

Peer Victimization in Preschoolers: The Role of Emotional Competence

by

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Abstract

Most peer victimization research has focused on school-aged children with little attention paid to victimization in preschoolers. The purpose of this study was to examine the contribution of emotional competencies to peer victimization in children 3 to 5 years old. A social information processing (SIP) model focusing on the role of emotion processes in socially competent interactions is presented. Fifty preschool children completed tasks of emotion regulation, emotion understanding, peer victimization, and verbal ability. Measures of emotionality, emotion regulation, and peer victimization were completed by parents and teachers. No relation was found between preschoolers' level of emotional competency and degree of peer victimization. Children's verbal ability was associated with peer victimization. Limitations to the study, practical implications, and avenues for future research are presented.

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Dedication

To my parents, Diane and John, for always encouraging me to follow my dreams.

And to Eric, for standing by my side throughout the journey.

Peer Victimization in Preschoolers: The Role of Emotional Competence

Peer victimization is a significant problem in Canada as revealed by the World Health Organization's recent survey on Health Behaviours in School-aged Children. Despite a stable prevalence rate of peer victimization within Canada over the past several years, Canada's prevalence ranking compared to other countries was 26th place out of 35, with a lower ranking indicating a higher rate of peer victimization. Research has found that anti-victimization programs often are not evaluated properly, which leads to the continued implementation of potentially ineffective methods (Craig & Pepler, 2007).

Being a victim is associated with a number of negative outcomes including loneliness, emotional problems, poor social adjustment, substance abuse, anxiety, depression, and poor academic achievement (Griffin & Gross, 2004). Peer victimized children often suffer long-term emotional and psychological consequences (Crick, Casas, & Ku, 1999). Aggressive victims tend to internalize their anger and negative self-perceptions leading to increased risk for several mental disorders and behavioural problems (Wilton, Craig, & Pepler, 2000). Crick and colleagues (1999) found that both physical and relational aggression are present during the preschool years, suggesting that research with this age group will contribute to early identification of problematic behaviour patterns and the design of early prevention and intervention programs.

While there are many potential factors that may contribute to understanding peer victimization in young children, emotional competence is one such factor. Children's reactions to negative emotions in both themselves and others play a vital role in determining the outcome of social interactions (Blair, Denham, Kochanoff, & Whipple, 2004). The ability to effectively regulate one's emotions is central to the development of

positive social relationships. A lack of childhood peer relationships can lead to delinquency, school drop-out, and depression in adolescence and adulthood (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Given the importance of emotional competence skills for children's social development, the study of emotion processes in relation to peer victimization has significant implications for designing interventions. Emotion regulation skills can be viewed as intrinsically linked to peer victimization episodes, as emotional reactions are constantly being monitored and altered during social interactions. Emotion regulation skills are a key feature of children's psychological development and play an important role in developing social competence. Several childhood mental disorders linked to deficits in emotion regulation include Attention-deficit/Hyperactivity Disorder, Oppositional Defiant Disorder, and a number of Anxiety Disorders (Suveg & Zeman, 2004). Low regulation has been associated with externalizing disorders and behaviour problems at school, whereas high regulation has been related to internalizing problems. Children showing modulated regulation, or regulation between the high and low extremes, have exhibited lower rates of such problems (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996).

In addition to emotion regulation, another aspect of emotional competence that is crucial to social competence is emotion understanding. Even during the preschool years, children are starting to identify their own and other's emotional states, which aids in the development of social skills and other emotional capabilities (Denham et al., 2003). An understanding of emotional situations can lead children to engage in appropriate behaviours and better peer interactions. Researchers have found emotion understanding skills, including labelling emotion states and taking another's affective perspective, to be

positively related to prosocial behaviour and peer status (Denham, McKinley, Couchoud, & Holt, 1990).

The importance that emotional competence plays in social problem behaviours in children is highlighted by the fact that many prevention programs targeting social-emotional competence are present in both preschool and elementary school classrooms across North America. Reports by kindergarten teachers indicate that many children lack the self-regulation and social competence skills needed to function in the school system (Webster-Stratton, Reid, & Stoolmiller, 2008). The role that emotion regulation and emotion understanding have in peer victimization has the potential to inform and alter intervention and prevention programs.

Identified by many schools as an anti-bullying program, Roots of Empathy is a prevention program targeting aggressive behaviour and lack of emotional competence. Present in over 800 Canadian elementary school classrooms, this educational program fosters empathy and emotional literacy through observations of mother-infant interactions (Gordon, 2003). With the goal of reducing aggressive behaviour and peer victimization, children are taught emotion regulation and perspective-taking skills (Zeman et al., 2006).

Another prevention program, Incredible Years (also known as Dinosaur School), focuses on school-readiness in 3- to 7-year-olds. As school-readiness includes emotion regulation abilities and social competence, teachers are trained to provide children with emotion-control, problem-solving, and social-peer coaching. Through the Dina Dinosaur Social Skills and Problem Solving Curriculum, children learn perspective-taking skills, empathy, social and communication skills, and interpersonal problem-solving abilities (Webster-Stratton et al., 2008).

The goal of the current study is to address two gaps in the existing research on peer victimization and emotional competence. First, my research will involve preschool children. Surprisingly, peer victimization research has mostly focused on school-aged children, and little attention has been paid to victimization in preschoolers even though preschoolers spend a significant amount of time interacting with peers. Second, my research will examine the relation between peer victimization and emotional competence. Emotional competence and peer victimization are largely studied in isolation from each other, even though emotional competencies such as emotion regulation have been suggested as an important process that influences social psychological processes and outcomes (Cole, Martin, & Dennis, 2004).

I begin by presenting a social information processing (SIP) model that focuses on the role of emotion processes in socially competent interactions. Following this, I provide a brief review of research on peer victimization and emotional competence in preschool children and their combined study in school-age children. Lastly, the theoretical basis for the study is conceptualized using an SIP model and details of the present study are discussed.

Social Information Processing (SIP) Model

Crick and Dodge (1994) presented a framework for understanding social problem behaviour in children in the form of an SIP model. In general, SIP models are based on the attribution theory of social psychology and the decision-making and information processing theories of cognitive psychology. Many of these models aim to understand the relation between children's social adjustment and problems in adulthood. Social adjustment is defined as "the degree to which children get along with their peers; the

degree to which they engage in adaptive, competent social behaviour; and the extent to which they inhibit aversive incompetent behaviour” (Crick & Dodge, 1994, p. 82).

Indexes of social maladjustment include peer acceptance, peer aggressiveness, and withdrawal from peer interaction.

Lemerise and Arsenio (2000) adapted Crick and Dodge’s (1994) original model to provide a model that (a) highlights both emotional and cognitive contributions to social competence, and (b) is theoretically sound to allow for empirical investigation. As most SIP models are based on social and cognitive psychology, they neglect the integration of emotion. However, Lemerise and Arsenio noted that it is important to consider emotion in SIP, especially during acts of provocation among children that lead to increased emotional arousal (such as peer victimization). There are several ways in which emotion processes can affect SIP. For instance, emotions may serve an intrapsychological function, in which they organize and motivate behaviour, as well as an interpsychological function, in which universal emotional expressions provide insight into another’s underlying mental state. Furthermore, the effect of temperament on social competence is partly dependent on an individual’s ability to regulate his/her emotions. Good emotion regulation and low emotionality is linked to social competence, whereas poor emotion regulation and high emotionality is associated with poor social abilities. Lastly, mood states also influence SIP through their affect on both cognitions and behavioural responses (Lemerise & Arsenio).

There are six steps in Lemerise and Arsenio’s (2000) SIP model, with each step involving subsequent levels of social and affective cue interpretation. All of the steps in the model interact with the database, which includes a memory store, acquired rules,

social schemas, and social knowledge. Several emotion based processes also contribute to the database. These include emotionality/temperament, emotion regulation skills, emotions linked with past experiences, and mood states. Each of these components of emotion can be drawn upon during the steps of the SIP model, thereby influencing the situation outcome.

Step 1 involves the encoding of social and affective cues from the environment, and an individual interprets these cues in Step 2. Affected by mood, arousal level, and pre-existing emotions, encoding and interpretation help the individual monitor the situation and allow for relevant changes in behaviour. The process of interpretation also includes (a) accessing mental representations of situational cues stored in long-term memory, (b) analyzing the situation, (c) taking the perspective of others in the situation and attributing intent, (d) reviewing goal attainment in past situations, (e) evaluating past performance with peer exchanges, and (f) performing self- and other-evaluations regarding the present situation (Lemerise & Arsenio, 2000).

