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Children's Emotions and Coping with Interpersonal Stress as

Correlates of Social Competence

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Abstract

Identifying correlates of children's emotional reactions and ways of coping can provide important information about developmental processes and help to identify useful strategies for improving children's adaptive responses to stress. We investigated associations of children's social competence with their responses to a set of standardised, controllable interpersonal stressors. The stressors included bullying, arguing with a parent and not being picked for a team sport. We expected greater social competence to be associated with certain coping responses, and expected that coping would be better explained by also considering emotional reactions. Children ($N = 230$, grades 3 to 7) reacted to three videotaped stressors and children and parents completed questionnaires. Children rated as more competent used active and challenge coping strategies, such as problem-solving and support seeking, more than other children, and they also responded with more sadness. Children's competence was associated with fear, but only in bivariate correlations, and was not associated with angry responses. In a structural equation model, emotions were associated with more coping responses, and the emotional reaction of sadness accounted for the link between children's social competence and adaptive (i.e., challenge) coping. Findings suggest that competent children use more adaptive coping and this is accounted for by their greater feelings of sadness when dealing with controllable interpersonal stressors.

Keywords: coping, stress, social competence, interpersonal relationships

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"There is no more useful coping skill than knowing how to deal with interpersonal relationships, especially when those relationships are troubled." (p. 16, Lazarus, 2004)

When a stressful event occurs, stress-coping theorists agree that a process will follow that includes appraising the event and emotionally reacting accordingly (Lazarus & Folkman, 1984; Taylor & Stanton, 2007). In addition, ideally, the appraisals and associated emotions will prompt coping strategies that confront the problem and adaptively manage emotions. Much empirical research supports these stress-coping processes (Aldwin, 2007; Taylor & Stanton, 2007). However, the particulars of the process show differences when individuals are compared (Hubbard, 2001; Skinner & Zimmer-Gembeck, 2007, 2009; Zimmer-Gembeck, Lees, Bradley, & Skinner, 2009). Among children, social competence is one factor that can be an asset when coping with stress, especially when this stress is controllable (Clarke, 2006).

The aim of this study was to examine how children who differ in their social competence, defined as more prosocial behaviour and few conduct problems, respond to controllable interpersonal stressors such as bullying and conflict with a parent. Only controllable stressors were considered because perceptions of controllability are integral to stress responses (Clarke, 2006; Skinner, 1995) including emotional reactions (Weems & Silverman, 2006; Zimmer-Gembeck & Skinner, 2010). Interpersonal stressors were examined because we expected that social competence would be most relevant for stressors that involve others. The responses we investigated were children's subjective emotional reactions and coping responses. These were gathered while children viewed a

standardised set of visual cues depicting controllable interpersonal stressors commonly experienced by children (Clarke, 2006; Rudolph & Hammen, 1999). Children and their parents reported prosocial behaviour and conduct problems. In the remaining sections, we refer to children higher in prosocial behaviour and lower in conduct problems as more "socially competent" but acknowledge that there is ongoing debate regarding how to conceptualise and measure social competence (Arsenio & Lemerise, 2001).

Ways that Children Cope with Stress

Coping with stress has been defined as "efforts to manage adaptational demands and the emotions they generate" (p. 10, Lazarus, 2004). In order to empirically assess coping and to identify adaptive means of relieving stress and building resilience, most researchers have found it necessary to organise the multitude of possible coping responses into categories. There have been multiple category systems for organising coping (Skinner & Zimmer-Gembeck, 2007). Most recently, a Motivational Theory of Coping (Skinner, Edge, Altman, & Sherwood, 2003) was proposed and applied to organise coping responses into 12 coping "families" that would be relevant throughout the lifespan. These coping families were identified after developing a set of core functional responses to stress (see Skinner et al., 2003; Skinner & Zimmer-Gembeck, 2007 for more details; also see Appendix 1). Six of these strategies were proposed as representative of adaptation when confronting controllable stressors and are referred to here as *challenge coping strategies*. These 6 coping families include self-reliance, support seeking, problem-solving, information seeking, accommodation, and negotiation. All of these responses to stress are often included in measures of active and approach-oriented coping, which are typically associated with positive outcomes following

stressful events (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Fields & Prinz, 1997). Theoretically, *challenge coping* will more often be enacted when an individual perceives the self as competent and able to make choices and problem-solve when under stress. Challenge coping also may be more likely when support is perceived to be available.

The other six coping families have often been included in measures of maladaptive coping when used in conjunction with controllable stressors (see Skinner et al., 2003 for a review). These include delegation, social isolation, helplessness, escape, submission and opposition. We refer to these as *threat coping* strategies, and they are anticipated to be more common when an individual views limited personal competence, choice or support. The current study includes the first assessment of this categorisation of coping. We gathered children's anticipated use of challenge and threat coping while they viewed a series of controllable interpersonal stressors. These included short portrayals of a child being bullied, an argument between a child and a parent, and not being picked for either team in a team sport (see Appendix 2).

