 fourteen-year-olds (8 girls and 8 boys) participated in a pilot test prior to data collection. The pilot test aimed to determine this group's interpretation of the meanings of each item of the questionnaire. First, the pilot study participants filled in the questionnaire individually. Second, they noted their understanding of each question. Then, they gave feedback on the questions (e.g., how the questions were worded, whether they understood the questions, whether they felt comfortable answering the questions) and on the questionnaire itself (e.g., whether it was too long; potential barriers to providing good responses). The students understood the wording and content as intended, and the evaluation concluded that the precision (reliability) and accuracy (validity) were acceptable so that the questionnaire could be used to measure the phenomena of interest.

#### ***4.4.3 Structural validation procedure***

The structure underlying a measure or scale is central to the interpretation of the resulting scores (Messick, 1995), and steps were taken to validate the structure for all the concepts examined in this thesis. For all constructs, Cronbach's alpha (Cronbach, 1951) was estimated to determine the reliability of each concept. This value is expressed as a number between 0 and 1. In addition to the Cronbach's alpha, confirmatory factor analysis (CFA) was used. CFA represents the most rigorous approach to reliability because it can test how well the inter-item correlation matrix for a particular measure fits a single or a multifactor model according to the theoretical specifications. In other words, it determines how well the factor model reproduces the correlation matrix that is actually observed. In a CFA measurement model, the item loadings represent how much of the item variance is shared across items. Error is captured by the residual item variance, which indicates how much variance is unique to the item. All the concept used in this thesis had an acceptable to good Cronbach's alpha that varied between .70 and .84. The final CFA models representing the constructs were all good, indicating good structural validity for all the measurements. However, some of the items in a couple of the constructs presented covariance between item residuals that was not explained by the predictor. If the residuals are allowed to correlate, there must be a reason for them to do so. In this thesis, the reasons for these correlations are provided in Paper 2 and 3. The item loadings of the studies were good for all measurement models; they varied from .47 to .90. The fit of all the CFA models was good. Goodness of fit was evaluated according to the recommendations of Browne and Cudeck (Browne & Cudeck, 1993) and Hu and Bentler (1999) using the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR).

SRMR values as high as 0.08 are considered acceptable (Hu and Bentler, 1999), and good-fitting models obtain values less than .05 (Byrne, 1998;

Diamantopoulos and Siguaw, 2000). A RMSEA cut-off value close to .06 (Hu and Bentler, 1999) or a stringent upper limit of 0.07 (Steiger, 2007) seems to be the general consensus amongst authorities in this area. For both CFI and TLI, an earlier convention used .90 as the cut-off for good-fitting models, but there seems to be some consensus now that this value should be increased to approximately .95 (based largely on Hu & Bentler, 1999).

#### *4.4.4 Generalizability of measurements*

It was important to determine whether the concepts used in this survey meant the same thing to the different groups involved in this study. If measurement invariance cannot be established, findings of between-group differences cannot be unambiguously interpreted (Messick, 1995) as it will be unclear whether they are due to attitudinal differences or to different psychometric responses to scale items.

In Paper 2, gender differences are examined; therefore, measurement invariance for gender was tested by using multigroup CFA (MGCFAs).

In Paper 3, it was necessary to test the measurement invariance between adolescents with high and low empathic concern. The factor loadings of the indicator variables on their respective latent variables did not differ across groups for any of the constructs studied. When the meaning of the factors did not differ substantially between gender or empathic concern groups, the outcomes related to group differences more likely could be interpreted as reliable.

#### *4.4.5 External validity of measurements*

Messick (1995) claim that empirical evidence of relationships between the assessment scores and criterion measures must be established to attest to the utility of the scores for the applied purpose. Steps were taken to ensure that the empirical relationships were consistent with the



*Method*

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meaning of the construct. To test convergent and discriminant validity, some constructs were chosen to validate the constructs of interest within this thesis. First, all the construct that were chosen for validation were tested in SPSS to determine whether they had internal consistency. All the constructs had good Cronbach's alpha values ( $r > .75$ ) except overt aggression, which had slightly lower internal consistency ( $r = .69$ ). Then, using CFA, a one-factor model was created in which the constructs chosen for validation and the construct that should be validated were set to load on one factor. The one-factor model was compared with a two-factor model in which the two concepts were set to load on a separate construct. None of the one-factor models fit the data well, while all two factor models fit the data very well, confirming that all constructs used in the thesis were separate and distinct from the concepts that were chosen for validation. Then, to investigate the theoretical assumptions regarding the correlation pattern, each concept of interest was correlated with the concept chosen to validate the pattern. All assumptions of positive correlation, negative correlation or non correlation were confirmed, supporting the validity of the constructs used within this thesis. The correlations presented in Table 1 are those that were not presented within the papers.

Table 1 – Show correlations between the variables in study 3( perspective taking =PT, empathic concern for victims of RA = ECV, relational aggression = RA, relational inclusion = RI) and variables chosen for validation ( bullying, emotional empathy, overt aggression).

	<b>Self-RA</b>	<b>Peer-RA</b>	<b>Self-RI</b>	<b>Peer-RI</b>
<b>Bullying</b>	.43**	.17**	.05	-.06
<b>Emotional Empathy</b>	.09	-.05	.30**	.26**
	<b>PT</b>	<b>ECV</b>		
<b>Emotional Empathy</b>	.59**	.68**		
<b>Overt Agg</b>	-.21*	-.40**		

#### **4.4.6 *Measuring relational aggression and relational inclusion***

The dependent variables in this study, RA and RI, were assessed by using both self- and peer reports. Both self- and peer reports have been found to be valid and reliable methods for measuring relational behaviour (Keenan, Coyne & Lahey, 2008; Little, Jones, Henrich, & Hawley, 2003; Leadbeater, Boone, Sangster, & Mathieson, 2006). Therefore, to obtain a fuller picture of the phenomenon, both self- and peer-reported methods were used to assess RA and RI. Self-reported RA and RI were measured with scales consisting of six items and seven items, respectively. The scale for RA was developed in Paper 2, and the scale for RI was developed in Paper 3. All items are presented in the Appendix. For the self-report measure, the participants reported how often over the past month they had behaved towards same-sex classmates in the ways that each item described using a scale that ranged from 1 (not at all) to 4 (almost every day). CFA was applied to investigate construct validity. The CFA of both the RA scale and the RI scale demonstrated good model fit. The reliability was acceptable for the RA scale ( $\alpha = .70$ ) and good for RI scale ( $\alpha = .84$ ).

Peer-reported RA and RI were measured with four-item scales. In the peer-report scales, a class roster allowed each participant to nominate an unlimited number of same-sex classmates who fit the descriptions in each item. For both boys and girls, the number of nominations per peer varied between 0 and 8 for RA and 0 and 9 for RI across classrooms. The nominations for each classmate were totalled and divided by the number of same-sex classmates completing the evaluation. CFA was performed and demonstrated good model fit for both the RA and RI scales. The reliability of both the RA ( $\alpha = .88$ ) and RI ( $\alpha = .79$ ) scales was good. The measurement models for RA are presented in Paper 2, and those for RI are presented in Paper 3.

#### 4.4.7 *Measuring social peer stress*

The scales for status and affiliation stress were developed in Paper 1, and the items are presented there. The items were based on the Perceived Stress Scale (PSS) developed by Cohen et al. (1983). Whereas the PSS is general in nature (it does not specify the cause of stress), the peer relational stress scales measure specific types of stress related to peer affiliation and status. Instead of directly factoring the stress items, a parceling technique, described by Little Cunningham, Shahar & Widaman, (2002) as a priori questionnaire construction, was used. A parcel is an aggregate-level indicator composed of the average of several single items. Parcels have several psychometric advantages over item-level data, including higher reliability, a lower likelihood of violating distributional assumptions, and more precise scale intervals (Little et al., 2002). The ten items in each factor (affiliation- and status-related stress) that contained both positively and negatively worded items were parcelled. In our questionnaire, twelve items were worded in the negative direction (e.g., *How often have you been upset because...?*), and the remaining eight were worded in the positive direction (e.g., *How often have you felt that things were going your way...?*). A one-factor model was compared with a two-factor model showing that status stress and affiliation stress are two distinct concepts. The participants reported how frequently they had experienced the feelings described in each item in the past month using a four-point scale on which 1 = never and 4 = almost every day. A full description of the measurement's development is provided in Paper 1.