In Step 3, the individual clarifies the goals relevant to the situation by formulating new goals or by accessing pre-existing ones (Crick & Dodge, 1994). The affective character of the peer relationship comes into play as goals are often based on emotional ties between the peers involved in the situation, with more motivated goal selection as a product of positive peer interactions. Emotion regulation skills also affect what goals are pursued, as poor emotion regulation can produce an inflexible approach to goal choice when the situation is not examined from multiple perspectives (Lemerise & Arsenio, 2000).

Steps 4 and 5 of the SIP model involve the generation and evaluation of possible responses, respectively. When generating possible responses, new responses may be constructed or responses from memory of previous situations can be activated (Crick & Dodge, 1994). The generation and evaluation of responses is affected by emotional intensity and regulation – overwhelming emotion and poor regulation can cause a child to be unfocused, leading to limited production of possible responses. Additionally, possible responses are evaluated by considering potential outcomes, relations to goals, emotional consequences, and one's self-efficacy of carrying out the response. Finally, in Step 6, the response that was chosen in Step 5 is behaviourally enacted. The degree of emotional control an individual has affects the presentation of display rules during interaction. Emotional cues from the peer will provide constant feedback about the situation, allowing evaluation of whether or not the behaviour choice was a success (Lemerise & Arsenio, 2000).

Research on Peer Victimization and Emotional Competence in Childhood

Peer victimization is defined as an unprovoked, repeated display of aggression by a more powerful peer (or bully) towards a victim. Power can stem from several factors, including physical size and strength, social role, numbers, systematic power, or knowledge of the victim's vulnerability (Craig & Pepler, 2007). Physical victimization involves the threat of physical harm, such as being shoved or threatened to fight someone. Relational victimization involves damage to or control of relationships and can include being the target of a rumour, being ignored, or being excluded from events (Griffin & Gross, 2004).

Although the prevalence of peer victimization varies by country, in many areas of the world it tends to increase during the late childhood/early adolescent years. Pellegrini, Bartini, and Brooks (1999) examined the incidence of peer victimization and its relation to peer status among a group of American 5th graders. Using multiple-measures and informants, they reported that 14% of the sample was bullies and 18% was victims. Furthermore, Smith and Gross (2006) examined the prevalence of peer victimization among 258 students in grades 5, 6, and 10. Self-reports indicated that 11.45% of girls and 11.11% of boys were victimized.

In addition to the high prevalence of peer victimization found in middle and high school students, victimization also has been identified in younger children. Perren and Alsaker (2006) found that kindergarten bullies, bully-victims, and victims have different social behaviour regarding degrees of aggression and prosocial behaviour. Although sociable, bullies showed high levels of physical and verbal aggression and limited prosocial behaviours. Victims lacked this level of sociability, did not show aggressive behaviours, and were highly prosocial and cooperative. Conversely, Ostrov (2008) found that observed relational aggression was associated with teacher reported relational victimization in preschoolers. The same association was found between physical aggression and victimization. Therefore, children who were observed in more aggressive interactions with peers were reported to be more victimized.

Furthermore, Crick and colleagues (1999) examined gender differences in types of preschool victimization, the relation between victimization and social-psychological outcomes, and the link between aggression and victimization in a sample of 129 children aged 3 to 5 years. Results indicated distinct groups of physically victimized versus

relationally victimized children. Relational victimization was linked to adjustment problems more so than physical victimization. Although relational victimization was stable over one month in all the children, physical victimization was stable only in older children aged 4 years, 7 months to 5 years, 6 months. Relational victimization has been shown to have longer-lasting and more damaging effects than physical victimization (Crick et al. 1999). More recently, Barker and colleagues (2008) examined peer victimization longitudinally in 2120 preschool children. Peer victimization parent ratings were obtained for each child at ages 3, 4, 5, and 6 years, while teacher- and self-ratings were collected at age 7. Between the ages of 3 and 6 years, 25% of the sample was classified as on a moderate/increasing trajectory for peer victimization, while 4% were on a high/chronic trajectory. These same individuals were likely to report high levels of peer victimization in the first grade, demonstrating early continuity in victimization.

The effects of childhood peer victimization often impact victims' future relationships because victimization causes a disruption in the formation of healthy relationships, leading to decreased feelings of well-being. Isolation of victims from their peer group is associated with withdrawal and a lack of friends. Withdrawal leads children to become socially anxious and avoid social interactions, while their friends often join the bullies or are fearful of associating with a peer-victimized child (Craig & Pepler, 2007). The finding that peer victimization exists among preschoolers highlights the importance of research with this population (Crick et al., 1999).

Social Competence in Relation to Emotion Regulation and Emotionality

Emotion regulation “consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive

and temporal features, to accomplish one's goals" (Thompson, 1994, p. 27-28). Although few studies have examined the relation between peer victimization and emotion regulation, several researchers have investigated different aspects of social competence and emotion regulation (Blair et al., 2004; Cole, Teti, & Zahn-Waxler, 2003; Fabes et al., 1999). Infants' and preschoolers' emerging emotion regulation skills set the stage for later social and emotional development, with emotion regulation being related to social interactions with peers, pursuit of long-term goals, and stress management (Grolnick, Bridges, & Connell, 1996).

Emotion regulation is an ongoing and dynamic process that involves maintaining, enhancing, inhibiting, and subduing emotional arousal (Cole et al., 1996). The use of emotion regulation skills by preschoolers is demonstrated in studies that present children with challenging situations and observe their reactions and coping strategies. These studies include tasks such as delays in receiving a desirable object, frustration upon separation from a primary attachment figure, emotion-activating tasks, disappointment upon receiving an undesirable object, and frustration attempting to complete a difficult task (Cole et al., 2004).

In a study with preschoolers, Blair and colleagues (2004) found that girls with irritable-frustrated temperaments and passive coping skills had internalizing problems and trouble dealing with emotional social situations. Additionally, sad-fearful boys who externalized their emotions were likely to become overtly frustrated and angry in exasperating situations. It has been found that girls tend to be better at regulating their emotions and display more socially competent behaviour during peer interactions than boys (Fabes et al., 1999). Poor emotion regulation is associated with psychopathology,

which can appear in childhood when poor regulatory skills are paired with high negative emotionality (Zeman et al., 2006). Emotionality is central to conceptualizations of temperament and is defined by Eisenberg as “stable individual differences in typical intensity with which individuals experience their emotions...and in threshold to relatively intense levels of emotional responding” (in Lemerise & Arsenio, 2000, p. 111).

Additionally, Fabes and colleagues (1999) determined that preschoolers’ ability to act proficiently in emotionally-provoking peer interactions was partially dependent upon their level of emotional control. An overwhelming amount of negative emotions can lead to aggressive and impulsive behaviour when emotions are under-regulated. Negative emotionality generally includes reactions of frustration, fear, anger, irritability, sadness, and anxiety, whereas positive emotionality involves smiling, laughter, pleasure, and positive anticipation (Blair et al., 2004). Therefore, even though there is a lack of research examining the relation between peer victimization and emotion regulation in preschoolers, there is evidence of peer victimization among these young children and the role of emotional control in their social interactions.

Social Competence and Emotion Understanding

Emotion understanding involves the ability to distinguish among emotional states, including identifying emotional expressions and the situations that elicit them (Denham et al., 2003). This ability is apparent by the age of 3 years and its development has been linked to quality of relationships, language ability, social class, and emotional expressivity (Brown & Dunn, 1996). Children’s understanding of how an individual’s behaviour is related to his/her feelings is vital to the development of their social skills (Dunn, 2000). Similar to emotion regulation, research relating emotion understanding to

peer victimization is lacking. However, there are studies examining the relation of this emotional competency to disruptive behaviour problems, prosocial behaviour, and social competence (Cook, Greenberg, & Kusche, 1994; Denham, 1986; Denham et al., 2003).

As most social functioning has an affective component, emotion understanding must be examined in order to fully understand disruptive social behaviours. With a sample of 220 children age 6-8 years old, Cook et al. (1994) predicted that children with behavioural problems would show deficits in interpreting their own and other's emotional experiences. The Child Behavior Checklist – Parent Report Form was used to obtain a measure of aggressive and externalizing behaviours, while the Kusche Affective Interview – Revised provided a measure of emotional experience and understanding. Researchers used multivariate analyses to examine variables that may account for a significant difference between children classified as disruptive and non-disruptive. Those classified as having behaviour problems showed deficits in talking about emotional experiences and had difficulty identifying emotional cues in themselves and others.