Because no previous study has differentiated coping strategies into the two categories of challenge coping and threat coping, we also assessed children's coping with a widely used self-report measure (Ayers, Sandler, West, & Roosa, 1999). This measure tapped children's use of active coping, avoidant coping, distraction to cope, and support seeking. Hence, multiple adaptive coping responses were measured including challenge coping, active coping, and support seeking (Aldwin, 2007; Bridges, 2003; Compas et al., 2001; Skinner et al., 2003). In addition, this allowed us to include coping categories that are sometimes found to be adaptive and other times maladaptive (i.e., avoidant coping,

distraction; Zimmer-Gembeck & Locke, 2007), and one that is expected to be maladaptive (i.e., threat coping; Skinner et al., 2003). Hence, we investigated associations of social competence with this range of categories of coping.

Associations between Social Competence and Coping

A small body of previous research suggests that coping with stress is a correlate of children's level of social competence (Kliewer & Sandler, 1993; Reijntjes, Stegge, & Terwogt, 2006; see Clarke, 2006 for a review). Children rated to have more prosocial skills have advantages and children with more conduct problems have challenges when dealing with stressful events, particularly controllable interpersonal stressors (Clarke, 2006). For example, in one previous study, socially competent children reported using more problem solving and support seeking (Korchenderfer-Ladd & Skinner, 2002). This finding suggests that socially competent children use more challenge coping, active coping and support seeking. In contrast, in this same study, children with more conduct problems were more likely to report responding with oppositional behaviour, which is a form of threat coping. However, most previous studies have focused only on one or a few general categories of children's coping (e.g., problem-focused coping) rather than considering a broad range of potential of coping responses when under stress. In the studies that have included a more comprehensive assessment of coping, socially competent children used more active coping (Kliewer & Sandler, 1993; Reijntjes et al., 2006) and they also used more avoidant coping strategies in the forms of avoidant action and cognitive avoidance (Kliewer, 1991; Kliewer & Sandler, 1993). In a separate study, socially competent children more frequently relied on support seeking (Eisenberg et al., 1993) than less socially competent children.

We expected similar associations of social competence with coping in the current study. More specifically, we expected children who were rated as more socially competent would rely more often on challenge coping, active coping and support seeking when faced with controllable interpersonal stress. Moreover, because active and avoidant coping are often positively correlated (Zimmer-Gembeck & Locke, 2007) and socially competent children have been found to report more of each coping category (Kliewer & Sandler, 1993), we expected children higher in social competence also to report more avoidant coping. To our knowledge, no association between social competence and distraction to cope has been found in previous research making it unclear whether distraction is a coping response that is associated with children's competence.

No previous study has examined challenge coping and threat coping as associated with children's social competence. However, there were reasons to expect there would be associations. Challenge coping has a clear theoretical link with competence suggesting that more socially competent children would report more challenge coping responses when faced with controllable interpersonal stressors (Skinner et al., 2003; Skinner & Zimmer-Gembeck, 2007). In contrast, threat coping is theoretically linked with competence deficits and social problems, suggesting that more socially competent children would engage in less threat coping.

Emotional Reactions Involved in Competence-Coping Links

In addition to testing hypotheses about associations between social competence and coping, we also examined children's emotional reactions to interpersonal stressors. Our aim was to examine whether these emotional reactions covaried with coping and whether capturing emotional reactions might better explain associations between children's social

competence and their coping responses. In other words, because stressful events are by definition emotion provoking, we wondered whether social competence has a role in coping because of emotional reactions.

There have been very few studies of social competence and either subjective or expressed emotional reactions to interpersonal stress. Among the studies that have been conducted, there are mixed results. Social competence has been associated with both more (Eisenberg et al., 1993) and less distress (Reintjes et al., 2006). Additionally, children who are less competent (defined as rejected by their peers) were observed to display more anger after losing a competitive game than more competent children (Hubbard, 2001). Because of such little past evidence, we were uncertain of how social competence would be associated with the specific feelings of sadness, fear and anger in response to interpersonal stressors. On the one hand, these subjective emotions would be typical responses when faced with the types of interpersonal stressors we presented to children in the current study (e.g., bullying, conflict with a parent, and not being picked for a team sport). Because socially competent children generally have a history of good social relationships and place value on such relationships (Ladd, 1999), and emotions are "induced by representations of objects and situations (appraisals) that threaten or facilitate a person's goals and concerns" (Hoeksema, Oosterlaan, & Schipper, 2004, p. 355), socially competent children might be expected to react more negatively overall and to report more of all the negative emotions we measured (i.e., sadness, fear and anger).