In Paper 2, only 6 items from the peer relational status stress scale were used. The main interest in Paper 2 was taking a first step toward investigating the plausibility of a theory assuming that RA can be considered a coping strategy for reducing status stress and attaining social goals. Therefore, only the status stress factor was used in Paper 2. In addition, the instrument was modified. Positively worded items pertaining to status stress correlated more positively with each other than

with positively and negatively worded within-construct items. This may reflect a method bias typically found in behavioural research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Although parcelling techniques make it possible to eliminate some of the method bias caused by positively and negatively worded items, the reversed items were removed from the scale. With only six items left to assess status stress, parcelling was not necessary. CFA was applied to investigate the construct validity of the modified construct. The model fit was good, and the items yielded good internal consistency ( $\alpha = .86$ ). Full information about the measurement model is provided in Paper 2.

#### *4.4.8 Measuring status goals*

Four status goal items measured self-reported status goals. The participants evaluated the importance of status goals in relation to same-sex classmates using a scale that ranged from 1 (not important at all) to 4 (very important). CFA was run and demonstrated a very good model fit. The reliability of the scale was  $\alpha = .80$ . Information about the measurement model is presented in Paper 2.

#### *4.4.9 Measuring perspective taking*

To assess the degree to which the students understood another person's emotions, four items from the Feshbach scale (1975) of cognitive empathy were used. The items reflect emotional perspective taking (e.g., *I can sense when somebody I am with is getting irritated, even if he/she doesn't say so*; for a full description of the items, see the Appendix). The participants responded on a scale from 1 (I do not agree at all) to 4 (I completely agree). CFA was run and demonstrated excellent model fit. The reliability of the scale was  $\alpha = .68$ . Information about the measurement model is presented in Paper 3.

#### **4.4.10 Measuring empathic concern towards victims of relational aggression**

Four items created for the study assessed empathic concern for peers who are targets of RA (e.g., *When someone tries to make others dislike a person, I feel sorry for the person*). The participants responded to the items on a scale ranging from 1 (I do not agree at all) to 4 (I completely agree). After some modifications were made, the model fit the data well. The items had good internal consistency ( $\alpha = .83$ ). Full information about the measurement model is presented in Paper 3.

### **4.5 Analysis**

The statistical data analyses included descriptive statistics, Cronbach's alpha, CFA and structural models within the framework of structural equation modelling (SEM). Descriptive analyses were conducted by using SPSS (IBM Corp., released in 2012). For all the other analyses, Mplus 5.2 software was used (Muthen & Muthen, 1998–2010).

In this project, there was little missing data (less than 2%). When the missing data were inspected, no pattern was detected that suggested that the data were not missing at random. Because it was assumed that data were missing at random (MAR), the full-information maximum likelihood (FIML) procedure applied by default in Mplus 5.2 (Olinsky, Chen, & Harlow, 2003) was used to handle missing data. When FIML is used, missing values are not replaced or imputed. Missing data are handled within the analysis model. The model is estimated using an FIML method so that all available information is used. FIML estimates the population parameters most likely to produce the estimates from the sample data that were analysed.

In this study, some of the variables were skewed. Therefore, to address non-normal data, the maximum likelihood robust (MLR) command in Mplus was used. Under MLR, model fit statistics must be adjusted based

on an estimated scaling factor. The Satorra-Bentler scaled (mean-adjusted) chi-square test was used to approximate a better chi-square value under conditions of non-normality (Satorra & Bentler, 2010).

The data were hierarchical (students nested within school classes), which may have resulted in inaccurate standard errors for the estimates. Analyses were conducted to check the intra-class correlations of all items within all constructs. Clustering may create dependencies in the individual data. Investigation of the intra-class correlations of all self-reported items within all the constructs showed that the classroom differences for self-reported concepts were small (from *0.002 to 0.054*), suggesting that almost all variation was due to individual rather than classroom differences. However, for peer reports of RA and RI, the classroom differences were high (from *0.11 to 0.16* and from *0.19 to 0.30* respectively). To correct the standard errors, all models were run with the TYPE = COMPLEX analysis in Mplus. This approach computes standard errors and a chi-square test of model fit while taking cluster sampling into account. The significance of the results did not change in any models when a model that did not use the complex analysis was compared with a model that used complex analyses; therefore, it was assumed that the classroom differences found would not disturb the standard errors at an individual level in the analysis.

## 5 Results

### 5.1 Summary of Paper 1

Flack, T., Salmivalli, C., & Idsoe, T. (2011). Peer relations as a source of stress? Assessing affiliation- and status-related stress among adolescents. *European Journal of Developmental Psychology*, 8, 473-489.

In this study, we introduced a new instrument to measure peer relational stress and tested its validity among Norwegian teenagers. The aim was to conceptualize social peer stress within a social cognitive goal framework. According to Lazarus' transactional theory of stress and coping, a person evaluates a specific situation in relation to his or her goal commitments (Lazarus, 1999). If a goal is important for a person, stress reactions will occur. In accordance with the transactional view, we wanted to assess stress related to the appraisal of threats towards a) status and b) affiliation within the same-sex peer group at school. To assess appraised affiliation stress and status stress among adolescents, questions about general stress from a previously validated and commonly used measurement, the general PSS scale (Cohen et al., 1983), were connected to specific situations involving either the loss of status or the loss of friends within the peer group (e.g., *In the past month, how often have you felt "nervous and stressed" because you were about to lose popularity among the girls (boys) in your class?*). The scale was developed to tap the degree of unpredictable, uncontrollable, and overloaded feelings related to the appraisal of threats to affiliation or status within the same-sex peer group. This was done by changing the questions in the PSS measurement from general to specific (e.g., *How often have you been upset because you were about to lose status in your group of friends?*). As in the PSS scale, the specific scale asked about feelings and thoughts during the past month. Assessing new feelings in a measurement is important. Self-reports of current emotional experiences are likely to be

more valid than self-reports of emotions that are somewhat distant from the relevant experience (Mauss & Robinson, 2009). We investigated the construct validity of the peer relational stress scale by using CFA. A one-factor model assuming that affiliation and status stress were reflected by a single factor was compared with a two-factor model assuming that status and affiliation reflected two different types of peer stress. The two-factor model fit the data very well and supported the assumption that affiliation- and status-related peer stress are two distinct yet highly correlated dimensions of peer stress. Measurement invariance was checked between two random sub-samples and across gender. No significant differences were found, indicating that the measurement had good validity. Additionally, good construct validity was confirmed through tests of convergent and discriminant validity.

## **5.2 Summary of Paper 2**

**Flack, T. (2017). Relational aggressive behaviour: the contributions of status stress and status goals. *Emotional and Behavioural Difficulties*, 22 (2), 127–141.**

Previous studies Previous studies Ppphas as far as known never included status goals and also directly assessed status stress when studying RA among adolescents. This study investigated the prevalence of status goals, status stress and RA as well as studying the association between a) status stress and b) status goals and RA in a sample of 345 adolescents (grade 8th) from Norwegian secondary schools. In addition the mediating effect of status stress on the association between status goals and relational aggression was explored. Confirmatory factor analysis was used to investigate construct validity and structural equation modelling was used to explore the associations of interest.

The results of the study support earlier findings that status goals are important for adolescents - the majority of the adolescents reported that status goals were very important or important. Only 13% did not find



status goals important at all. In addition, this study showed that in this sample, status stress was quite common as about 35 % of the participants in this study reported struggling to some degree with status stress related to their same-sex peers in the past month, and 22% reported experiencing frequent status stress during the same period. Additionally, the study revealed that approximately 55% of all the students were relationally aggressive to some degree during the past month. The study further revealed a connection between status stress, status goals and RA. Status goals were associated with both self- and peer-reported RA, supporting the theoretical possibility indicated in previous research that RA may be a strategy for attaining status among adolescents who desire it (Hawley, 2003). Status stress contributed significantly but not strongly to explaining the variation in self-reported RA but not in peer-reported RA, suggesting that it is theoretically possible that only a minority of adolescents use RA to cope with status stress. Furthermore, status stress did not mediate the effect of status goals on RA, indicating that status goals and status stress are two separate sources that directly contribute to RA.

Paper 2 also addresses gender differences in outcomes. No gender differences were observed among the adolescents who reported frequently experiencing status stress within the past month, but the girls more often reported of being status stressed sometimes over the previous month compared with the boys. No gender differences were found in the level of status goals. Additionally, no significant differences between boys and girls were found in any of the regression paths in the study.