At the other end of the spectrum, the relation between prosocial behaviours and affective perspective-taking was examined in a sample of 2- and 3-year-olds (Denham, 1986). Prosocial behaviours elicited by the children were coded during free play and during interactions between the child and experimenter in which the experimenter enacted emotional reactions that could elicit prosocial behaviours. Emotion understanding was measured through children's receptive and expressive identification of facial expressions and identification of characters' feelings in stories. Positive correlations were found between prosocial behaviour and affective perspective-taking, emotionality, and displays of happiness.

Emotion understanding is vital for understanding one's social world. Denham and colleagues (2003) examined emotional and social competence in a group of 143 3- and 4-year-olds. Children's level of emotion understanding was gauged by their ability to identify the emotions of characters in a series of stories. Social competence ratings were obtained from both classroom peers and teachers in preschool and kindergarten. These researchers found that preschoolers' ability to understand clear-cut negative emotional situations was positively related to teachers' ratings of children's social competence in preschool and kindergarten.

In another study, Denham and colleagues (1990) examined the relation between emotion understanding, peer competence, and peer likability in 65 preschool children age 2 to 4 years. Affective-labelling and affective perspective-taking tasks were used to measure emotion understanding. Children identified faces receptively and expressively, and chose appropriate emotions after hearing a series of vignettes. Peer status was determined by peers ranking photos of their classmates. Teachers completed the Baumrind Preschool Behavior Q-Sort as a measure of peer competence and the Preschool Behavior Questionnaire as a measure of prosocial behaviour and aggressiveness. Results showed that children who were better at understanding emotions (specifically affective perspective-taking) were more likable by peers and had higher levels of peer competence. Overall, these research findings indicate a link between children's ability to understand emotions and the development of their social skills.

Study of Peer Victimization and Emotion Regulation

Due to few studies conducted in the area, it is not clear to what extent peer victimization is related to emotion regulation, especially during the preschool years. One

exception to the lack of combined study of peer victimization and emotion regulation is a study by Wilton and colleagues (2000), in which researchers examined children's emotion regulation and coping behaviours during peer victimization episodes. As deficits in emotional skills are predicted to contribute to psychopathology linked to peer victimization, observation of children in conflictual situations can provide insight into the functioning of emotion regulation skills during victimization episodes and to the outcome of these episodes. Children from two Canadian elementary schools were classified as bullies, victims, or neither using the Bully/Victim Questionnaire (BVQ) for self-nominations, the Modified Peer Nomination Inventory (MPNI) for peer nominations, and behavioural descriptions from teachers. The final sample included 60 girls and 60 boys in grades 1 through 6, each bully or victim having received at least two nominations. Targeted children were observed during play episodes twice a year for three years, while their emotional displays and coping styles were recorded.

Results indicated that emotion regulation on the part of the victim affected the course and outcome of the victimization episode. The nature of the emotional display conveyed information to the bully during social interactions. Positive displays by the victim were reinforcing to the bully's behaviour. Anger in a victim without good coping skills (for example, a child that does not get help) also reinforced the bully's behaviour. Displays of sadness were also reinforcing to the bully, as it encouraged feelings of dominance over the victim (Wilton et al., 2000).

Coping styles were assumed to be an extension of the victim's emotional display. Aggressive coping strategies were 13 times more likely to encourage the bullying behaviour over problem-solving strategies. Victims unable to control aggressive displays

became continually angry and distressed as the situation progressed. For example, aggressive victims tended to react quickly to frustration, unable to cope with the victimization. This frustration led to anger paired with poor regulatory skills, leading the victim to act out aggressively towards the bully. A low arousal threshold coupled with poor emotion regulation skills puts a child at risk for both externalizing and internalizing problems (Wilton et al., 2000).

Wilton and colleagues (2000) concluded that emotion regulation does play a role in victimization episodes. My goal is to extend the study of this relation downward to include children age 3 to 5 years. Evidence that peer victimization does take place in the preschool years and that these young children use emotional processes during social interactions highlights the importance of performing a study of these constructs in such a young population.

Theoretical Base of Peer Victimization and Emotional Competence in Preschoolers

Based on the aforementioned study on peer victimization and emotion regulation, Wilton and colleagues (2000) concluded that victims with good emotion regulation deal more effectively with peer victimization situations by assessing their own feelings and the interpersonal information exchanged with the bully. The role of emotion processes in victimization episodes can be viewed within Lemerise and Arsenio's (2000) modified SIP model. The combination of social and emotional processes in the model helps highlight both the social power dimensions and the role of emotional control in peer victimization outcomes.

For example, consider the situation in which a bully is approaching a less powerful, victimized peer on the playground. At this point the database of acquired

knowledge comes into play for both the bully and the victim. Social schemas have already been developed based on previous peer victimization episodes, allowing both the victim and the bully to access social knowledge regarding a typical interaction with the peer. Affect-event links will also be activated, thereby provoking emotions associated with past victimization experiences. In Step 1, the bully and the victim recognize the emotional expression in the other – perhaps anger in the bully and fear in the victim. They encode affective cues received from the other, with the victim concluding the presence of a threatening situation. The nature of the already present bully-victim relationship will affect the interpretation of the affective cues in Step 2. For example, the victim may attribute the motivation behind the bully's emotions and actions to hostile intent, rather than if another classmate was approaching him/her. The attribution of intention changes how affective cues are encoded.

In Step 3, the negative emotional interaction already occurring between the victim and the bully will alter the victim's goals, as negative cues are shown to discourage further interaction. The victim's capability of regulating his/her emotions in the situation will partly determine how well the individual's goals are formulated. Goals pertaining to avoidance and revenge often occur in social interactions characterized by a negative relationship - if the victim is overwhelmed by emotions, his/her goals may be avoidant (Lemerise & Arsenio, 2000).

Response retrieval is often based on previous experiences in similar situations. Therefore, in Step 4, if the victim generally reacts with withdrawal in victimization situations, he/she may be more likely to exhibit this behaviour again. Victims with good emotion regulation tend to be less affected by intimidating situations, allowing them to

sort through a variety of possible responses, instead of reverting to ineffective strategies. The response decision in Step 5 will be greatly affected by the number of possible responses hypothesized in Step 4. Victims without good control over their emotional display will lack the flexibility to adapt their emotions to the situation, and their chosen behaviour enactment in Step 6 will be a product of this (Lemerise & Arsenio, 2000).

The results of Wilton and colleagues' (2000) study may also be interpreted within Lemerise and Arsenio's theoretical framework. Their finding that the nature of emotional displays by the victim serves to reinforce or dispel the bully's behaviour fits within Step 1 and 2 of the SIP model in which affective cues from the peer are encoded and interpreted. Wilton and colleagues also concluded that children high in emotionality with poor regulatory skills tend to act out aggressively. A child who is overwhelmed with emotion and unable to control it would have trouble clarifying situational goals, accessing a variety of possible responses, and choosing the appropriate behaviour, leading to the aggressive reactions described in the study.

As these examples demonstrated, a bully-victim interaction fits within the emotion dimensions of Lemerise and Arsenio's SIP model. Victims' emotional appraisal of the interaction and their subsequent control over emotional reactions determines the response strategies formulated and used. Processes in each step and the behaviour enactment in Step 6 will affect the outcome of the victimization episode. The study of emotion regulation in relation to peer victimization in preschoolers can help recognize problematic emotion regulation strategies used during peer interactions and will, therefore, contribute to the development of interventions (Wilton et al., 2000).

The Present Study

The present study focused on the emotional components of Lemerise and Arsenio's (2000) model, while also taking a broader perspective by examining these processes in relation to peer victimization as a whole, and not in relation to the individual steps during a provocation. In addition to the role that emotionality and emotion regulation play in peer victimization, I also considered the role of emotion understanding. More specifically, I viewed emotionality as a starting point for the model as temperament tends to be a relatively stable trait that influences other emotional and social processes. Negative emotionality coupled with poor emotion regulation and understanding were hypothesized to be associated with higher levels of victimization. This relationship was proposed to be affected by both sex and verbal ability because (a) findings indicate that girls tend to express more negative emotionality, are better regulators of their emotions, and are better at interpreting and explaining emotions than boys (Brown & Dunn, 1996; Fabes et al., 1999), and (b) significant positive correlations have been found between children's emotion understanding skills and their language ability (Brown & Dunn).

Firstly, I hypothesized that poor negative emotion regulation and high negative emotionality would be more likely among children experiencing higher levels of peer victimization, while controlling for verbal ability, sex, and emotion understanding. Eisenberg and colleagues (1995) found that emotion regulation and negative emotionality contributed additively and independently to social functioning in children. Previously, researchers have found in older children that the combination of poor emotion regulation skills and high negative emotionality reinforces the bully's behaviour (Wilton et al.,

2000). Because the victim's reactions include those of anger and aggression, the bully sees that the provocation has worked and continues the victimization.