On the other hand, felt emotions when experiencing an interpersonal stressor partly dictate coping responses (Hunter, Boyle, & Warden, 2004; Kochenderfer-Ladd, 2004), and socially competent children have been found to cope with stress in ways consistent

with the emotions of sadness and fear but not consistent with the emotion of anger (Eisenberg et al., 1993; Kliewer, 1991; Kliewer & Sandler, 1993; Reijntjes et al., 2006). Sadness and fear (in response to peer victimisation) have been associated with children's greater use of support seeking (Hunter et al., 2004; Kochenderfer-Ladd, 2004), which is one coping strategy that is more prominent among socially competent than less competent children (Eisenberg et al., 1993). However, children who endorsed more anger have been found to be more likely to respond with opposition and seek revenge (Fine, Trentacosta, Izard, Mostow, & Campbell, 2004; Kochenderfer-Ladd, 2004), which are less likely to be responses from socially competent children (Korchenderfer-Ladd & Skinner, 2002; Quiggle, Garber, Panak, & Dodge, 1992). Hence, this suggests that socially competent children would react with more sadness and fear but less anger than less socially competent children. Overall, because of this mixed evidence, we were not certain how social competence would be associated with emotional reactions to stressful events, but expected that considering social competence and emotional reactions would provide a better understanding of why children differ in how they cope with controllable interpersonal stressors.

The Current Study Aims

In summary, the general purpose of the current study was to investigate social competence as a correlate of individual differences in children's coping and emotional reactions to controllable interpersonal stress. The study had two primary aims. The first study aim was to examine associations of social competence with children's coping. A second study aim was to examine associations of social competence with children's subjective emotional reactions of sadness, fear and anger to interpersonal stressors.

In addition to focusing on these associations, we simultaneously tested how social competence and emotional reactions each contribute to the explanation of children's coping responses. To do this, we tested a latent-variable structural equation model simultaneously linking social competence to all three emotional reactions, challenge coping and threat coping. This model accounted for covariation between emotions and between coping strategies and allowed us to identify both direct and indirect (via emotions) associations between social competence and coping.

Method

This was a multi-method, multi-informant study incorporating an analogue method and questionnaires collected from children and their parents. The analogue procedure was the presentation of videotaped, interpersonal and stressful scenarios followed by short questionnaires to gather children's expectations of how they would react and cope with each stressor. A child questionnaire was used to assess coping in response to a self-nominated recent stressor and social competence. A parent questionnaire was used to assess children's social competence.

Participants

The participants were 230 children in grades 3 to 7 and their parents. Children attended two public primary schools (containing children in grades 1 to 7) and had parental consent to participate. The mean age was 10.1 years ($SD = 2.5$ years) with a range from 7 to 13 years. Overall, 52% of children were boys and 48% were girls. Parent participants were mothers (92%) or fathers (8%). The parental consent rate was 69%. Only 12 parents actively denied their children's participation, whereas others did not return consent forms or parent questionnaires.

As part of the consent process, each parent reported his or her family structure, ethnicity, and family income. Children were predominantly born in Australia (67.4%). Other children were born in New Zealand (10%), Europe (6.5%), Asia (3.5%) or other (10.9%). Just fewer than 2% were Indigenous Australian. Most children were living with both biological parents (66%), 19% were living with one biological parent in a single-parent household, 9% were living with one biological parent and a step-parent, and 6% of children had alternative living arrangements. Overall, 39% of participants' parents reported a family income above $60,000, 40% an income between $30,000 - $60,000 and 21% reported a combined family income below $30,000.

Child Video Vignette Assessment

Children watched five short (30-second) videotaped depictions of interpersonal stressors. Three of these stressors have been described as events that children perceive they have control over (Clarke, 2006) and were included in the current study (see Appendix 2). This procedure was developed in a series of pilot studies and initial findings for its utility have been described elsewhere (Zimmer-Gembeck et al., 2009). The three scenes portrayed a child being bullied, an argument between a child and a parent, and a child not being picked for either of two teams in a team sport. After watching a video, children were directed to imagine they were the focal child in each video and completed questions about how they would feel and cope, which were read aloud.

To confirm that events were perceived to be controllable by children, children reported how much they thought they could change each stressor on a scale from 1 (*not to at all*) to 5 (*very much*). The three vignettes included here yielded mean scores between 2.8 and 3.1 and these were significantly higher when compared to scores for the other

two vignettes not included in this study (witnessing parents arguing and a friend moving away, M = 2.4 and 2.3, respectively), all $p < .05$.

Emotional reactions. Children reported how *sad*, *fearful* and *angry* they would expect to feel in response to each video excerpt. Possible responses ranged from 1 (*not at all*) to 5 (*extremely)*. Total scores for sadness, fear and anger were calculated by averaging the responses to the three videos. Interitem correlations were Cronbach's α = .75 for sadness, .69 for fearful, and .60 for anger.

Challenge coping and threat coping. Twelve items were developed to assess children's anticipated use of each of the 12 coping families described in the Motivational Theory of Coping (MTC-12; Skinner et al., 2003; Skinner & Zimmer-Gembeck, 2007). One item assessed each coping family (e.g., challenge coping: *How much would you deal with the situation on your own?*; threat coping: *How much would you want to go off to be by yourself (or be alone)*?) The items were developed after conducting a review of existing child measures and testing children's understanding of each item. Five 8-year-old and five 12-year-old children participated in this initial test of the items, with parent and child consent.