### **5.3 Summary of Paper 3**

**Flack, T. (under submission) Relational aggression and relational inclusion in adolescents: The role of empathic concern for victims of relational aggression and perspective taking.**

This study examined the role of a) ECV and b) perspective taking in explaining self- and peer-reported RA and RI in a sample of 345 (grade 8th) adolescents. CFA was used to investigate construct validity, and SEM was used to explore the association of interest. The results showed a direct and relatively strong negative association between ECV and self-reported RA and a moderately strong association between ECV and peer-reported RA, supporting research showing that empathic concern in general prevents aggression (Eisenberg, Eggum & Giunta, 2010). However, although adolescents may feel empathic concern for peers who are excluded from the group, ECV did not seem to be a strong motivator of relationally inclusive behaviour in this study. Only a small positive but statistically significant association between ECV and self-reported RI was found, and the association between ECV and peer-reported RI was nonsignificant. This result does not support earlier findings identifying empathic concern as the most important determinant of helping behaviour (Eisenberg et al., 2010).

Furthermore, the self-reported data showed that perspective taking was significantly and positively associated with both self-reported RI and RA, supporting claims that perspective taking may be a neutral tool that can be used for positive and negative purposes (Kaukiainen et al., 1999). However, no associations between perspective taking and peer-reported RI and RA were found, and therefore, the results must be interpreted with caution. The moderating role of ECV was also explored in this study. ECV moderated the association between perspective taking and RA and RI in the self-reported data but not in the peer-reported data. The findings in the self-reported data suggested that the ability to take the victim's perspective only has the potential to motivate relationally inclusive

behaviour and prevent RA among adolescents who also have a certain level of ECV. The different results observed for the self- and peer-reported data in this study may be the results of bias in the measurement of RA and RI in either the self-reported or peer-reported data. It is also possible that the measurement methods are not biased but only provide supplementary information. This possibility is discussed in Paper 3. Overall, the results suggest that developing initiatives that increase adolescents' ECV may be useful for preventing RA and fostering RI.

*Results*

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## 6 Discussion

This thesis examined aspects related to the motives for RA among adolescents. A new instrument for assessing perceived affiliation and status stress was developed and validated. Then, the prevalence of status goals, status stress and RA was investigated, along with the association between a) status goals and b) status stress and RA. In addition, the mediating effect of status stress on the association between status goals and RA was explored. Additionally, the association between a) perspective taking and b) ECV and RA and RI was investigated. In addition, the extent to which ECV influences the associations of perspective taking with a) RA and b) RI was explored. Although the research design could not verify the assumptions of the structural equation model used in this study, the outcome gave some support to the theory that RA may be a coping strategy that at least some people use to achieve and maintain status. The data also indicate that ECV may be an important factor in reducing RA and that perspective taking at least for some adolescents, correlates with both RI and RA.

### 6.1 *Development of the peer relational stress scale*

In this thesis a new instrument, based on the Perceived Stress Scale (Cohen et al., 1983) the peer relational stress scale (PRS), was developed and its validity was tested among Norwegian teenagers. Based on earlier findings showing that status and affiliation are distinct relationship goals for adolescents (Ojanen et al., 2005; Salmivalli et al., 2005) we assumed that affiliation and status stress should be two distinct sources of stress. The following question was asked; *Are status stress and affiliation stress distinct but correlated constructs?* The two factor model of peer-relational stress fitted the data well, supporting that status and affiliation related stress are two separate constructs. This is consistent with Lazarus theory of stress suggesting that important goals, when threatened, may

become distinct sources of stress (e.g., Lazarus & Folkman, 1984). The constructs of affiliation- and status-related stress were strongly correlated. This was not surprising. First, peer difficulties often include both loss of status and friendlessness (Bukowski, Pizzamiglio, Newcomb, & Hoza, 1996; Salmivalli & Isaacs, 2005). Secondly, adolescents who are prone to stress are likely to experience stress in several life domains (Liu, & Alloy, 2010). However, the high correlation caused some problems related to co-linearity between the two concepts. This is discussed in paper 1 and is also addressed later in the discussion part, in the validity section. Paper 1 add to research by presenting an instrument that can measure status and affiliation stress related to peers in particular. Stress can have many negative influences on adolescents' mental health and emotional and social functioning, such as both internalizing and externalizing difficulties, (Schneiderman, Ironson & Siegel, 2005). Therefore, it is important to investigate social stress among adolescents. The scale developed in conjunction with this thesis add to other assessments of stress by specifically measuring affiliation- and status-related stress within the peer group. According to the social goal perspective, stress reactions are more likely to occur when goals are appraised as important. Because goals related to affiliation and status are important among adolescents (Ojanen et al., 2005), there is an urgent need for measurements aimed at assessing affiliation- and status-related stress that occurs in the peer group. This new instrument gives researchers an opportunity to study the extent of affiliation- and status-related stress among adolescents and to examine how adolescents cope with these particular types of stressors. However, it is possible that the instrument should be modified in future research. This is discussed in the validity section later in this chapter.

## **6.2 The prevalence of status stress, status goals, and relational aggression**

One interest in this thesis was to investigate the prevalence of status goals, status stress and RA among eighth-grade adolescents. The following research question was asked: *What will the reported prevalence of status goals, status stress and RA in this sample of eight grade students be?* The identified prevalence rates must be interpreted with caution because this study employed a convenience sample. However, the result is interesting and should be noted. First, in line with earlier research (Rubin, Bukowski, & Parker, 1998; LaFontana & Cillessen, 2010) the vast majority of the participants (approximately 85%) in this study reported that status goals were important. Social goal theory emphasizes that people will strive to accomplish goals that are important to them (Locke & Latham, 1990). This means that adolescents will direct their attention and actions toward attaining status. Status in the peer group obviously has some advantages: It provides an opportunity to influence the peer group, to be admired and to enjoy the company of others (Hawley, 2003; Hawley, Little & Card, 2008). However, status goals are not necessarily healthy for adolescents to have. Those who gain perceived popularity sometimes engage in RA. Not only do victims suffer when exposed to RA from perceived popular adolescents (Crick et al., 2001), but perceived popular RA perpetrators also get social and emotional difficulties (Card et al., 2008), and they are not well-liked by their peers (Rose, Swenson, & Waller, 2004).

Second, a high prevalence of RA (approximately 55%) was found. Considering that other studies also report a relatively high prevalence of RA (Raskauskas & Stoltz, 2004; Wang, Iannotti & Nansel, 2009), it is possible that the result of this study reflect a general tendency toward a high prevalence of RA in adolescents, which raises concerns. Relational aggression is a very destructive behaviour. In cultures where RA is common, many peers struggle with emotional and social functioning in everyday life.

Third, the results indicated that status stress within this sample is common. Twenty-five percent of the participants reported struggling with status stress occasionally during the past month, and 22% reported experiencing status stress frequently during the same period. If a substantial percentage of adolescents experience status stress within the peer group, as this study indicated, it could represent a psychosocial risk. Peer-related stress among adolescents is associated with anxiety, depression, and behaviour problems (Zimmer-Gembreck and Skinner, 2008). The high prevalence of status goals, status stress and RA found should be taken seriously. Even though this was a convenience sample and therefore, the result must be interpreted carefully, it is possible that the results represent adolescents in general. It may be important for further research to investigate the prevalence of status stress, status goals and RA in more representative samples.

### **6.3 The role of status stress and status goals in relational aggression**

Another research question; *To what extent are status goals and status stress positively associated with RA?* was raised in paper 2. A positive and moderately strong association between status goals and both self- and peer-reported RA was found. A similar association was found in previous studies (Cillessen, de Bruyn & La Fonta, 2009; Ryan & Shim, 2008). Because this was a cross-sectional study, it is not possible to state with certainty what this association between status goals and RA means. The correlation between RA and status goals may be explained from different perspectives. However, this thesis discussed the outcomes in relation to social goal theory. One possible explanation is that RA functions as an effective strategy for achieving status goals within the peer hierarchy for different adolescents with different individual characteristics. Within social goal theory, goals serve as the representation against which the current state or behaviour is compared. Social goal theory emphasizes that people strive to achieve goals that are



important to them (Locke & Latham, 1990). When people feel a strong goal commitment to attaining status (as they did in this study), they will put considerable effort towards actions that can fulfil their goals. It is possible that adolescents may be willing to forgo prosocial actions and treat others negatively through RA to maintain or increase their own status because status confers some important benefits, and RA is a method for obtaining status. It is possible that RA is an effective aggressive way of gaining access to admiration, power and companionship in the peer context while simultaneously avoiding the negative consequences associated with overt aggression. (Cote, Vaillancourt, Baker, Nagin, and Tremblay, 2007). When a perpetrator manages to manipulate others ( e.g., members of a group, the majority of classmates and sometimes students across classes ) to reject a particular student it is a marker of social success for the perpetrator. The more support a perpetrator has, the more power he or she gains. Additionally, RA has been suggested as a possible strategy for climbing the social ladder (Simmons, 2000; Pronk et al., 2010) especially when the leaders already exhibit RA (Simmons, 2000; Pronk et al., 2010). An adolescent who pleases a relationally aggressive RA leader by actively excluding someone may earn their way into the RA popular group (Pronk et al., 2010). In addition, low-status individuals may conform to the expectations of a high-status relationally aggressive individual to maintain their own group membership (Brown et al., 2008; Shi & Xie, 2012). To sum up: results from earlier studies indicate that a possible explanation for the correlation between status goals and RA found in this study is that in practice, RA may function as an effective but negative problem-solving strategy for gaining or maintaining status within different positions in the hierarchy.