Secondly, again controlling for verbal ability and sex, I hypothesized that the victims' behaviour would be related to their ability to understand emotions over and above their emotion regulation skills. Preschoolers are in the midst of developing abilities to understand emotions and the provoking situations related to them (Brown & Dunn, 1996). I hypothesized that emotion understanding plays a role in the encoding of internal and external affective cues. Children who have difficulty identifying their own emotions will subsequently have trouble regulating these emotions during a peer victimization episode. Additionally, a child having difficulty interpreting the emotional cues from another may mistakenly enter a provoking situation.

In summary, I propose that emotionality, emotion regulation, and emotion understanding affect the process and outcome of peer victimization. Moreover, this relation is hypothesized to be evident while controlling for both language abilities and sex. The following study examined these relations among preschool children, administering multiple measures to parents, teachers, and children, in order to further elucidate factors that provoke peer victimization.

Method

Participants

All parents of children ages 3 to 5 years at one daycare and two preschools were invited to participate in the study. The daycare supervised children ages 2 to 5 years and of the 30 eligible children, 14 participated. Both preschools conducted programs for children ages 3 to 5 years, one incorporating parent-participation and the other run solely

by teachers. With 45 children enrolled, 4 children were recruited from the parent-participation preschool. Thirty-four of the 78 children attending the other preschool participated in the study. Of the 52 children recruited and tested, 2 children were not included in the final sample due to refusal to complete all components of testing ($n = 1$) and loss of data due to technical difficulties ($n = 1$). The final sample of 50 children had an age range of 36 to 60 months with a mean age of 49 months. Sixty percent of the sample was male ($n = 30$) and 40% was female ($n = 20$). The sample consisted of 23 3-year-olds ($M = 42.70$ months, $SD = 2.88$), 22 4-year-olds ($M = 53.95$, $SD = 3.26$), and 5 5-year-olds ($M = 60.00$, $SD = 0.00$). One child was identified by the teacher as having English as a second language. All testing sessions were videotaped and lasted approximately 20 minutes.

Procedure

All of the testing occurred at the child's daycare/preschool in a location blocked off from other children. Sessions were videotaped for later coding. The order of the tasks was: Frustration Task, Affective Labelling and Affective Perspective-Taking Tasks, Perceptions of Peer Support Scale (PPSS), and Disappointing Gift combined with Receptive Vocabulary and Picture Naming from the Wechsler Preschool and Primary Scale of Intelligence, Third Edition (WPPSI-III). Task order remained the same for each participant, as the primary interest was in inter-correlations among the measures, not task difficulty. Maintaining the same order is known to reduce the error variance associated with testing (Carlson & Moses, 2001).

Parents were asked to complete two take-home questionnaires and teachers were asked to complete a questionnaire on each participant at their convenience. Sixty-six

percent ($n = 33$) of the parents returned the questionnaires they were asked to complete. Multiple attempts were made to collect completed questionnaires, including distribution of reminder notices and additional copies of the questionnaires. Ninety-one percent ($n = 30$) of the questionnaires were completed by mothers and the rest by fathers. All of the teacher questionnaires ($n = 50$) were returned. Multiple teachers completed the questionnaires at the daycare, whereas all of the questionnaires at the other two centres were completed by one teacher at each preschool.

Written consent was obtained from all parents and teachers, and verbal assent was obtained from all children. Daycares received \$50 for their participation in the study. Children received three small gifts (e.g., stickers) during task administration.

Child Measures

Peer victimization.

Perceptions of Peer Support Scale (PPSS). The PPSS (Kochenderfer & Ladd, 1997) is a child self-report measure of peer support. This study focused on the four items relevant to determining peer victimization among children. Children responded to questions using a 3-point Likert scale (1 = *no*, 2 = *sometimes*, 3 = *a lot*). Following practice with the response scale, children were asked: Does anyone in your class ever: (a) pick on you at school? (b) say mean things to you at school? (c) say bad things about you to other kids at school? and (d) hit you at school? The word “school” in each question was substituted with a more appropriate word - either “preschool” or “daycare.” Overall scores were an average of the points assigned to each question with a range from 1 to 3, with higher scores indicating greater victimization.

In a study by Kochenderfer and Ladd (1997), with a large group of 4- to 6-year-olds, this measure was administered twice during the same year with adequate alpha values of .71 (Fall) and .73 (Spring). A modest association was found between PPSS self-reports and observed reports of peer victimization, offering support for construct validity. As well, concurrent validity was demonstrated through moderate correlations of the measure with known correlates of peer victimization, such as loneliness and peer acceptance (Kochenderfer & Ladd).

Emotion regulation.

Disappointing gift task. Based on procedures from Liebermann, Giesbrecht, and Müller (2007), children ranked 5 items for their desirability. These items were to be given as prizes for subsequently completed tasks. Two items were considered undesirable (e.g., a tissue); while three were more enticing for the children (e.g., crayons). After the next task (Receptive Vocabulary from the WPPSI-III) was presented, children received their first choice item in a gift bag. After the child opened the gift, the experimenter interacted in a neutral fashion with the child for 20 seconds. Next, another unrelated task (Picture Naming from the WPPSI-III) was administered with the child receiving their last choice item in a gift bag upon completion. The experimenter again interacted neutrally for 20 seconds once the gift was opened, after which time the experimenter claimed to have made a mistake, and replaced the undesirable gift with a desirable one. The task was videotaped for later coding of children's responses.

Based on Liebermann and colleagues' (2007) coding scheme (see Appendix), facial expressions, gestures, and verbalizations of positive and negative emotions were

coded after each gift opening. Two trained coders coded these indicators on a second-by-second basis for 20 seconds or until the child lost interest.

Score calculation for the disappointing gift task.

In order to calculate a measure of emotion regulation that controlled for emotionality, difference scores were created for the disappointing gift task. Scores for positive and negative indicators for each gift presentation were first divided by time, because not all sessions continued to the 20 second limit. To create a measure of regulation of negative emotions, children's scores on negative indicators on the highest-ranked gift opening were subtracted from those on the lowest-ranked gift opening. To obtain a measure of regulation of positive emotions, children's scores on positive indicators on the lowest-ranked gift opening were subtracted from those on the highest-ranked gift-opening. As such, higher scores on either the positive or negative dimensions indicated poorer regulation skills.

Frustration task. This task commenced with a practice session, allowing children to try unlocking a lock with a key. The experimenter helped when needed. Based on procedures from Dennis (2006), children were then presented with a transparent locked jar with stickers inside. The participants were given the wrong key to open the lock and allowed one minute to try and open it. After one minute had elapsed, the experimenter claimed to have made a mistake with the key and gave the child the correct key to open the lock.

Adapted from previously used coding procedures (Calkins, Gill, Johnson, & Smith, 1999), the duration of three regulatory behaviours were scored. These behaviours included (a) *aggression/venting*: kicking, throwing, verbal signs of frustration; (b) *help-*

seeking: asking the experimenter for help; and (c) *distraction*: interacting with experimenter or self-focused behaviours. Two trained coders coded these behaviours on a second-by-second basis for approximately 60 seconds when the child was trying to open the jar.

Emotion understanding.

Affective labelling. Affective labelling was measured using a procedure by Denham and colleagues (Denham, 1986; Denham, Zoller, & Couchoud, 1994). Children were presented with a series of pictures of five faces with happy, sad, angry, scared, and alright expressions. The experimenter asked children to point to each facial expression. Participants received 1 point for each correct receptive identification, with a higher overall score indicating better affective labelling skills. A satisfactory internal consistency value of .89 was reported by Denham (1986) in a sample of 2- and 3-year-olds.

Affective perspective-taking. Using an affective perspective-taking task from Denham and colleagues (1986, 1994), the experimenter told the child five stories with corresponding vignettes while providing vocal and visual affective cues for the character. Each vignette depicted a situation common to children that would provoke unequivocal emotional reactions. Children were then asked to choose which one of four faces corresponded to the child's feelings. One point was awarded for each correct response with higher scores indicating better affective perspective-taking skills. Denham (1986) reported a high Cronbach's alpha of .93 when administering this measure to preschoolers.

Language.