Children were asked to rate whether they would use each coping family on a scale ranging from 1 (*not at all)* to 5 (*definitely)*. Responses to the three videos were averaged to create a score for each of the 12 coping families. The scores for self-reliance, support seeking, problem solving, information seeking, accommodation, and negotiation were next averaged to create a *challenge coping* score. The scores for delegation, social isolation, helplessness, escape, submission, and opposition were averaged to create a

threat coping score. Interitem correlations were α = .80 for challenge coping and α = .77

for threat coping.

Children's Recall of Coping Responses

Children's coping with a recent, self-identified stressor was assessed with the 45-

item Children's Coping Strategies Checklist (CCSC; Ayers et al., 1996). For example,

children were asked "*I told myself it will be over in a short time*." Response options

ranged from 0 (*never*) to 4 (*most of the time*). There are 10 subscales of the CCSC that

form four broadband coping categories of active coping (cognitive decision making,

direct problem solving, positive cognitive restructuring, seeking understanding), avoidant

coping (cognitive avoidance, avoidant actions), distraction coping (distracting actions,

physical release of emotions), and support seeking (problem-focused support, emotion

focused support; (Ayers et al., 1996; Sandler, Tein, & West, 1994). Only the four

broadband coping categories were used in the current study. The interitem correlations

were Cronbach's α = .84 for active coping, .75 for avoidant coping, .63 for distraction

coping, and .89 for support seeking.

Social Competence

Child report. Children completed the 6-item social acceptance/competence subscale

from the Self-Perception Profile for Children (SPPC; Harter, 1985). Each child was asked

to choose which of two statements was most like him or her and then decide whether this

statement is *sort of true* or *really true* for her/him. The interitem correlation in the current

study were Cronbach's α = .74.

Parent report. Parents completed the 25-item Strengths and Difficulties

Questionnaire (SDQ; Goodman, 1997). The SDQ has five subscales. The prosocial

behaviour (5 items, e.g., *my child is considerate of others feelings*) and conduct (5 items,

e.g., *my child fights a lot*) subscales were used to indicate children's social competence.

Responses ranged from 1 (*not true*) to 3 (*certainly true*). Interitem correlations for

subscales were Cronbach's $\alpha = .75$ and .73, respectively. Scores for conduct problems

were reversed and are referred to as *good conduct*.

Procedure

Prior to the commencement of the research, approval was obtained from the state

education department to conduct the research in two schools containing students in

grades 1 to 7, and ethics approval and informed consent from the principals of the two

schools were obtained. Parental information sheets and consent forms were provided and

collected prior to children's participation. Children also agreed to participate.

Child assessment. Children participated in two data collection sessions, with an

interval of two weeks between them. First, children watched the stressful videotaped

vignettes and completed questions after viewing each video (see Appendix 1). The testing

period was approximately 30 minutes. Questions were read aloud as children followed

along. Videos were embedded into Microsoft PowerPoint and shown to children on a 12-

inch wide-aspect display laptop as part of a slide presentation. Testing occurred in groups

of no larger than five in a special classroom within the children's school.

In the second session, children were administered the questionnaire in class

groups of no more than 25 students under the supervision of a researcher and the

children's regular class teacher. The testing period was approximately 30 minutes and

questionnaire items were read aloud.

Parent assessment. A parent assessment package was sent home with each child along with the information sheet and consent form. Parents who consented to participation completed the questionnaire in their own time and returned the completed consent form and questionnaire booklets in a sealed envelope to a locked box in the school office. Participating parents were placed in a prize draw.

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

To examine associations between different coping categories, correlations were computed between all measured coping categories (see Table 1). Descriptive statistics for all measures also are provided in the last row of Table 1. Following the description of correlations, structural equation models were estimated to simultaneously examine associations between social competence, emotion and coping.

Correlations between Coping Subscales

As would be expected, challenge coping was significantly associated with active coping and support seeking (see Table 1). Both challenge coping and threat coping were associated with avoidant coping, suggesting that the category of avoidant coping strategies includes some adaptive and some less adaptive coping strategies. Challenge and threat coping were not correlated with distraction coping. Hence, global challenge and threat coping have some overlap with more commonly used coping categories, but the pattern of correlations also suggests that the conceptualisation of threat and challenge coping is not redundant with organising coping into active, avoidant, support seeking and distraction categories. Findings also suggest that challenge and threat coping may better differentiate adaptive (challenge) coping from other strategies used to cope with stress.

Correlations between Social Competence, Coping and Emotions

Social competence and coping. Twelve of a possible 18 correlations between social competence and coping were significant (see Table 1). Overall, these associations were in the expected directions but were typically small to moderate in size. Children higher in social competence anticipated more use of challenge coping. Also as expected, social competence (either reported by children or by parents) was associated with more active coping, avoidant coping, and (in two cases) children's support seeking. In contrast, social competence was not associated with threat coping and there was only one association between social competence and distraction to cope, which indicated children with better conduct used less distraction.