The findings presented in paper 2 also suggest that perceived status stress is quite common among adolescents. However, the degree to which status stress is associated with RA is less clear. In this thesis, status stress accounted for a significant but relatively small amount of the variance in

self-reported RA, but the association was not confirmed in peer-reported data. The positive correlation between self-reported status stress and RA could be a methodological artefact. Some people are 'extreme responders' who like to use the edges of scales; others score near the midpoints and rarely use the outermost points (Austin, Gibson, Deary, I McGregor, & Dent, 1998). It is possible that adolescents systematically over score their status stress. In contrast, it may not be likely that adolescents have a general tendency to use the edges of the scale when reporting status stress. Respondents in general tend to report in a way that reflects positively on their own abilities, knowledge, beliefs, or opinions (Cook and Campbell, 1979), and status stress is likely not a characteristic that adolescents would interpret as positive for their self-representation. Although method bias cannot be excluded as an explanation, it is also possible that the result is not biased. Self- and peer reports correlated only moderately in this study, supporting researchers' claims that self- and peer reports may provide complementary information about RA (Juvonen, Nishina, & Graham, 2000). It is possible that peers do not identify all relationally aggressive peers as relationally aggressive. When a person's RA style is mainly indirect and discrete, peers may fail to identify him or her as relationally aggressive. For example, many adolescents who report themselves as status stressed may know that they participate in relationally aggressive behaviours (for example, gossip and talking behind people's backs) on occasion and report doing so. Their peers, however, may not think of such people as relationally aggressive if they a) do not frequently engage in RA acts, b) are not very visible within the group and c) are indirect in their RA acts.

Visible and more dominating adolescents may have different characteristics. First, visible and perceived popular adolescents have support from peers, which may reduce stress regarding their status. In addition, RA and dominance in adolescents has been associated with psychopathology (Tackett, & Ostrov, 2010), which implies flattened emotions. In other words, self-reports may be better suited for detecting

characteristics related to less visible and less dominant adolescents, and peer report may detect the more visible and dominant peers. Visible and dominant peers may not be very status stressed.

Given that the correlation between self-reported status stress and RA is not biased, different factors may cause this correlation. According to the transactional theory of stress and coping, when people experience threats to their important goals, stress will occur (Lazarus & Folkman, 1994), and they will do something to cope with the stress. Attempts and behaviours to change a stressful situation (i.e., instrumental coping) seem to be common among adolescents (Frydenberg & Lewis, 2000). The theoretical model applied in this thesis argues that stress reactions when status is threatened may trigger strategic relationally aggressive behaviour. First, emotion may come into play because it is frightening to perceive threat to one's status. It is reasonable to think that many people who experience an immediate threat to their status may become emotionally aroused and experience feelings such as anger, frustration or fear. Especially when such threats are communicated by those high in power, they can elicit a fear of being excluded. When threats are communicated by those of equal or lower power, anger (Lelieveld et al. 2012) and a desire for retaliation (Wang et al. 2012) may occur. However, even when emotion comes into play, the person may not necessarily react immediately in an impulsive and reflexive (i.e., reactively aggressive) manner towards peers. Strong emotions that arise in a particular situation fade gradually after the incident. A strategy for minimizing the magnitude of an emotion is to allow time to pass before making decisions. Extensive literature has documented the power of rationalization to return emotional states to baseline levels after heightened reactions (Wilson & Gilbert 2005). Although anger or frustration contribute to aggressive behaviour, rational cognition may come into play once people cool down, and strategic, instrumental relationally aggressive acts may be performed as a means of coping with the stressor when status is threatened. There are empirical and theoretical

reasons to suggest that reactive relationally aggressive behaviour (i.e., retaliation through acts such as social exclusion or spreading rumours) may be facilitated by effortful control (Dane & Marini, 2014). Effortful control is a dimension of temperament related to the self-regulation of emotional reactivity and behaviour. It allows increased control over actions and adjustment to situational demands in a flexible and wilful manner (Eisenberg, Spinrad, & Eggum, 2010; Rothbart & Bates, 2006).

There are reasons RA may be suited to addressing situations in which status is threatened. For example, if a member of a group desires status and suddenly seems to be receiving less attention at the same time someone else in the group is getting more attention, status stress may occur. To cope with the situation, the person may try to make others dislike the person who is getting more attention so that he or she no longer threatens the first person's position. People's beliefs about their abilities to reach a particular goal (e.g., "*I am able to make the others dislike Lisa*") influence what they choose to do in a particular situation and why they choose certain strategies above others (Bandura, 1986). Adolescents who view stressful situations as challenges tend to use problem-solving strategies (Skinner, & Zimmer-Gembeck, 2007), and RA may solve the problem (e.g., If peers turn away from the target, then the threat of loss of status is gone, and status stress will disappear).

Second, in a context where RA is common and the group leaders are popular, adolescents may constantly feel insecure about their status, and status stress may occur. In such cases, participating in gossip, talking behind others' backs and supporting relationally aggressive popular adolescents in their effort to exclude other peers may make group members feel safer from being a target themselves, and that may reduce their fear of losing status. Such thoughts are in line with recent work by Sijtsema et al. (2011). They found that girls who had a reputation for valuing popularity but were not popular were at risk of engaging in RA when they exhibited heightened reactivity to exclusion. Additionally,

some victims of RA may try to attain a better position in the hierarchical standing within the group through relationally aggressive acts.

All in all, the association between status stress and RA is rather weak. However, at least some of the adolescents in this study reported both experiencing status stress and engaging in relationally aggressive behaviour. Although no conclusions can be stated with certainty, the findings do not eliminate the possibility that some adolescents may use RA to cope with status stress and maintain status within the peer hierarchy.

This thesis also investigated the mediating role of status stress in the association between status goals and RA. The following question was asked: *To what extent does status stress mediate the association between status goals and RA?* The results do not support the notion that strong status goals increase the risk of experiencing status stress, which in turn may elicit relationally aggressive behaviour. Instead, the results support the idea that the goal of achieving high status in itself motivates some adolescents to engage in relationally aggressive acts. It is possible that already perceived popular RA adolescents that score high on status goals appraise situations implying possible threats to their status as challenging rather than threatening. They already are popular and have social support. Therefore, they may have the confidence that if they just continue to manipulate their social worlds through RA they may maintain and enhance their already high status (Cillessen and Mayeux 2004; Rose, Swenson, and Waller 2004). In addition, callous and unemotional (CU) traits have been associated with RA (Czar et al. 2011; Marsee et al. 2014). Adolescents with CU traits have demonstrated reduced sensitivity to stressful and threatening stimuli (Brenden et al. 1999). It is possible that some of the adolescents that desire status in the peer group not so easily become stressed because they have blunted emotions. This may partly explain why status stress does not mediate the association between status goals and RA in this study.

Another possible explanation for why status stress did not mediate the association between status goals and RA in this study may be that this study do not differentiate status goals. In this study many adolescents report of status stress. Lazarus claims that people more likely experience stress that is related to their important goals ( Lazarus, 1999). It is possible that status goals should be conceptualized by more than one dimension. Adolescents may have status goals related to different positions in the peer group. Some adolescents may have a goal of being a member of the leading group, while others may be happy if they are accepted by the popular group. Others again may have a strong commitment to keep the status they already have rather than desire a higher status. It is possible that the relation between status goals, status stress and RA would be better enlightened if RA was studied in a model where adolescent were placed into sub groups based on their position (low, medium and high position in the group ) and status goals was divided into different dimensions of status goals. Future research should address this possibility in bigger and more representable samples.

It must be clearly stated that the design of this thesis does not permit a conclusion regarding the cause of the association between status goals and RA and status stress and RA. However, based on previous research and theory, there are good arguments for further studying the possibility that RA is a strategy aimed at gaining and maintaining status in different positions within the hierarchy.