Wechsler Preschool and Primary Scale of Intelligence, Third Edition (WPPSI-III). The WPPSI-III (Wechsler, 2002) is an individually administered intelligence test for children. Different test structures exist for children age 2:6 to 3:11 and 4:0 to 7:3. The focus for the current study was on the two subtests that make up the General Language Composite (GLC), a measure of expressive and receptive language development. Receptive Vocabulary involved presenting four pictures to the children and having them point to the picture that corresponded to the word spoken by the experimenter. This subscale contained 38 items and was not timed. It measured word knowledge including receptive language development. In the standardization sample, reliability coefficients were reported to range from .82 to .91 for all age groups. Picture Naming, the other GLC subtest, required children to name a series of pictures presented to them individually. With 30 items, this subscale measured word knowledge including expressive language. Previously reported reliability coefficients for both age bands were between .84 and .90. Items on both subscales were scored 0 (incorrect) or 1 (correct). Higher scores on the subscales and the GLC indicated better performance, and good verbal comprehension and language development. Studies correlating the WPPSI-III with measures of intelligence, memory, and achievement show satisfactory criterion validity (Sattler, 2008).

Parent Report Measures

Emotion regulation.

The Emotion Questionnaire (EQ). The EQ (Rydell, Berlin, & Bohlin, 2003) is a parent-report that measured emotionality (see subsequent section) and emotion regulation in children. With separate sections on the regulation of sadness, fear, anger, and positive

emotions-exuberance, emotion regulation was gauged by items regarding regulatory capacities and emotion regulation abilities when aided by another. Parents responded on a 5-point Likert scale with higher scores indicating better regulatory skills. Satisfactory internal consistency values have been reported for sadness, fear, anger, and positive emotions-exuberance items, respectively (.76; Rydell, Thorell, & Bohlin, 2007; .72, .79, .69; Rydell et al., 2003). Stability of all scales, excluding sadness, reported over 5 weeks, was between .74 and .79 (Rydell et al., 2007). Furthermore, emotion regulation items from the EQ were reported to be consistent with items from the Soothability, Inhibitory Control, and Attentional Focusing subscales of the CBQ, thereby demonstrating adequate construct validity (Rydell et al., 2003).

Emotionality.

The Children's Behavior Questionnaire short form (CBQ). The CBQ short form (Putnam & Rothbart, 2006) is a shortened version of the original CBQ (Rothbart, Ahadi, Hershey, & Fisher, 2001), a measure of temperament for children aged 3 to 7 years. The short form contains 94 items on which parents rated their child's behaviour for the past 6 months on a 7-point Likert scale. The 15 subscales are combined to form three factors: Negative Affectivity, Surgency/Extraversion, and Effortful Control. For the present study, the focus was on Negative Affectivity and Surgency/Extraversion, which examined negative and positive emotionality, respectively. Higher scores on the Negative Affectivity dimension indicated greater negative emotionality, whereas higher scores on the Surgency/Extraversion indicated higher positive emotionality. The psychometric properties of the CBQ short form have been investigated with alpha coefficients ranging from .61 to .85 among the subscales – values found to be only .06 lower than values for

the standard scale. Concurrent validity was assessed by Putnam and Rothbart by examining the correspondence between the original CBQ and the short form. Correlation coefficients for 12 of the 15 subscales were above .70.

The Emotion Questionnaire. In addition to emotion regulation (see preceding section), the EQ (Rydell et al., 2003) also measured the frequency and intensity of emotional reactions related to sadness, fear, anger, and positive emotions-exuberance. With parents ranking on a 5-point Likert scale, higher scores indicated greater emotionality. A previous study reported internal consistency values to be .65 (fear), .77 (anger), and .74 positive emotionality-exuberance. Test-retest stability was reported to range from $r = .62$ to $r = .78$ for all emotionality scales, excluding sadness. In a sample of 6- and 7-year-olds, construct validity was demonstrated between the emotionality items from the EQ and the Anger, Fear, Smiling, and Laughter subscales from the CBQ (Rydell et al., 2003).

Teacher Report Measure

Peer victimization.

Preschool Peer Victimization Measure – Teacher Report (PPVM-TR).

Developed by Crick and colleagues (1999) as a teacher rating of peer victimization in preschool children, this measure examined relational victimization, physical victimization, and the degree to which children were recipients of prosocial behaviour. With three items in each subscale, teachers were asked to rate children on a 5-point Likert scale measuring the degree to which statements were true or false. The scale included items such as “This child gets left out of the group when someone is mad at them or wants to get back at them,” (relational); “This child gets pushed or shoved by peers,” (physical); and “This

child gets invited to join a group of playmates when he/she is playing alone,” (prosocial behaviour) (Crick et al., p. 378). An evaluation of the psychometric properties by Crick and colleagues (1999) found that all the scales were internally consistent with Cronbach’s alpha of .77 (relational), .88 (physical), and .85 (prosocial behaviour). Also, support for discriminant validity was obtained by showing that items within the same scale had larger correlations ($r = .62$ to $r = .79$) than items across scales ($r = .36$ to $r = .55$).

Results

This thesis examined hypotheses concerning the relation between peer victimization and emotional competence in preschool children. The hypotheses are addressed following the presentation of reliability analyses, descriptive statistics, and relations among the measures.

Inter-rater Reliability for the Emotion Regulation Tasks

Inter-rater reliability was calculated using intraclass correlations (ICC) for ratings provided by two raters on 28% of the sample ($n = 14$) for both the disappointing gift task and the frustration task. For the disappointing gift task, reliability was calculated for behaviours during the first choice gift opening ($ICC = .94, p < .001$) and the last choice gift opening ($ICC = .90, p < .001$). Reliability for the frustration task was calculated for aggression/venting ($ICC = .98, p < .001$), helping-seeking ($ICC = .98, p < .001$), and distraction ($ICC = .99, p < .001$). All discrepancies between raters were resolved upon review.

Relations among Measures

The means, standard deviations and ranges for measures of language, emotion

understanding, peer victimization, emotion regulation, and emotionality are presented in Table 1.

Peer victimization measures.

The PPVM-TR is composed of three 3-item subscales. High internal consistency values were found among the questions within the physical victimization, relational victimization, and prosocial behaviour subscales (.81, .74, .85, respectively). The items on the PPSS had an internal consistency of .82.

When examining the relations between the three PPVM-TR subscales and the PPSS (see Table 2), significant correlations were found between the PPVM-TR relational scale and the PPSS ($r = .29, p < .05$), and the PPVM-TR relational and physical victimization scales ($r = .77, p < .01$). Due to the high significant correlation between the relational and physical victimization scales, these scores were summed to create an overall measure of victimization as reported by teachers.

Emotional competence measures.

Several measures of emotion regulation were obtained: (a) positive and negative regulation on the disappointing gift task; (b) frustration, help-seeking, and distraction behaviours on the frustration task; and (c) parent report of children's positive and negative emotion regulation on the EQ. None of the regulatory behaviours on the frustration task were significantly correlated with each other at $p < .05$ (r s ranging from $-.13$ to $.11$). There were floor effects on the help-seeking and distraction components, so the frustration/aggression scores were focused on for further analyses. Among the five measures of emotion regulation, the positive and negative regulation scores on the disappointing gift task were positively correlated indicating that children with poor

negative regulation also showed poor positive regulation. Additionally, a positive relation was found between scores of positive and negative regulation from the EQ. All other correlations between the measures were not significant at $p < .05$ (see Table 3).

Regarding emotion understanding, children's scores on the affective-labelling and affective perspective-taking tasks did not show a significant relation ($r = .27, p > .05$), so they were not aggregated.

Parents provided a report of children's emotionality on two scales that were combined to create a composite score. There was a significant relation between the CBQ negative affectivity and the EQ negative emotionality scales ($r = .40, p < .05$). This relation was also present between the CBQ positive affectivity and the EQ positive emotionality scales ($r = .45, p < .01$). Scores were converted to z-scores and summed to yield both negative and positive emotionality scores.

Peer Victimization Regression Analyses

Several hierarchical regression analyses were run to examine the contribution of emotion regulation, emotionality, and emotion understanding to peer victimization, while controlling for sex and verbal ability. Zero-order correlations among these variables are presented in Table 4. The first hypothesis, exploring the contribution of negative emotionality and negative regulation to peer victimization, was examined using the PPVM-TR physical/relational score as the criterion; sex and verbal ability were entered in the first block (see Table 5). Only one emotion understanding measure was used in order to reduce the number of predictors, given the small sample size. Using the strength of the zero-order correlation with peer victimization as a criterion, the affective perspective-taking score from emotion understanding was entered into the second block.

The combined negative emotionality score from the CBQ and EQ was entered into the third block, with regulation of negative emotions from the EQ entered into the fourth and final block. As not all parents returned the questionnaires, this regression was conducted on a sub-sample ($N = 33$). As none of the predictors accounted for significant variation, there was no evidence that parent report of children's negative emotionality and regulation predicted peer victimization.