Social competence and emotional reactions. Social competence was consistently associated with more sadness in response to controllable interpersonal stressors and, when social parents reported competence, also was associated with more fear (see Table 1). No association between social competence and anger was found.

Coping and emotional reactions. As can be seen in Table 1, greater use of most coping strategies was associated with stronger emotional reactions. However, there was one association that diverged from this pattern. Children who responded to video vignettes with more fear reported using less distraction to cope with a recent stressor. Moreover, anger was somewhat less consistently associated with coping when compared to sadness and fear.

A Model of Social Competence, Emotions and Coping

A final set of analyses was conducted to examine associations between social competence, emotions and coping responses. Structural equation models were estimated using AMOS to examine these associations simultaneously, while also testing both direct

and indirect links between competence, emotions and coping. Because emotions were gathered in response to video vignettes, models concentrated only on data gathered in response to the interpersonally stressful video vignettes, which included the three emotions, challenge coping and threat coping. Social competence was a latent variable indicated by three measures.

Figure 1 illustrates the significant, standardised paths in the final model. Prior to testing this model, however, we fit two preliminary models. The first model was fit to test direct associations of social competence and emotion with challenge and threat coping but associations between social competence and emotion were not estimated in this first model. Covariances also were freed between sadness, fear and anger, as was the covariance between challenge coping and threat coping. This model had a good fit to the data, $\chi 2(13) = 17.8$, $p = .16$, CFI=.98, RMSEA = .040. The second model added direct associations of social competence with the three emotional reactions. This just-identified model had a very good fit to the data, $\chi 2(10) = 5.33$, $p = .87$, CFI=1.00, RMSEA = .000, and significantly improved fit compared to the first model as indicated by the $\chi 2$ difference test. The $\chi 2$ difference test was calculated as the difference in the $\chi 2$ and df between the two models. This difference, $\chi 2_{\text{difference}}(3) = 12.47$, $p < .05$, indicated that adding a path from social competence to each emotion did improve model fit.

Finally, to identify the most parsimonious model, a third model was fit. This model included only the significant paths found in the second model. This model had a very good fit to the data, $\chi 2(15) = 17.4$, $p = .30$, CFI=.99, RMSEA = .023. In addition, the $\chi 2$ difference test showed that removing the nonsignificant paths from the model did not degrade model fit, $\chi 2_{\text{difference}}(5) = 12.1$, $p > .05$. As can be seen in Figure 1, children who

were more socially competent reported more sadness in response to the interpersonal

stressors, but they did not report more fear or anger. Sadness was associated with more

challenge and more threat coping, whereas fear was associated with more threat coping

only and anger was associated with both categories of coping. There were no significant

direct associations between social competence and coping. Hence, emotion rather than

social competence was most closely associated with coping responses and social

competence was only associated with challenge coping indirectly via the greater tendency

of children with more social competence to react to interpersonal stress with more

sadness. This indirect association of social competence with challenge coping via sadness

was modest but significant (.07, $p < .05$), whereas the indirect association of social

competence with threat coping via sadness (.03) was not significant. Overall, the model

accounted for 19% of the variance in challenge coping and 33% of threat coping.

Discussion

Social competence includes having a range of skills such as getting along with others,

being helpful and being liked by others. Such competencies are widely believed to be an

important asset for positive adaptation in the face of stress (Izard, Stark, Trentacosta, &

Schultz, 2008; Luthar, 2003; Masten, 2001, 2004) and this has been supported in some

empirical studies (Clarke, 2006). The aims of the current study were to examine associations

between social competence and coping, and to determine whether emotional reactions are also

associated with social competence and might help to account for why social competence can be

a quality that assists children to cope more adaptively with controllable interpersonal stress.

Social competence was indexed as prosocial behaviour and fewer conduct problems as

reported by parents, and social competence with peers as reported by children.

Overall, when simple associations were examined, social competence is a resource for children when they experience controllable interpersonal stress. In the current study these stressors were being bullied by another child, having an argument with a parent or not being picked for one of two teams in a team sport. In these situations, social competence was a resource by being associated with the use of social resources for support, and relying on decision-making and other challenge and active coping strategies relatively more than other children. Children rated higher in social competence also are more likely to cope with some avoidant strategies, which can be adaptive when confronting the stressful situations they were responding to in the current study. For example, adaptive coping with bullying and having an argument with parent may depend on personal problem-solving and support seeking but may also result in avoidant strategies such findings or wishing for ways to avoid the stressful event (Korchenderfer-Ladd & Skinner, 2002).

When it comes to forms of coping that may be maladaptive, the clearest category of coping we measured was threat coping. This included becoming helpless, trying to escape, seeking isolation, and reacting with opposition and aggression. However, unexpectedly, children who are more socially competent do not use relatively less threat coping. This means that they use more adaptive strategies but they are not less likely than other children to isolate themselves, feel helpless or try to escape. Although there have been few studies of social competence and coping, these findings are generally consistent with previous research (Clarke, 2006; Kliewer, 1991), in which socially competent children report more use of problem-focused coping, cognitive decision-making, support seeking and avoidant actions when coping with controllable stress but they are not consistently found to report using fewer maladaptive strategies.