#### **6.4 *The role of perspective taking and empathic concern in relational aggression***

It is important to understand how cognitive factors such as perspective taking and emotional factors such as empathic concern are related to RA and RI. Driven by research examining whether perspective is a neutral tool that can be used for both positive and negative purposes, the following research question was raised in study 3: *To what extent is perspective taking positively associated with both RA and RI?* The results

showed that perspective taking was only positively associated with both RA and RI in self-reported data. Based on this finding, no clear assumptions can be made about the associations between perspective taking and RA and RI. However, the results from self-reported data support other studies' suggestions that the ability *to understand* others is not always correlated negatively with RA ( Hawley,2003; Caravita et al., 2009) and that at least for some adolescents, perspective taking is associated with RA, while for some others, it is associated with RI. Because this was a cross-sectional study that cannot draw conclusions regarding cause and effect, the results can only be discussed in light of previous research and theory. One possible explanation for this outcome is that perspective taking is a neutral skill that may be used for both positive and negative social purposes, depending on how other cognitive factors interplay. Some scholars have argued that emotional and motivational factors affect social perspective-taking ability (Chandler, 2001; Gehlbach, 2004b). A factor that could interact with perspective taking is *interpretation of the situation*. In an interesting study, Thornberg, et al. (2012), investigated how bystanders in bullying cases responded. They found that not all adolescents interpreted the situation as harmful to the victim (Thornberg et.al, 2012). This may be especially true in the case of RA victims because relationally aggressive acts occur over time and are often indirect, sophisticated and not very dramatic. Not all peers may be aware of the harm the situation causes for the victim. If there is no perceived harm, there may be little motivation for adolescents to use their perspective-taking skills to help the victim.

*Moral evaluation* is another factor that could explain the positive association between perspective taking and both RA and RI that was observed in the self-reported data from this study. *Moral evaluation* refers to judging or evaluating an observed social situation, such as relational bullying, in terms of right or wrong and evaluating and attributing responsibility (Thornberg, 2012). Moral evaluation can provide motivation not to intervene or to intervene to help victims

(Thornberg 2012). A study by Werner and Nixon (2005) showed that the acceptability of using aggression was associated with whether aggression occurred. Additionally, Werner and Hill (2010) showed that individual norms predicted future RA among young adolescents. If adolescents accept relationally aggressive behaviour, then there might not be a barrier against using their perspective-taking skills to manipulate others in relationally aggressive ways to achieve their status goals. In contrast, if RA is viewed as socially unacceptable, adolescents' motivation to help a victim may increase. The correlations between perspective taking and RA and RI could be an argument for future research projects that explore the interaction between perspective taking skills and cognition in relation to the context in which RA occurs. Study 3 also explored the research question: *To what extent is ECV negatively associated with RA and positively associated with RI?*

A tendency for adolescents who express concern for victims of RA to be less likely to engage in RA was found in both the self-reported and peer-reported results. This finding is in line with previous research identifying empathic concern as a factor that could prevent RA (Batanova & Loukas 2011; McEvoy and Leff, 2012). Batanova and Loukas found that empathic concern uniquely reduced early adolescents' overt aggression and RA one year later. Empathic concern related to specific contexts has largely remained unexplored. According to many philosophers (e.g., Greenspan, 1988), adolescents reason about their emotions and make evaluations that guide their actions. When people feel genuine concern for peers who are victims of RA, they may reason in a way that prevents them from engaging in actions that exclude the peers with whom they sympathize and for whom they feel sorry. Second, a small but statistically significant positive association was found between ECV and self-reported RI, and no significant association was found between ECV and peer-reported RI. These results do not support previous evidence indicating that empathic concern is an important determinant of helping behaviour in general (Eisenberg and Miller, 1987; Batson, 1991).



However, this study focused on the association between empathic concern and helping behaviour related to a specific situation, namely, empathic concern towards victims of RA. It is possible that dissonance between what a person morally believes in (e.g., standing up for an excluded person) and a possible personal loss (e.g., the negative consequences of standing up for the victim) occurs and that the costs of empathic behaviour are too difficult to handle (Huitsing, et al., 2012; Nishina et al., 2005). Research on defender behaviour in bullying cases has found that defenders *need to feel* confident and empowered to defend *victimized peers* (Caravita et al., 2009). According to social goal theory, the stronger one's beliefs about personal efficacy and competence to control a situation, the more likely one is to engage in goal pursuit. For instance, beliefs about control (e.g., "*I like Lisa, but I don't think the popular leaders will support me if I invite her*") may limit an adolescent's confidence regarding the outcome of an initiative to include victims of RA. People need to be in control, which implies feeling capable of coping with situations that may occur (Rotter 1996, Lazarus 1999). Relational inclusion involves active attempts to influence others to include victimized peers in everyday life. This may be a challenging task. When a person considers helping a victimized peer, he or she may weigh the personal benefits and costs of each potential response. Attempts to actively influence others to include victimized peers may be perceived as challenging or even threatening. The *fear of being excluded if they help victims* may discourage adolescents from being relationally inclusive.

Studies have found that defenders of victims in bully situations (which is a specific kind of RI behaviour) may be victimized by the bully (Huitsing, et al., 2012; Nishina et al., 2005). Such victimization may be directed at those who try to do something in everyday life to include victims of RA. In addition, defenders do not receive much peer support for their behaviour (e.g., Camodeca and Goossens, 2005; Salmivalli et al., 1996), and adolescents with high ECV may therefore not intervene

because they are afraid of losing their own position within the group. Self-justification is the need to justify our actions, beliefs, feelings and decisions. When adolescents decide not to help their victimized friends, they may have convinced themselves (and others) that their decision is logical and reasonable (e.g., *It won't help anyway. She is not my friend anyway. Why should I do something when nobody else does? I won't be able to make a difference even if I try to help*).

This thesis also investigated the extent to which ECV influences the associations of perspective taking with a) RA and b) RI. The question was raised: *To what extent does ECV moderate the associations of perspective-taking with a) RA and b) RI?*

ECV was only found to moderate the relationship of perspective taking with RI and RA in self-reported data. These findings suggest that the ability to take the victim's perspective only has the potential to motivate relationally inclusive behaviour and prevent RA among adolescents who also have a certain level of ECV. This result is interesting and is in line with previous research that identified ECV as a crucial factor in fostering helping behaviour (Batonova & Loucas 2011; McEvoy and Leff, 2012).

No interaction between ECV and perspective taking in relation to RA or RI was found for the peer-reported data. Consequently, the results of the self-reported data should be interpreted with caution. For example, it is possible that some adolescents with ECV and perspective taking skills may report that they often include other peers when they actually do not. It is well documented within the literature that some people exhibit strong self-serving biases (e.g., David and Kistener, 2000). However, it is also possible that peer and self-reports identify adolescents with different characteristics. This possibility was discussed in paper 3. All in all, this thesis describes only some tendencies, and these cannot be interpreted clearly. More research with representative samples and longitudinal designs is needed to investigate how the interaction between perspective taking and ECV in particular is related to RA and RI.

## **6.5 Gender difference**

In this thesis, investigating gender differences was not an important issue. However, paper 2 addresses gender differences, and therefore, they must be briefly discussed. The results showed that girls and boys have similar levels of status goals. Additionally, girls and boys experience similar levels of frequent status stress (weekly or more often). However, girls report experiencing more status stressed at a moderate level within the previous month compared with boys. Earlier research indicates that girls exhibit greater concerns about peer evaluation (Rudolph & Conley, 2005) and report greater sensitivity to social relationship conflicts (Washburn-Ormachea, Hillman & Sawilowsky, 2004). This may explain why more girls than boys reported experiencing a moderate level of status stress in this study. A series of tests showed no significant differences between boys and girls in the regression path between a) status goals and b) status stress and RA. The idea that relationally aggressive girls and boys both have strong status needs is relatively new, and RA has been linked to status goals in both boys and girls (Pronk et al., 2010). The possibility that boys and girls use RA to a similar degree as a strategy to gain status and address status stress should be investigated in future research.

Gender differences in the levels of RA and RI were controlled in the studies. Both self- and peer report data showed that girls are significantly more relationally aggressive than boys. Empirical support for gender differences in RA has been mixed. It is possible that these inconsistencies in the literature are due to differences in the ways in which RA is conceptualized and examined across studies (Crick & Grotpeter, 1995). Archer, in his meta-analysis (2004), stresses that research findings in this field depend on the instruments used to measure aggression and on the individual traits of the adolescents in the sample. Additionally, culture differences (Russell, Hart, Robinson, & Olsen, 2003) and age differences in the studies may cause inconsistency (Xie, Cairns & Cairns, 2005).

The findings regarding gender differences in RI were ambiguous. Peers described girls as more relationally inclusive than boys, but self-reports showed no significant gender difference in the level of RI. The peer-reported data were consistent with earlier studies that found that girls were more likely than boys to defend victims in a bullying situation (Salmivalli et al., 1996). More research is needed regarding gender differences in RI among adolescents.