Since only a subset of the sample could be used to test the first hypothesis, additional regressions were run using an emotion regulation measure completed by all participants. The combined physical/relational victimization score from the PPVM-TR was used as the criterion with sex and verbal ability entered as predictors in the first block. Verbal ability was found to be a significant predictor, $\beta = -.32$, $t(49) = -2.30$, $p < .05$. Both emotion understanding scores (labelling and perspective-taking) were entered into the second block, and the negative regulation score from the disappointing gift task was entered into the third and final block. None of these predictors accounted for significant variation (see Table 6). Next, all of the predictors were entered in the same order, except the victimization score from the PPSS was used as the criterion. Results indicated that none of the predictors accounted for a significant amount of variance (see Table 7). Despite having a significant zero-order correlation with the criterion, affective-labelling was not a significant predictor of victimization after controlling for sex and verbal ability.

Finally, a regression was run to examine the effects of emotion understanding over and above that of regulation (see Table 8). With the PPVM-TR physical/relational score as criterion and controlling for sex and verbal ability, the negative regulation score

from the disappointing gift task was entered in block two. In the third block, both emotion understanding scores were entered. As with the first regression, verbal ability was found to be the only significant predictor, $\beta = -.32$, $t(49) = -2.30$, $p < .05$.

Quadratic Analyses

Quadratic regression models can be used to explore possible nonlinear relations among variables. These models have been used in emotion regulation research to examine U-shaped functions between regulation difficulties and low and high levels of inhibition (Carlson & Wang, 2007). As the linear regression models did not show any significant relations between peer victimization and emotion regulation, several nonlinear models were run to explore the possibility of U-shaped relations between emotion regulation and peer victimization. Conceptually, a U-shaped relation implies that children who show too little or too much regulation are more likely to experience peer victimization (for analogous reasoning with respect to emotion regulation and inhibition, see Carlson and Wang, 2007).

Three quadratic models were run using the PPVM-TR combined physical/relational score as the criterion and several measures of emotion regulation as predictors (aggression/venting from the frustration task, negative regulation from the disappointing gift task, and positive regulation from the disappointing gift task). The same models were run replacing the teacher victimization score with the child score from the PPSS. Results showed that the quadratic relation between the different measures of emotion regulation and peer victimization as reported by teachers (see Table 9) and children (see Table 10) were not significant.

Discussion

The present study examined the relation between peer victimization and emotional competence, including emotionality, emotion regulation, and emotion understanding, in preschool children. Peer victimization is linked to long-term emotional and social problems (Griffin & Gross, 2004), and researchers have found distinct groups of physically and relationally victimized children in preschool (Crick et al., 1999). Despite a lack of research examining the contribution of emotional processes to peer victimization, emotional competence is viewed as vital for positive social outcomes (Cole et al., 2004).

The following two hypotheses were tested: (a) Poor emotion regulation skills and high negative emotionality are more likely among children experiencing higher levels of peer victimization, and (b) the ability to understand emotions is related to lower levels of victimization. These hypotheses were not supported by the results. Findings related to each hypothesis are discussed in detail along with the outcomes of additional exploratory analyses. Following this, limitations to the study and future directions for research are considered.

Summary of Primary Findings

The first hypothesis was not supported by the regression analysis. None of the variables accounted for significant variation in peer victimization. Results showed no evidence that parent report of children's negative emotionality and emotion regulation was associated with peer victimization. Because this analysis was based on the subsample of children whose parents returned the questionnaires, an additional analysis was performed that included the entire sample. This analysis did not indicate a contribution of

emotion understanding or emotion regulation to peer victimization, based on either teacher or child reported victimization, despite a significant correlation between affective-labelling and PPSS scores. However, verbal ability was a significant predictor of peer victimization, with verbal ability negatively correlated with PPVM-TR physical/relational scores. This finding indicates that lower verbal ability scores are linked with higher levels of victimization in preschoolers as reported by teachers.

The second hypothesis examined the contribution of emotion understanding to peer victimization over and above that of emotion regulation. Similar to the findings with respect to emotion regulation and negative emotionality, emotion understanding was not associated peer victimization. Again, verbal ability emerged as a significant predictor of victimization.

Contribution of Emotional Competence to Peer Victimization

The regression findings that negative emotionality, poor emotion regulation, and poor emotion understanding skills are not associated with peer victimization are not consistent with other findings. However, the significant correlation between peer victimization and emotion understanding is supported by past research. Researchers have found links among emotional competencies and peer victimization, social competence, and emotional peer interactions (Denham et al., 1990; Denham et al., 2003; Fabes et al., 1999; Wilton et al., 2000).

Fabes and colleagues (1999) found that greater negative emotionality paired with under-regulated emotions can hinder preschoolers' ability to act competently in emotional peer interactions. This pairing may lead to aggressive outbursts and an inability to process social cues. In regards to victimization episodes in elementary school,

Wilton and colleagues (2000) found that displays of anger and sadness were reinforcing to the bully leading to continued victimization. Victims also tended to have aggressive coping strategies with escalating levels of frustration and anger.

Research examining emotion understanding has found that the ability to identify the emotional states of others is positively correlated with social competence. Denham and colleagues (2003) found that the ability of preschoolers to identify emotionally-provoking situations and the corresponding emotions was positively related to social competence. In addition, a previous study by Denham and colleagues (1990) found that 2- to 4-year-olds with better emotion understanding skills had more competent peer interactions.

Given these empirical findings, why did the current study not find similar associations between peer victimization, emotion regulation and emotionality? There are several possible explanations. The failure to find significant findings could be due to the measures employed in the study, mainly limitations to the measures of emotionality, emotion regulation, and peer victimization. First, as emotionality represents a child's baseline emotional reactivity, it can be a difficult construct to measure experimentally. Due to this, two parent questionnaires were employed, and the scores were aggregated to create a more reliable measure. One of the questionnaires also gauged children's emotion regulation. However, there are limitations to parent reports that may have contributed to findings not consistent with previous research. As parents generally do not observe their children in classroom interactions, these reports may have been skewed towards home observations. Parent reports may also be easily biased with parents trying to present their child in a positive light (Underwood, 1997).

Next, a reason for the lack of relation between emotion regulation and peer victimization may be due to the variability of the emotion regulation construct and the measures that were used to gauge it. In addition to parent reports, several types of measures are available to examine emotion regulation, including self-report, performance-based measures, naturalistic observations, and physiological measures. As all of these measures have disadvantages, multi-method investigations have been suggested (Underwood, 1997). Although multiple measures of emotion regulation were employed in the present study, the frustration task, disappointing gift task, and parent questionnaires were not correlated with each other, making it difficult to determine the most reliable measure of the construct.

Performance-based measures, such as the frustration and disappointing gift tasks, offer the advantage of not relying on young children's reports of their emotional experiences. However, these types of measures also present children with novel contexts and stimuli, that may heighten or dampen certain emotions (Cole et al., 2004). Cole and colleagues (1996, 2004) suggested that studies measuring emotion regulation based on facial expressions and overt behaviours (as in the present study) would benefit from simultaneously measuring physiological indicators of emotionally expressive behaviour, such as heart rate, skin conductance, and vagal tone.

A disadvantage of many experimental measures of emotion regulation is their removal from the emotion-provoking context. In their study examining emotion regulation and peer victimization, Wilton and colleagues (2000) coded emotion regulation from naturalistic observations. These researchers coded emotional facial expressions and behaviour indicative of regulatory behaviours during videotaped

episodes of peer victimization in the classroom. This may be a more valid measure of emotion regulation in relation to victimization episodes, as it captures the true nature of the regulation during the emotionally-provoking situation.

A lab-based measure that may capture more of the regulatory behaviours related to victimization is a self-report adaptation of the adult-report Children's Coping Scales (Giesbrecht, 2008). In this measure, children are asked how they would respond to several vignettes depicting peer rejection and aggression. Perhaps it is only emotion regulation associated with specific emotion-provoking social contexts that is related to peer victimization. The emotion regulation skills that children employ during a peer victimization episode may differ from those used during a less emotionally-charged interaction.

Lastly, teacher-report and self-report peer victimization measures may succumb to some of the same disadvantages as parent reports. Teachers may present their daycare/preschool in a positive light and children may avoid being "tattle tales" by providing low victimization ratings. Also, reports of relational victimization by teachers may underestimate the incidence of these acts because relational acts are more difficult to spot than physical ones, and children are less likely to report them (Griffin & Gross, 2004). Obtaining reports from two teachers per child may help both to reduce any bias associated with victimization measures and to increase reliability.