When we focused only on children's responses to a standard set of interpersonal stressors and expanded the analyses to include associations of social competence with both coping and emotion, children who are more socially competent react to controllable interpersonal stressors with greater sadness but not more fear and anger. In turn, all emotions were associated with coping. Sadness and anger were associated with more use of challenge and threat coping, but fear was associated with threat coping only. Most importantly, however, after these emotions are accounted for, some evidence of the processes that might explain why social competence is a resource in times of interpersonal stress emerged. In particular, in our final model, social competence was only linked with the use of challenge coping, including problem solving, support seeking and negotiation, via socially competent children's tendency to report more sadness in response to stress. Hence, our findings suggest that socially competent children use more challenge coping because the strategies are prompted by their greater feelings of sadness when dealing with controllable interpersonal stressors. When faced with interpersonal stress that is controllable, feeling sad seems to motivate children to seek social support and information, to reframe and think more positively about the situation, and to sort out why the interpersonal stressor occurred. All of these responses may serve to repair feelings and reduce the likelihood of future interpersonal stress, and all of these coping strategies may indicate better emotional and behavioural regulatory ability (see Izard et al., 2008 for similar views). In contrast, once sadness is considered, fear and anger are not more likely among children who are more socially competent. It is fear and anger that are most associated with more threat coping, which includes the usually maladaptive coping strategies of becoming helpless, reacting with opposition and aggression, trying to escape and isolating oneself from others

(Compas et al., 2001; Fields & Prinz, 1997; Skinner et al., 2003; Skinner & Zimmer-Gembeck, 2007; Zimmer-Gembeck & Skinner, 2009, 2010).

Taken together, the findings illustrate the usefulness of measuring emotional reactions when examining factors that might explain children's different ways of coping with stress. These emotions are part of the stress-coping process and measuring them can help explain individual differences in coping and competence-coping links. Other advantages of this study were the use of multiple informants and multiple techniques for measuring coping. It is often difficult to capture the process of coping with stress, but coupling an analogue method with questionnaires was revealing of the processes involved in coping with stress.

The current study does have some limitations, as well. First, because of the inclusion of multiple informants and different measurement techniques, the focus of the study was fairly narrow. For example, we focused on social competence to the exclusion of other potentially important influences of emotion and coping (e.g., personality, negative emotionality, emotional intelligence, temperament; see Connor-Smith & Flachsbart, 2007; Ebata & Moos, 1994; Lazarus, 2004; Lengua, 2003; Lengua & Long, 2002; Mikolajczak, Nelis, Hansenne, & Quoidbach, 2008). Similarly, the focus on the emotions of sadness, fear and anger could have placed artificial constraints on the emotional reactions of the participants. Embarrassment has been linked to particular ways of coping with peer victimisation (Korchenderfer-Ladd, 2004) and it was not measured in the current study. In another study, feeling tense and uncertain were associated with fighting the stressor (the stressor was authority conflict with parents, fighting included name calling, refusal, protest), whereas positive emotions of feeling pleasant and at ease were associated with coping strategies that involved coming to terms with the stressor (try to forget, think about something pleasant, ignore, talk about it later; Boekaerts, 2002).

We assessed emotion without considering specific emotion regulatory capacities or strategies of each child. Although emotion is a crucial part of understanding emotion regulation (Hoeksema et al., 2003) and this study filled a gap in research by measuring emotion in the stress-coping process, it is important to also measure emotion regulation in future research. Reacting with more of an emotion, such as sadness, does not equate to socially appropriate emotional displays, management of emotion or the chronicity of a negative emotion. All of these might be better indicators of emotion regulatory capacity, and all may share variance with coping responses and be more common among children with greater social competence, when compared to the emotional reaction only. In particular, measuring both emotion and emotion regulation might help identify why there was rarely an association between social competence and anger in the current study. It is possible that what might be important is not the emotion of anger, but it may be the way that children with different competencies regulate this anger that is important to understanding coping and adaptation.

Our study was correlational and we have only focused on the emotions and coping responses associated with social competence among children. The associations we tested and the decisions about the model we tested were constrained by our study design. This means that our findings leave open the possibility that social competence may also be appropriately considered as an outcome of emotion recognition, interpersonal experiences and past coping successes and failures. Such findings have been reported in past research (see Arsenio & Lemerise, 2001; Eisenberg et al., 1997; Izard et al., 2006; Ladd, 1999 for reviews).

Finally, one measurement limitation should be mentioned. Although preliminary testing was used in the development of the measure of challenge and threat coping, these items had not been used in any previous study. Because of this, we also included a more widely used

measure of children's coping, but this second measure could not be used after each videotaped vignette. Instead, we used this existing measure (the CCSC; Ayers et al., 1996) to assess children's coping with a recent, self-identified stressor about two weeks after they completed the videotaped assessment, and examined only correlations of it with other measures.