## **6.6 Validity**

### **6.6.1 The peer relational stress scale**

When testing the PRS scale, a two-factor solution fit the data well. However, as predicted, the two peer relational stress types, affiliation stress and status stress, were very highly correlated in this study ( $r = .83$ ). We assumed that using the same wording previously used to assess general stress (Cohen et al. 1983) and connect the general stress responses to either loss of status or loss of friendship in the new scale would increase its measurement validity. However, this approach required the use of very similar wording when assessing affiliation and status stress.

For example, where the word “popularity” was used in the items that assessed status stress, “friends” was used when assessing affiliation stress (e.g., In the last month, how often have you been nervous and stressed because you were about to lose *popularity (friends)* among the girls (boys) in your class).

This differential use of terms may have caused a method bias. Method effects are generally understood as occurring when any characteristic of a measurement process or instrument contributes variance to scores beyond what is attributable to the construct of interest (Sechrest et al., 2000). Because losing popularity implies the loss of friends, the

participants may have tended to answer yes to both questions because of the similar wording.

This does not mean that affiliation stress and status stress should be viewed as the same construct; rather, it suggests that the correlation between the factors may have been higher than it should have been. The dimensionality inspected by using CFA supported the theoretical assumption that affiliation stress and status stress should be considered two distinct dimensions of stress. However, when two variables correlate so highly, collinearity is possible when they are applied in the same study. Collinearity was checked for and confirmed with SPSS. It is possible that the measurement should be modified in future research projects to reduce the high correlation between the dimensions of peer stress. The collinearity between the dimensions of peer stress must be addressed when both types of stress are included in a regression model. Issues related to the structural, external and generalizability aspects of validity are discussed in paper 1.

### *6.6.2 Generalization to the population*

The sample used in this thesis was a convenience sample. An obvious criticism of convenience sampling is that the sample is not representative of the entire population. In this investigation, the population was all eighth-grade adolescents in Norway. However, the fact that this sample was a convenience sample does not mean that it does not represent eighth-graders in Norway fairly well. First, eighth-grade adolescents in Norway are all the same age and in the same developmental stage, which makes them similar throughout the country. Additionally, the public school setting throughout Norway is quite similar as both the structure and curriculum are standardized for all public schools. It is known that some schools in Norway have many more immigrant students than Norwegian schools normally have. Furthermore, in some areas, the majority of students at some schools come from families with a low socioeconomic status. Steps were taken to avoid the under- and

overrepresentation of particular groups, but it is not known whether the sample truly represents the average eighth-grade adolescent. This sample was limited to girls and boys in grade eight from three schools, and it is unclear whether it accurately represents eighth graders in general or children in any other age group. The results must be generalized with caution.

Another limitation related to generalizability is the research design. This was a cross-sectional study. In cross-sectional studies, exposure and outcomes are determined simultaneously for each subject. They are often described as a “snapshot” of a group of individuals. Cross-sectional studies are most appropriate for screening hypotheses because they require a relatively shorter time commitment and fewer resources.

Messick (1989) claims that if we can ask the same questions to different people at different times and get the same result, it is more likely that we can believe the result. For this purpose, large sets of data drawn from different samples using a longitudinal design and a multi-method approach are necessary. However, cross-sectional surveys offer the opportunity to examine associations between variables and differences between subgroups of a given population, and they can be used to explore causal hypotheses. In this study, the structural equation method was used to explore causal hypotheses. This thesis is an attempt to study *possible* cause-and-effect relationships between chosen variables based on social goal theory by using advanced statistics and structural equation analysis. The study cannot make definitive statements regarding cause and effect, but it can determine whether a hypothesis about cause and effect is supported. In other words, the aim was not to draw conclusions but to explore the possibility of specific causal relationships between variables based on social goal theory. The study had some model support, but the model was not supported by the research design.

### **6.6.3 *The validity of peer and self-reported data***

One important concern in this thesis was the method used to assess RA and RI. RA and RI were assessed by both self- and peer reports. The results showed only a moderate correlation between self-reported and peer-reported RA and between self-reported and peer-reported RI in this sample of adolescents. This moderate correlation between self- and peer-reported data was not a surprise as earlier research yielded similar results (McNeilly Choque, Hart, Robinson, Nelson, & Olsen, 1996; Juliano, Werner, & Cassidy, 2006). Tacett & Ostrov (2010) argue that it is important to understand the utility offered by different informants and methods as well as potential biases that may limit the validity of reports from a given source. Juvonen, Nishina, & Graham (2001) argue that self- and peer-reported RA data provide supplementary information about the phenomenon rather than capturing the same concept. These issues are discussed earlier in the discussion section as well as in papers 2 and 3.

### **6.7 *Limitations and strengths***

Several limitations of this research project should be noted. First, the adolescents only reported on their same-sex peer relationships. Although adolescent girls and boys interact with same-sex peers more frequently than with opposite-sex peers (Mehta & Strough, 2010), and different relationship styles are formed within same-sex male peer groups than within same-sex female groups (Maccoby, 1998), additional studies should also consider the context of opposite-sex relationships when studying RA in a framework of social goals, social stress and cognition. Among children in this age group, members of the opposite sex are increasingly important. A second limitation in this study is that class climate variables were not included and controlled. Future projects should consider these variables. Third, a convenience sample was used in this thesis, which obviously represents a limitation in regard to generalization. Although steps were taken to make the sample

representative, we cannot be certain that the sample represents eighth-grade adolescents in general very well.

Another limitation within this thesis is the relatively small sample size used. With a small sample (379 eight grade students) it is uncertain to which degree the sample represent characteristics of the whole population ( approximately 60 000 eight grade students). Additionally, the sample size, especially, when groups are compared, become small in this study, which may cause more uncertainty in the estimates. Even though MLR estimates were used that is recommended for small and medium sample size to adjust non normality in the data (Muthén & Asparouhov,2002) the data may be biased and must be interpreted with caution. Last, only cross-sectional data were used, and conclusions regarding the direction of the identified effects cannot be drawn.

This thesis also has some strengths. The use of both self- and peer reports to assess RA and RI strengthens this thesis because the two sources tap both adolescents' knowledge about their own relational aggressiveness and inclusiveness and their observations of RA and RI in their classmates. Additionally, the use of sophisticated structural equational modelling strengthens the study.

It makes sense theoretically that independent variables elicit RA and RI. However, only by conducting longitudinal studies or experiments the direction of the effects can be confirmed.

### **Possible initiatives based on findings**

The relatively high levels of status goals, status stress and RA found in the studies within this thesis and the positive association of status goals and, to some extent, status stress with RA suggest that negative



approaches to gaining social position among adolescents need to be addressed. Although more research with better research designs is needed to draw firm conclusions, some possible initiatives are described below. Adolescents may benefit from initiatives that emphasize the value of quality in friendships and raise their awareness of the costs of fighting over status. First, initiatives could increase adolescents' awareness of the benefits of affiliation goals. Awareness of how affiliation among peers contributes to positive psychosocial adjustment and the feeling of well-being (e.g., Ojanen et al., 2005; Hawley, Little & Pasupathi, 2002) could be raised among adolescents in schools. Second, the costs and benefits of different strategies for gaining and maintaining status should be addressed. There will always be a hierarchy within social groups, and adolescents may profit from initiatives that teach them about the mechanisms related to attaining and maintaining their hierarchical positions and status goals. In particular, adolescents who desire a high position within the peer group should be aware that popularity can be obtained by being nice, friendly and helpful. When adolescents understand how they can become leaders and gain high levels of self-esteem (De Bruyn and van den Boom, 2005) by being helpful, cooperative, friendly and sociable (Coie, Dodge, & Coppotelli, 1982 H.), they may be more likely to develop prosocial strategies within their relationships. Adolescents should also have the opportunity to learn that if they use relationally aggressive methods to attain and maintain a leader position, they may achieve some benefits, such as dominance, admiration and social support, but such strategies can also lead to serious adjustment difficulties for themselves, such as problematic friendships, internalizing difficulties and externalizing problems (e.g., Marsee, et al., 2008; Murrey Close et al., 2007).

If the pressure of being a social success decreases, then the desire for status goals and thereby status stress may decrease. If more adolescents learn to value affiliation over perceived popularity, sociometrically popular leaders will likely become the most popular peers, and RA may

decrease. Additionally, when status is no longer an important goal, status stress among peers may decrease.

In summary, initiatives to increase adolescents' valuation of friendship goals and decrease the value of status goals could be created, and the effect of such initiatives should be evaluated to determine whether RA decreases and prosocial behaviour increases as a result.