Interestingly, the affective-labelling component of emotion understanding showed a moderate significant negative correlation with victimization as reported by children (PPSS scores), meaning that poorer emotion understanding was related to increased victimization. As this association was not found with the teacher victimization report, the

validity of the victimization measure could be considered a factor (see subsequent discussion). However, as mentioned, emotion understanding was not a significant predictor of victimization after controlling for language and sex. As significant correlations have been found between children's emotion understanding skills and their language ability, children's verbal ability may have accounted for the variance in the predictor (Brown & Dunn, 1996).

Another possibility for the lack of association between emotional competence and peer victimization is that Lemerise and Arsenio's (2000) model, while it may be applicable for school-age children, may not adequately capture the relation between emotion regulation and social information processing in preschool children. Although support has been found for aspects of the model (Blair et al., 2004; Fabes et al., 1999), it is not clear whether preschool children will distinctly cycle through all of the steps during a victimization episode. Younger children may not have the cognitive capacity to integrate all of the emotional and social information like older children, causing episodes of peer victimization to be more random. Additionally, emotion understanding may not play as great a role as hypothesized if younger children are not drawing on all of their emotional resources in emotionally-provoking peer situations. The ability to understand another's emotions is just emerging around the age of 3 (Brown & Dunn, 1996), so it may not be developed enough to have an apparent relation to peer victimization.

Furthermore, several steps in Lemerise and Arsenio's (2000) model are dependent upon script-based and specific memories. For example, what the child remembers about the nature of the already present bully-victim relationship will affect the interpretation of affective cues in Step 2. Also, Step 4 is dependent on a child's scripts, since response

retrieval is based on previous experiences in similar situations. It is possible that, for preschoolers, not enough peer victimization episodes have occurred to result in a script. It is well known that preschoolers tend to organize events as scripts based on causal and temporal aspects of the situation. In other words, young children remember what usually happens, as opposed to remembering the specific details. In order to form these scripts, children must attend to and perceive the event, and make sense of the experience. Children between the ages of 2 and 3 years rely mostly on script-based memories. This raises the question of whether preschoolers have formed stable schematic memories of previous peer victimization episodes (Bjorklund, 2005).

Contribution of Verbal Ability to Peer Victimization

In contrast to the findings concerning emotional competence, the finding that language scores from the WPPSI-III were significantly negatively correlated with peer victimization is consistent with past findings. The relation between social competence (including peer victimization) and language skills has been examined in some depth (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Lindsay, Dockrell, & Mackie, 2008; McCabe & Meller, 2004; Savage, 2005). Language abilities are a key factor for building and maintaining relationships, for positive socialization, and for interpersonal communication, with language-related difficulties first appearing in the preschool years. Children with speech and/or language problems often have trouble communicating feelings, difficulties developing problem-solving strategies, and lack socially competent behaviour patterns (McCabe & Meller).

Based on speech-language assessments, McCabe and Meller (2004) divided 71 3- to 5-year-olds into a language-impaired and a non-language-impaired (control) group,

and examined their social competence using the Social Skills Rating Scale. When compared with the control group, the language-impaired children performed significantly worse on measures of receptive and expressive vocabulary and had less developed social skills. Furthermore, Savage (2005) found that grade 7 students with speech and language difficulties reported significantly more peer victimization than other students.

Findings from the present study indicated that verbal ability was significantly related to victimization scores as reported by teachers, but not those reported by children. One reason for this inconsistency may be that children with lower verbal ability had difficulty reporting victimization on the child measure, leading to lower victimization scores compared to those reported by teachers. Employing observational measures of peer victimization in future studies with young children could overcome this obstacle.

Another reason for this discrepancy may be linked to the reliability of the victimization measures. The PPVM-TR was completed by the teacher who knew the child best; questionnaires for the majority of the children in the study were completed by the same teacher providing consistency in responding. The PPVM-TR has demonstrated adequate psychometric properties including satisfactory internal consistency values for children within the same age range as those in the present study (Crick et al., 1999). While adequate internal consistency values have also been reported for the PPSS, this was in a group of children age 4 to 6 years (Kochenderfer & Ladd, 1997). As a large portion (46%) of the current sample was 3-year-olds, the ability of these young children to adequately understand and respond to the PPSS could have been limited. Therefore, in the present study, the teacher measure may have been a more reliable measure of victimization than the child report.

Verbal ability and other language skills may be related to peer victimization for a variety of reasons. It has been suggested that children with poor communication skills may not be able to sort through appropriate coping strategies and are less likely to ask for help (Savage, 2005). When interpreting a peer victimization episode from the perspective of Lemerise and Arsenio's (2000) model, one can see that verbal ability would likely play a large role in interpreting cues, clarifying goals, and choosing an appropriate response. The negative relation between peer victimization and verbal ability has implications for employing typical intervention strategies that encourage children to speak up and ask for help (Savage).

Curvilinear Relations

The quadratic regression models were used to explore whether children with moderate levels of emotion regulation would experience the least victimization. The rationale for running the post hoc quadratic regression models was that children with poor (low) regulation skills would provoke continued victimization due to outbursts of emotion, whereas children with good (high) regulation skills may actually be demonstrating a lack of emotional responses to regulate. None of the quadratic relations were significant. Carlson and Wang (2007) found a quadratic relation between emotion regulation and inhibition such that children with moderate levels of inhibition exhibited the best emotion regulation skills. Furthermore, Cole and colleagues (1996) found that children with modulated emotion regulation exhibited less externalizing and internalizing problems than children with high or low regulation. Further research, with additional measures of emotion regulation (as discussed above), is needed to see if this trend holds for victimization.

Limitations

A number of limitations are apparent in the present study. Firstly, the small sample size may have produced results not representative of the general population. This is particularly relevant to the regression conducted on the subsample of participants for whom parent questionnaires were returned. Although multiple attempts were made to gather information from parents, the questionnaire return rate was lower than expected. Testing in a laboratory space where parents are present with their child, rather than sending questionnaires home in preschool/daycare mailboxes, may alleviate this problem.

Secondly, measurement agreement presented some complexity as many of the measures for the same variables were not significantly correlated. As scores from these measures were not able to be aggregated, it was difficult to determine which measure provided a more reliable measure of the construct at hand. As discussed above, additional measures of emotion regulation (e.g. physiological measures) may contribute to more precise measurement.

Lastly, it would be useful to obtain a baseline measure of aggressive interactions in each testing setting. As the frequency of these interactions will vary based on the degree of supervision in each preschool, this data would be useful for interpreting teacher victimization reports across settings.

Practical Implications

The study of emotional and social competence, and the results of the present study have implications for the implementation of anti-bullying prevention and intervention programs. The negative relation found between verbal ability and peer victimization is an important consideration when designing such programs. Many peer victimization

programs focus on encouraging children to tell someone (e.g., a parent or a teacher) about the victimization. Children with lower verbal abilities may have trouble employing this strategy, leading to the internalization of these social problems. Taking this into consideration, programs should focus on including strategies to help children with language problems and encouraging reliance on social supports (Savage, 2005).

Although the current study did not find significant relations between emotional competencies and peer victimization, other studies have found important links to social competence (Blair et al., 2004; Denham et al., 1990; Denham et al., 2003; Fabes et al., 1999). Elucidating the role that emotion processes have in peer relationships is vital to understanding children's socio-emotional well-being (Zeman et al., 2006). Emotional processes can alter the quality of peer interactions (Fabes et al., 1999) and the ability to regulate emotions varies depending on the relationship one has with the person he/she is interacting with (Underwood, 1997). If emotion processes are found to play a role in peer victimization in preschoolers, focusing on strategies to control emotional expression and abilities to understand emotional expressions may prove effective.

Future Research

There are several avenues that future research on peer victimization and emotional competency should explore. As discussed, several issues surround the measurement of emotion regulation. In order to obtain a consistent and reliable measurement of this construct, future studies should employ multiple methods, such as experimental, physiological, and observational measures with children combined both with parent and with teacher reports.

Furthermore, it would be valuable in future peer victimization research to employ naturalistic observation of the victimization episodes. These observations can provide complex and rich data for facial coding of emotion regulation, information about the frequency of victimization occurrence, and discrimination of physical from relational victimization. Although many peer victimization incidences take place in a classroom setting, the playground is known as the most frequent location of peer victimization (Wilton et al., 2000). Well-structured playground observations would provide rich situational data of victimization episodes.

Finally, as the preschool years are a time of rapid growth and development, it would be useful to map changes in peer victimization and emotional competencies over the years. Coinciding changes in developing emotional and social competencies are not apparent from a one-time sampling of behaviours. Rather, these changes are only captured by longitudinal studies, which may provide further insight into victimization among preschoolers.