In conclusion, social competence is associated with more adaptive coping responses in when faced with controllable interpersonal stress. Moreover, coping responses or competence-coping links are better explained after considering children's emotional reactions of sadness, fear and anger when confronting stressful events. Few previous studies have consider emotional reactions when examining children's individual patterns of coping with stress. More research is needed to understand emotional reactions to stress and how they may be associated with specific types of stressful events, coping responses, and resilience. Emotion is an important part of the stress-coping process and future research should consider how it and emotion regulation combine to account for both adaptive and maladaptive coping responses of children (Izard et al., 2006). For example, it is possible that anger is a complex approach-related emotion and that the behaviours and coping reactions that follow angry reactions might be very dependent on features of the social context (e.g., see Carver & Harmon-Jones, 2009 for a review) or training in adaptive responses to angry feelings (Izard et al., 2006; Izard, 2002).

Future research also should expand these findings by considering children's competence as more than a static trait. Competence can be an outcome of prior personal, situational, and contextual factors (Bowker, Bukowski, Hymel, & Sippola, 2000; Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006; Eisenberg, Fabes, Guthrie, & Reiser, 2000). It may even be an outcome of a previous history of better recovery from stressful encounters and more practice with certain coping responses. Further, competence is likely to influence

children's understanding of emotions and selection of environments and social partners, and

may result in less experience with interpersonal stressors in some cases. Hence, the influences

of competence on emotions and coping probably reflect a difference in a history of experience

as well as differences in children's individual characteristics and current social resources.

Future research could further examine such complex dynamic processes.

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Table 1

Descriptive Statistics and Correlations between All Measures

|	1	2	3	4	5	6	7	8	9	10	11	12
1. Social competence	--											
2. Prosocial behaviour	.16*	--										
3. Good conduct	.22*	.34**	--									
4. Challenge coping	.14*	.13*	.14*	--								
5. Threat coping	-.01	.08	.07	.35**	--							
6. Active coping	.17*	.13*	.16*	.44**	.12	--						
7. Avoidant coping	.19*	.18*	.16*	.27**	.29**	.57**	--					
8. Distraction coping	-.14	-.12	-.16*	.02	-.04	.23**	.13*	--				
9. Support seeking	.25**	.18*	.10	.40**	.06	.57**	.43**	.27**	--			
10. Sadness	.17*	.17*	.18**	.42**	.478*	.26**	.25**	-.06	.28**	--		
11. Fear	.07	.14*	.13*	.38**	.50**	.15*	.18**	-.15*	.21**	.68**	--	
12. Anger	.02	.04	-.01	.28**	.40**	.07	.16*	.03	.05	.35**	.29**	--
M	3.63	8.49	6.39	2.93	2.92	2.45	2.71	2.24	2.03	3.83	2.81	4.12
(*SD*)	(0.45)	(1.58)	(1.65)	(0.63)	(0.63)	(.55)	(.66)	(.57)	(.62)	(1.03)	(1.03)	(.0.87)

*p < .05. **p < .01.

Figure Headings

Figure 1. Latent variable path model showing significant associations (all $p < .05$) between social competence reported by children and parents, and children's anticipated emotions and challenge and threat coping responses to hypothetical portrayals of interpersonal stressful events ($N = 230$).

[a]Conduct problem scores were reversed.