This study also indicated that when adolescents feel empathic concern for victims of RA, they are less likely to participate in acts of RA. Consequently, initiatives that develop or increase adolescents' ability to feel concern for victims of RA may be helpful. Previous research indicates that to be able to feel concern for others, adolescents need to develop the ability to understand, regulate, and work with their own emotions. A growing body of literature supports the effectiveness of programmes that promote emotion-related abilities among adolescents (see Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011, for a recent meta-analysis). Emotional intelligence (EI) involves knowing one's own feelings, expressing emotions accurately, understanding why emotions arise and regulating one's emotions (Mayer and Salovey, 1997). All students, and relationally aggressive adolescents in particular, could benefit from instruction in EI. In particular, popular, relationally aggressive adolescents with blunted emotions (Muñoz & Frick, 2012) should have the opportunity to develop their EI. There is also growing international interest in school-based social-emotional learning (Torrente, Alimchandani, & Aber, 2015). Social-emotional learning is the process of providing children and adolescents with opportunities to learn, acquire and practice the social-emotional competences needed to succeed in life (Greenberg et al., 2003; Osher, Sprague, Weissberg, Keenan, & Zins, 2008). Social-emotional learning could be used to develop empathic concern towards victims of RA in particular. In relation to RA, it might be particularly helpful to give adolescents opportunities to work with the moral aspects of RA and to interpret the situation of victims of RA correctly. Furthermore, initiatives to increase

helping behaviour among adolescents might be useful, especially if the initiatives are directed towards the whole class or group. It may not be very effective to encourage individuals to take responsibility and stand up for victims of RA individually. The costs for individuals may be considerable when they intervene alone. Their fear of exclusion and lack of self-confidence regarding the outcome of helping may be stronger than the benefits they obtain from helping. It may be necessary to develop norms and attitudes in the whole group so that the majority does not accept relationally aggressive behaviour. Once the group turns its back on relationally aggressive behaviour, RA will lose its function. RA requires support from peers. If most people disapprove of talking behind people's back and similar behaviours, those behaviours will stop. An effective initiative in school would probably be to work to create anti-bullying norms and attitudes in the whole class and throughout the school. Duffy & Nesdale (2009), found that group norms supporting bullying are associated with RA and that group norms contribute to the explanation of bullying behaviour even after individual characteristics of the child are considered. In contrast, anti-bullying attitudes and norms have been positively correlated with defending victims or staying outside the bullying situation (Salmivalli 2017). In particular, if the social anti-bullying norms of a group are strong, individuals may feel obligated to adhere to the group norm.

### **6.8 Theory building and future research**

Although it is not possible to state with certainty, the association between status goals and RA observed in this thesis may occur because RA is a strategy for attaining and maintaining status within the peer context, as the theoretical model used in this thesis suggests. This idea is in line with earlier researchers' suggestions (Card, Stucky, Sawalani, & Little, 2008; Hawley, 1999). Hawley's previous work, which examined social status from an evolutionary perspective, identified social status as the route to increased aggression and resource control (Hawley 2003). Some

ethnographic studies have shown that popular adolescents use aggression to get rid of competitors who challenge their status (Adler & Adler, 1995; LaFontana & Cillessen, 2002). Additionally, this study presents the idea that RA may be a strategy some adolescents use to cope with threats to their status. Until now, this possibility has been almost absent from research. While this study cannot verify the theoretical model assuming that RA may be suited to gaining status and maintaining status when it is threatened, the results at least provide arguments for studying this idea further. In future research, it may be important to investigate RA within the framework of goals, stress and coping using a longitudinal design. There is a need to better understand the heterogeneity of students' RA towards peers and their differing motivations for engaging in RA. Different subgroups within the social hierarchy may try to attain or maintain status at different levels in the hierarchy, and RA may work to attain and maintain status at all levels. Some adolescents may be happy if they become accepted by popular peers, while others may be satisfied only if they are part of the most popular group, and others still may aim to be the most popular people within the peer group. In addition, some adolescents may be satisfied just to keep the position they already have. RA may work as a strategy to attain their goals. This idea should be further explored. Given the large percentage of participants in this study who reported engaging in RA to some extent within the previous month, these adolescents obviously reflect different positions within the hierarchy, especially considering the possibility that peer- and self-reported data may identify different groups of adolescents with different characteristics. In addition, the ambiguous findings regarding characteristics of relationally aggressive adolescents raise a question: Are more finely calibre measurement instruments needed when studying RA as a strategy for gaining and maintaining status within the hierarchy? In the future research, it would be interesting to explore RA as a strategic behaviour for gaining and maintaining status using the following methods:

### *Discussion*

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- a) Dividing participants into low, medium and high positions within the peer group.
- b) Assessing the pursuit of status goals related to different positions within the hierarchy.
- c) Assessing different hierarchical outcomes over time.

In addition, the impacts of perspective taking and ECV could be studied in relation to adolescents' positions within the hierarchy and their pursuit of status goals, status stress, relationally aggressive behaviour and status outcomes.

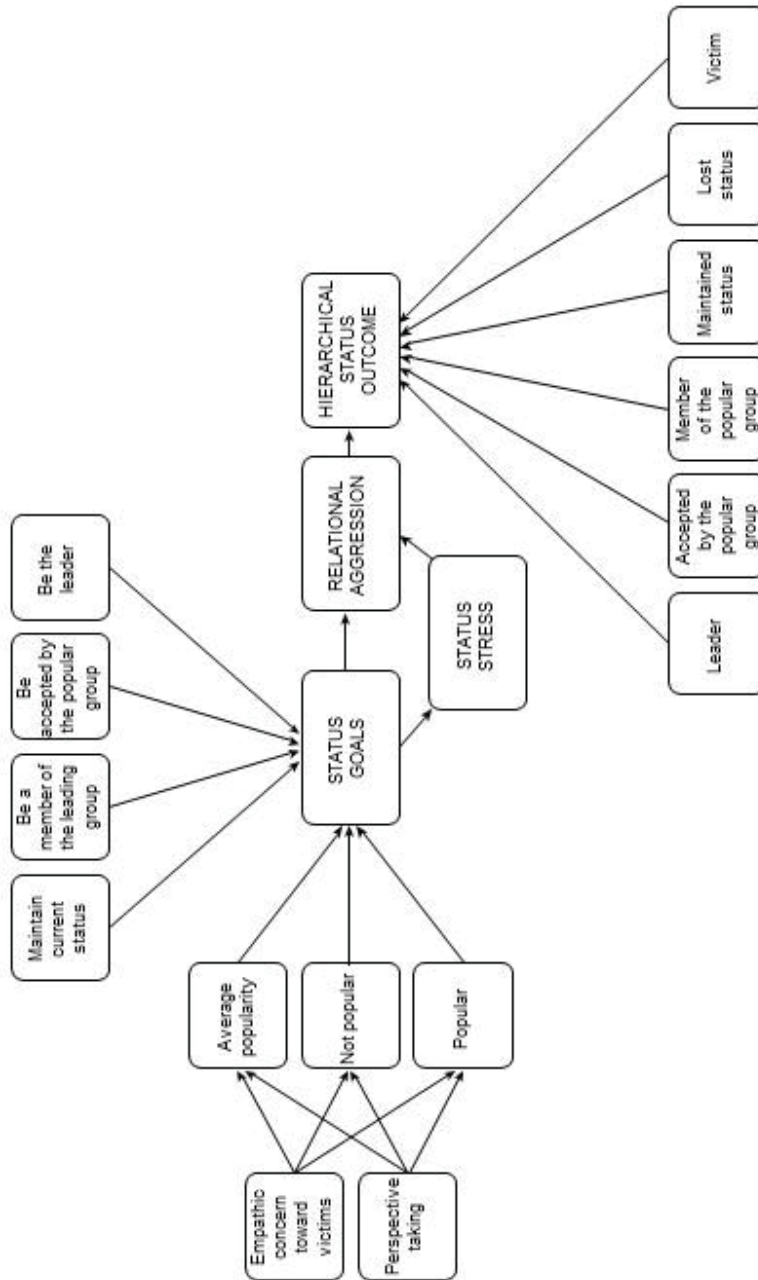


Figure 4 – The figure suggests how RA among adolescents can be studied in future research within a theoretical status goal approach.

## **7 Concluding comments**

This study adds to the field by developing a new measurement of affiliation- and status-related stress. The study also contributes to knowledge by studying how status stress and status goals are associated with RA. Furthermore, the study sheds light on the association between a) ECV and b) perspective taking and a) RA and b) RI. Additionally, the study contributes by examining these associations within a social goal model that assumes that RA is a negative but effective strategy for gaining status and addressing status stress. Of course, RA can also be studied from different angles. This thesis is limited to discussing outcomes specifically in relation to theories and research related to aggression, social goals, social stress and social coping. However, I hope that this investigation offers some ideas for gaining a better understanding of how adolescents address challenges that occur in their relationships with peers and provides some ideas for further research within the field.