Despite not finding a significant relation between peer victimization and emotional competence in preschoolers in the current study, there is evidence that this relation exists in older children (Wilton et al., 2000) and that peer victimization is evident in the preschool years (Crick et al., 1999). The relation between verbal ability and peer victimization that was found in the present study has important implications for the design of prevention and intervention programs. Given the importance of emotional competency skills for children's social development, the study of emotional competence in relation to peer victimization merits continued attention in future research.

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Appendix

Behaviours Coded in the Disappointing Gift Task

Positive Dimension:

1. Smile
2. Positive vocalization about gift
3. Smiling eye contact with experimenter
4. Identifies with gift
5. Verbalization of usefulness

Negative Dimension:

1. Straight-line or pursed mouth
2. Negative verbalization about gift
3. Shoulder shrug
4. Distances from gift

Table 1

Means, Standard Deviations, and Ranges for all Measures of Language, Emotion Understanding, Peer Victimization, Emotion Regulation, and Emotionality

Measure	<i>N</i>	<i>M</i>	<i>SD</i>	Range (Min-Max)
Child Measures				
Peer Victimization				
PPSS	50	1.56	0.63	1-3
Emotion Regulation				
Disappointing Gift, negative regulation	50	0.11	0.16	0-.60
Disappointing Gift, positive regulation	50	0.25	0.34	-.40-1.20
Frustration Task, aggression/venting	50	0.05	0.06	0-.22
Emotion Understanding				
Affective-labelling	50	4.44	0.73	2-5
Affective perspective-taking	50	3.54	1.13	1-5
Language				
GLC Score	50	109.26	12.50	84-114
Parent Report Measures				
Emotion Regulation				
EQ, negative regulation	33	3.80	0.43	2.78-4.56
EQ, positive regulation	33	3.51	0.49	2.67-4.50
Emotionality				
CBQ, negative emotionality	33	4.02	0.42	3.25-4.89
CBQ, positive emotionality	33	4.80	0.45	3.87-5.81
EQ, negative affectivity	33	2.85	0.59	1.75-4.42
EQ, positive affectivity	33	3.83	0.64	2.50-5.00
Teacher Report Measure				
Peer Victimization				
PPVM-TR physical	50	1.45	0.70	1.00-3.67
PPVM-TR relational	50	1.99	0.81	1.00-4.00
PPVM-TR physical + relational	50	3.44	1.42	2.00-7.34

Note. GLC = General Language Composite; PPSS = Perceptions of Peer Support Scale; PPVM-TR = Preschool Peer Victimization Measure – Teacher Report; EQ = Emotion Questionnaire; CBQ = Children’s Behavior Questionnaire – short form.

Table 2

Zero-order Correlations between Child and Teacher Peer Victimization Measures/Scales (N = 50)

Measure	1	2	3	4
1. PPVM-TR Physical Victimization	-	.77**	-.13	.26
2. PPVM-TR Relational Victimization		-	-.19	.29*
3. PPVM-TR Prosocial Behaviour			-	-.15
4. PPSS Score				-

Note. PPVM-TR = Preschool Peer Victimization Measure – Teacher Report; PPSS = Perceptions of Peer Support Scale.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Table 3

*Zero-order Correlations between Child and Parent Emotion Regulation Measures
(N = 50)*

Measure	1	2	3	4	5
1. Disappointing Gift, negative regulation	-	.38**	.05	-.17	-.19
2. Disappointing Gift, positive regulation		-	.25	.02	.16
3. Frustration Task, aggression/venting			-	-.01	.11
4. EQ, negative regulation ^a				-	.41*
5. EQ, positive regulation ^a					-

Note. EQ = Emotion Questionnaire.

^aN = 33

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Table 4

Zero-order Correlations between Sex, Language, Emotion Understanding, Peer Victimization, Emotion Regulation, and Emotionality Variables used in the Regression Analyses (N = 50)

Measure	1	2	3	4	5	6	7	8	9
1. Sex	-	.12	.12	-.07	-.01	-.12	.32	-.11	-.13
2. Verbal ability (GLC)		-	.24	.05	-.27	-.33*	.11	-.09	-.10
3. Affective-labelling			-	.27	-.32*	-.07	.02	.26	.05
4. Affective perspective-taking				-	-.25	.15	-.14	.07	.30
5. PPSS Score					-	.29*	-.05	-.12	-.02
6. PPVM-TR physical + relational						-	-.14	.09	.04
7. Disappointing Gift, negative regulation							-	-.17	.20
8. EQ, negative regulation ^a								-	-.39*
9. CBQ/EQ negative emotionality ^a									-

Note. GLC = General Language Composite; PPSS = Perceptions of Peer Support Scale; PPVM-TR = Preschool Peer Victimization Measure – Teacher Report; CBQ = Children’s Behavior Questionnaire short form; EQ = Emotion Questionnaire.

^aN = 33

**p* < .05, two-tailed.

Table 5

Summary of Hierarchical Regression Analysis Examining the Contribution of Emotion Understanding, Emotionality, and Emotion Regulation (Parent Report) to Teacher Report of Peer Victimization (PPVM-TR physical/relational; N = 33)

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
Block 1				.09
Sex	0.10	0.48	.04	
GLC (verbal ability)	-0.03	0.02	-.30	
Block 2				.01
Affective perspective-taking	0.13	0.20	.11	
Block 3				.00
CBQ/EQ negative emotionality	-0.01	0.15	-.02	
Block 4				.00
EQ negative regulation	0.20	0.63	.07	

Note. GLC = General Language Composite; CBQ = Children's Behavior Questionnaire - short form; EQ = Emotion Questionnaire.

* $p < .05$, two-tailed.

Table 6

Summary of Hierarchical Regression Analysis Examining the Contribution of Emotion Understanding and Emotion Regulation (Child Measure) to Teacher Report of Peer Victimization (PPVM-TR physical/relational; N = 50)

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
Block 1				.11
Sex	-0.24	0.40	-.08	
GLC (verbal ability)	-0.04	0.02	-.32*	
Block 2				.03
Affective-labelling	-0.10	0.29	-.05	
Affective perspective-taking	0.22	0.18	.18	
Block 3				.00
Disappointing Gift, negative regulation	-0.62	1.35	-.07	

Note. GLC = General Language Composite.

* $p < .05$, two-tailed.

Table 7

Summary of Hierarchical Regression Analysis Examining the Contribution of Emotion Understanding and Emotion Regulation (Child Measure) to Child Report of Peer Victimization (PPSS report; N = 50)

Variable	<i>B</i>	<i>SE B</i>	β	ΔR^2
Block 1				.08
Sex	0.03	0.18	.03	
GLC (verbal ability)	-0.01	0.01	-.28	
Block 2				.10
Affective-labelling	-0.19	0.13	-.22	
Affective perspective-taking	-0.10	0.08	-.18	
Block 3				.00
Disappointing Gift, negative regulation	-0.27	0.59	-.07	

Note. GLC = General Language Composite.

* $p < .05$, two-tailed.

Table 8

Summary of Hierarchical Regression Analysis Examining the Contribution of Emotion Understanding over Emotion Regulation (Child Measure) to Teacher Report of Peer Victimization (PPVM-TR physical/relational; N = 50)

Variable	<i>B</i>	<i>SE B</i>	β	ΔR^2
Block 1				.11
Sex	-0.24	0.40	-.08	
GLC (verbal ability)	-0.04	0.02	-.32*	
Block 2				.01
Disappointing Gift, negative regulation	-0.82	1.33	-.09	
Block 3				.03
Affective-labelling	-0.10	0.29	-.05	
Affective perspective-taking	0.21	0.19	.17	

Note. GLC = General Language Composite.

* $p < .05$, two-tailed.

Table 9

Quadratic Relation between Teacher Report of Peer Victimization (PPVM-TR physical/relational) and Child Measures of Emotion Regulation (N = 50)

Predictor	<i>df</i>	<i>F</i>	<i>P</i>	Constant	b1	b2
Frustration Task, aggression/venting	2, 47	3.12	.05	2.72	25.62	-128.79
Disappointing Gift, negative regulation	2, 47	1.26	.29	3.74	-5.57	9.10
Disappointing Gift, positive regulation	2, 47	1.18	.32	3.66	-.53	-.50

* $p < .05$, two-tailed.

Table 10

Quadratic Relation between Child Report of Peer Victimization (PPSS) and Child Measures of Emotion Regulation (N = 50)

Predictor	<i>df</i>	<i>F</i>	<i>p</i>	Constant	b1	b2
Frustration Task, aggression/venting	2, 47	2.60	.09	1.59	3.19	-33.11
Disappointing Gift, negative regulation	2, 47	.06	.94	1.58	-.24	.07
Disappointing Gift, positive regulation	2, 47	1.60	.21	1.67	-.55	.12

**p* < .05, two-tailed.