Figure 1

Good conduct[a]
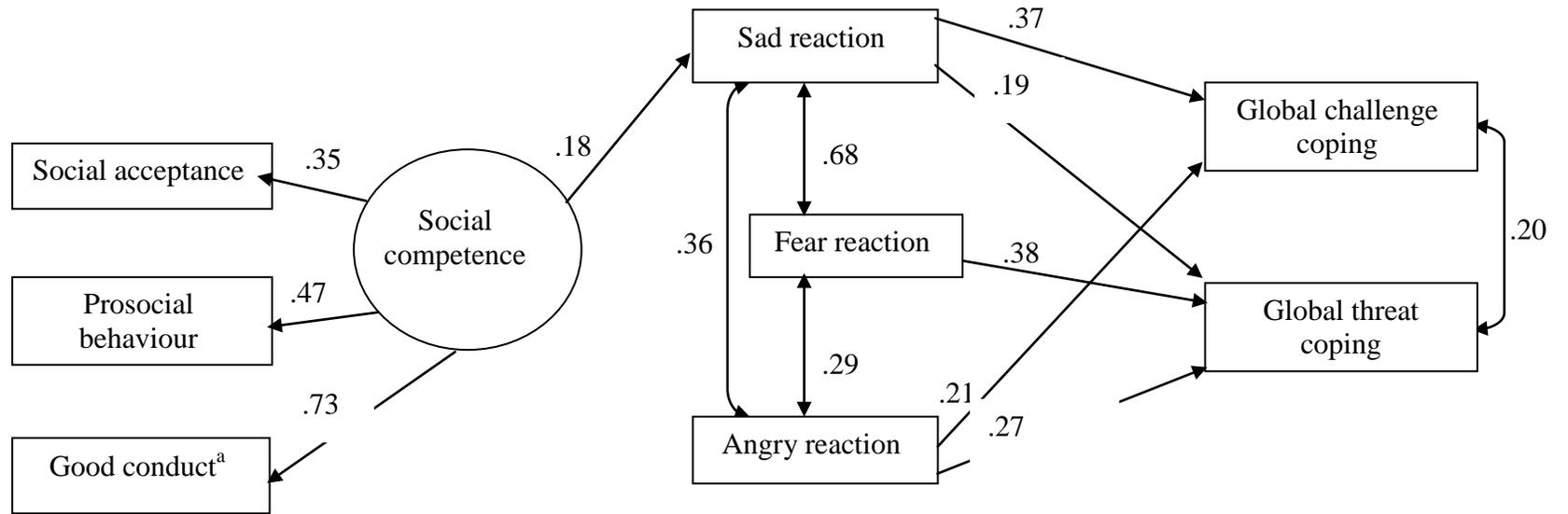
APPENDIX 1

TWLEVE COPING FAMILIES AND THEIR ADAPTIVE PROCESSES

Family of Coping	Function in the Adaptive Process
Challenge Coping	

1. Self-reliance
  Emotion regulation
  Behaviour regulation
  Emotional expression
  Emotion approach
	Protect available social resources

2. Support Seeking
  Contact seeking
  Comfort seeking
  Instrumental aid
  Social referencing
	Use available social resources

3. Problem-solving
  Strategising
  Instrumental action
  Planning
	Adjust actions to be effective

4. Information Seeking
  Reading
  Observation
  Asking others
	Find additional contingencies

5. Accommodation
  Distraction
  Cognitive restructuring
  Minimisation
  Acceptance
	Flexibly adjust preferences to options

6. Negotiation
  Bargaining
  Persuasion
  Priority-setting
	Find new options

Family of Coping	Function in the Adaptive Process
Threat Coping	

7. Delegation
    Maladaptive help-seeking
    Complaining
    Whining
    Self-pity
	Find limits of resources

8. Social Isolation
    Social withdrawal
    Concealment
    Avoiding others
	Withdraw from unsupportive context

9. Helplessness
    Confusion
    Cognitive interference
    Cognitive exhaustion
	Find limits of actions

10. Escape
    Behavioural avoidance
    Mental withdrawal
    Denial
    Wishful thinking
	Escape noncontingent environment

11. Submission
    Rumination
    Rigid perseveration
    Intrusive thoughts
	Give up preferences

12. Opposition
    Other-blame
    Projection
    Aggression
	Remove constraints

APPENDIX 2

VIDEO INTERPERSONAL STRESSOR ASSESSMENT

STANDARDISED SCRIPT AND INSTRUCTIONS

Hi Everyone! Thank you all for coming and helping me out. We're going to be doing a couple of things today because I am really interested in finding out more about how you feel and what you'd do in some situations that kids your age are sometimes faced with. So before we start lets fill out the first page of our booklet because I need to know your age, and your teacher's name.

Okay, so now I am going to show you a number of short video clips that come from movies that you might have seen. In each scene there will be either a boy or a girl and I want you to imagine that you are the child in the video. That means I want you to imagine that you are in the situation and then answer some questions about how you would feel if you were the child in the video and the situation was happening to you. So are there any questions before we begin? Okay, let's get to it.

Situation 1: Being Bullied

In the first video, I want you to imagine you are this boy (point to boy). In the scene the boy is being bullied at school. After you have watched the video, I am going to ask you some questions such as how sad you would feel if you were being bullied, …, and how much you would want to leave the situation and escape. Now remember, I want you to imagine you are the person being bullied and then we are going to answer some questions about how you would feel if this was happening to you. *Play video*. Okay, now let's fill in pages 2 and 3 of your booklet. So, if you were being bullied at school, how... (Read each question aloud to children).

Situation 2: Not Being Picked on a Team

In the next video, you will see a boy who is wearing glasses and two captains who are picking teams to play a game. In the scene, the boy doesn't get picked to be on either of the teams. Now I want you to imagine that you are the person who doesn't get picked to be on a team to play a game. We'll then answer some questions about how you would

feel if this was happening to you. *Play video*. Okay, now let's fill in pages 6 and 7 of your booklet. So, if you were not picked to be on a team, how … (Read each question aloud to children).

Situation 3: Having a Argument with a Parent

The next video shows a boy who is having a argument with his dad. So I want you to imagine that you are the young person in the video and you are having an argument with one of your parents. We'll then answer some questions about how you would feel if this was happening to you. Play video. Okay, now let's fill in pages 12 and 13 of your booklet. So, if you were having a fight with one of your parents, how… (Read each question aloud to children).