*Concluding comments*

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## Appendix

### Self-reported Relational Aggression

*Six relational aggression items were used in the confirmatory factor analysis. The students were asked to mark a cross in the category that best described them.*

*Categories: Never, Sometimes, Almost every week, Almost every day*

In the last month, how often have you.. :

- 1) Tried to make other girls (boys) not like a certain girl (boy) by spreading rumours about her (him) or by talking behind her (his) back?
- 2) Tried to make other girls (boys) ignore a particular girl (boy)?
- 3) Given an “unfriendly glance” to a certain girl (boy) to make her (him) feel unaccepted by you?
- 4) Turned your back on a particular girl (boy) to reject her (him)?
- 5) Not invited a particular girl (boy) to a party or an activity to reject her (him)?
- 6) Rolled your eyes to show other girls (boys) that you don’t accept a certain girl (boy)?

### Peer -Reported Relational aggression

*Four relational aggression items were used in the confirmatory factor analysis. Name of all same sex students in their class were listed in connection to each statement about behaviour. The students were asked to mark every girl (boy) in their class that behaved in the described way.*

In the last month, how often has this girl (boy) ...

- 1) tried to make other girls (boys) not like a certain girl (boy) by spreading rumours about her (him) or  
by talking behind her (his) back?
- 2) tried to make other girls (boys) ignore a particular girl (boy)?
- 3) tried to make other girls (boys) exclude a particular girl from participating in an activity.
- 4) given an ugly glance to a girl (boy) to make her (him) feel excluded.

### Self-reported Relational Inclusion

*Seven relational inclusion items were used in the confirmatory factor analysis. The students were asked to mark a cross in the category that best described them.*

*Categories: Never, Sometimes, Almost every week, Almost every day*

In the last month, how often have you...:

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- 1) Tried to make other girls (boys) include a certain girl (boy) that is excluded from the peer group?
- 2) Talked in a friendly manner to an excluded girl (boy) to make her (him) feel accepted by you?
- 3) Deliberately done something to include a girl (boy) who is excluded from the peer group?
- 4) Said something nice about a particular girl (boy) to make others like her (him)?
- 5) Invited an excluded girl (boy) to a party or an activity to include her (him) in the peer group?
- 6) Smiled at an unpopular girl (boy) to show others that you accept her (him)?
- 7) Done or said something to an unpopular girl (boy) so that she (he) would feel accepted?

### Peer –reported Relational Inclusion

*Four relational inclusion items were used in the confirmatory factor analysis. Name of all same sex students in their class were listed in connection to each statement about behaviour. The students were asked to mark every girl (boy) in their class that behaved in the described way.*

In the last month, how often has this girl (boy) ...:

- 1) Tried to make other girls (boys) include a certain girl (boy) that is excluded from the peer group?
- 2) Deliberately done something to include a girl (boy) who is excluded from the peer group?
- 3) Invited an excluded girl (boy) to a party or an activity to include her (him) in the peer group?
- 4) Done or said something to an unpopular girl (boy) so that she (he) would feel accepted?

### The peer relational stress scale

*The 20 peer-relational stress items (the affiliation-related item is always presented first, followed by the status-related item) used in the CFA. Positively worded items that were reverse coded are marked with an asterisk (\*).*

In the last month, how often have you been upset because...

(AS1) you became insecure of your friendship with one or more girls (boys) in your class?

(SS1) you were insecure about your popularity among the girls in your class?

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In the last month, how often have you felt that you were unable to control...

(AS2) your possibility of making friends among the girls (boys) in your class?

(SS2) your popularity among the girls (boys) in your class?

In the last month, how often have you felt nervous and "stressed" because...

(AS3) you couldn't make friends among the girls (boys) in your class?

(SS3) you were about to lose popularity among the girls (boys) in your class?

\*In the last month, how often have you felt confident about your ability to...

(AS4) handle peer affiliation related to the other girls (boys) in your class?

(SS4) handle peer problems related to your popularity among the girls (boys) in your class?

\*In the last month, how often have you felt that things were going your way with regard to...

(AS5) feeling closeness to the girls (boys) in your class?

(SS5) your own status in the girl (boy) group in your class?

In the last month, how often have you found that you could not cope with all the things that you had to do because...

(AS6) you were stressed about maintaining your friendship with one or more girls (boys) in your class?

(SS6) you were stressed about maintaining your popularity among the girls (boys) in your class?

\*In the last month, how often have you been able to control irritations related to...

(AS7) friendship with one or more girls (boys) in your class?

(SS7) your popularity among the girls (boys) in your class?

\*In the last month, how often have you felt that you were on top with regard to...

(AS8) having close friends among the girls (boys) in your class?

(SS8) being popular among the girls (boys) in your class?

In the last month, how often have you been angered because you couldn't control...

(AS9) your friendship with the other girls (boys) in your class?

(SS9) your popularity in the girl group (boy group) in your class?

In the last month, how often have you felt that difficulties with...

(AS10) making friends with girls (boys) in your class were piling up so high that you could not overcome them?

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(SS10) your status among the girls (boys) in your class were piling up so high that you could not overcome them?

### Status stress (moderated scale)

*6 items from the peer-relational scale was used in the CFA to assess status stress in Paper2 .*

In the last month, how often have you been upset because . . .

(SS1) you were insecure about your popularity among the girls in your class?

In the last month, how often have you felt that you were unable to control...

(SS2) your popularity among the girls (boys) in your class?

In the last month, how often have you felt nervous and ‘stressed’ because...

(SS3) you were about to lose popularity among the girls (boys) in your class?

In the last month, how often have you found that you could not cope with all the things that you had to do because...

(SS4) you were stressed about maintaining your popularity among the girls (boys) in your class?

In the last month, how often have you been angered because you couldn’t control...

(SS5) your popularity in the girl group (boy group) in your class?

In the last month, how often have you felt that difficulties with...

(SS6) your status among the girls (boys) in your class were piling up so high that you could not overcome them?

### Status goals

The four items used in the CFA to assess status goals.

How important it is for you...

- 5) to be the most popular of all girls (boys) in your group or class?
- 6) to be popular among the girls (boys) in your group or class?
- 7) to avoid becoming unpopular among the girls (boys) in your group or class?
- 8) that other girls (boys) look up to you and admire you?

### Perspective taking

*Four perspective-taking 4 items were used in the confirmatory factor analysis. The students were asked to mark a cross in the category that best represented how much they agreed or disagreed with these statements.*

*Categories: I strongly agree, I slightly agree, I slightly disagree, I strongly disagree*



## Appendix

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- 1) I'm able to recognise, before many other adolescents, when other people's feelings change (e.g., see that someone suddenly becomes irritated or happy).
- 2) I am able to understand how other people react to things that I do.
- 3) I can tell when someone I'm with is irritable even if she or he does not say anything.
- 4) I can tell how my friends feel based on the way they behave.

### **Empathic Concern for victims of RA**

*Four empathetic concern items were used in the confirmatory factor analysis.*

*The students were asked to mark a cross in the category that best represented how much they agreed or disagreed with these statements.*

*Categories are: I strongly agree, I slightly agree, I slightly disagree, I strongly disagree*

- 1) When someone tries to make others dislike a person, I feel sorry for that person.
- 2) When I see a student be excluded from the group, I feel sad.
- 3) When I see another student become upset because of unkind looks and signals from others, I become sad.
- 4) When someone is talked about behind his/her back, I get upset.

*Appendix*

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## Papers

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**Paper I**



European Journal of Developmental Psychology



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**Peer relations as a source of stress? Assessing affiliation- and status-related stress among adolescents**

Tove Flack , Christina Salmivalli & Thormod Idsoe

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**Paper II**



Emotional and Behavioural Difficulties



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**Relational aggressive behaviour: the contributions of status stress and status goals**


Tove Flack

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***Paper III***

**Relational aggression and relational inclusion in adolescents: The role of empathic concern for victims of relational aggression and perspective taking**

**Tove Flack**

Norwegian Centre for Learning Environment and Behavioural Research in Education  
University of Stavanger, Norway

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Correspondence should be addressed to Tove Flack, Norwegian Centre for Learning Environment and Behavioural Research in Education, University of Stavanger, Norway, NO-4036 Stavanger, NORWAY. Telephone + 478 32 909, e-mail: [tove.flack@uis.no](mailto:tove.flack@uis.no)