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Children's strategies for coping: Links with social anxiety and depressive symptoms

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Statement

I hereby declare that this thesis has not been

submitted either in the same or different form

to this or any other University for a degree.

Signed…………………………………………..

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CHILDREN'S STRATEGIES FOR COPING: LINKS WITH SOCIAL ANXIETY AND DEPRESSIVE SYMPTOMS

Summary

Cognitive and behavioural theories of social anxiety and depression provide clear explanations for the links between these conditions and the strategies children use to cope with peer conflict situations. However, empirical research in the area has left several unresolved issues, warranting further investigation if we are to understand more fully the links between coping and emotional adjustment. This programme of research was designed to develop a comprehensive measure of children's coping, particularly in the context of peer stressors, and to examine the links between specific coping strategies and social anxiety and depression over time.

In a series of seven studies, reported in four papers, a total of 833 primary and secondary school children completed measures of social anxiety, depression, coping, and a sociometric survey, as well as measures of goals and appraisals. In Paper 1, seven distinct coping strategies were revealed across several interpersonal situations that were related to children's feelings in distinct ways, and that meaningfully mapped onto differences between a mainstream school sample and a sample of pupils with emotional and behavioural difficulties. In Paper 2, six of the seven coping subscales identified in Paper 1 were confirmed and these specific ways of coping were differentially associated with social anxiety and depression. Generally, social anxiety and depression were longitudinally associated with distinctive profiles of coping strategies over a period of 9 months. In Paper 3, coping was found to have these differential associations with social anxiety and depression across a range of peer conflict situations, and there was also evidence of mediating effects of children's appraisals and goals. Finally, in Paper 4, coping was found to be predictive of changes in depression over one year, but associations between coping and emotional adjustment did not hold up over a two-year period. These findings are discussed in relation to the existing coping literature and theories of social anxiety and depression.

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1. General introduction

1.1 Overview

In the simplest terms, coping can be understood as the way in which organisms manage stress. As a concept, coping has been of interest to psychologists for well over half a century and the importance of coping with stress in order to facilitate adaptive psychological functioning has become increasingly understood by researchers (Lazarus & Folkman, 1984). While stress - or aversive stimuli - can have deleterious effects on the individual, successful coping and adaptation in the face of stress are crucial aspects of healthy human development. In contrast, repeatedly unsuccessful coping attempts and the use of inadequate coping strategies can compound the effects of stress and ultimately become associated with maladaptive social, emotional and psychological functioning. Although there is little doubt that major life events can produce great levels of stress and coping with these events is of the utmost importance, it is likely that 'daily hassles' (e.g., interpersonal problems, academic and job stressors) are of even greater importance with regard to successful adaptational outcomes (Lazarus & Folkman, 1984), particularly during development in childhood.

With regard to the everyday stressors faced by children, interpersonal conflict with peers is among the most frequently experienced, being strongly associated with social and emotional adjustment (e.g., depression and social anxiety). In fact research has shown that the way in which children cope with interpersonal problems is a crucial factor in understanding the association between stress and social anxiety and depression. Additionally, how children interpret these stressful situations, the goals they have

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regarding situational outcomes, and the quality of their peer relationships all contribute to the relation between stress, coping and social anxiety and depression.

However, several problems exist regarding our understanding of these associations. Firstly, the lack of consensus in coping conceptualisation has led to difficulties in arriving at valid and reliable measures of childhood coping; secondly, social anxiety and depression have often been considered together as a unitary construct with regard to their association with coping, when an understanding of their differential associations may be more beneficial; thirdly, children's appraisals and goals in conflict situations have often been overlooked in research on coping and adjustment; and lastly, little longitudinal work exists regarding the association between coping and adjustment.

The aim of the general introduction to this thesis is to examine coping theory, outline the main coping conceptualisations and review the relevant literature on the development of children's coping. It also aims to examine social anxiety and depression in childhood, the links between these conditions and coping, and the role peer acceptance and rejection play in coping, social anxiety and depression. The empirical chapters include seven studies designed to answer three main questions: 1) what are the associations between coping and social anxiety and depression?; 2) how and to what extent do children's peer relations and their appraisals and goals with regard to interpersonal stress play a role in the associations between coping and social anxiety and depression?; and 3) how do these associations develop over time? The results of these studies extend our understanding of the link between coping and adjustment by teasing out the differences social anxiety and depression have in their longitudinal links with

coping and how peer relations, appraisals and goals act as important moderators or mediators.

1.2 An introduction to coping

1.2.1 Coping theory

In the earliest literature on how individuals cope with stress and negative events, coping was conceptualised as a defence mechanism (e.g., Freud, 1937), involving predominantly unconscious processes. In the more recent literature coping has been conceptualised as conscious as well as automatic, responses to negative external stimuli or stress. However there have been fundamentally different views on how we should consider the nature of these coping responses.

The main theoretical approaches to coping present it in one of two ways: either trait-oriented, which views 'coping styles' as personality dispositions superseding the influence of situational contexts; or as 'active strategies' used in response to specific situations. The dispositional approach - founded within the study of personality and individual differences (see Goldstein, 1973; McCrae, 1982) - presupposes that as 'styles' or 'traits', the same kinds of coping responses are used by individuals across stressful situations and over lengthy periods of time. For example, people may be 'deniers' or 'problem-solvers', so whether faced with serious hospital treatment or the break down of a relationship, deniers will refuse to accept the gravity of the situation in either case, whereas problem-solvers will endeavour to do something to actively deal with the situation in either case. This has meant that coping has been measured using personality

style tests and assessments, with 'coping personality traits' necessarily being generalisable to all or most stressful situations one might face (Monat & Lazarus, 1985). It is important to note, however, that a disposition to a certain coping style does not necessarily mean an inherent link to personality traits or differences. Carver, Sheier & Weintraub (1989) propose that while individuals have a tendency to make relatively stable choices in their coping responses, these choices may come about for reasons other than personality, with the possibility that coping styles have little to do with personality at all, but instead become established over time as individuals develop a pattern of habitual responses. Thus, one possible explanation is that rather than coping being some sort of trait or style, personality traits come to be associated with different types of habitual coping responses.

In contrast to the dispositional conceptualisation, the coping strategies approach presents coping as an active process based on what an individual actually thinks or does in a given stressful situation (see Cohen & Lazarus, 1973; Lazarus & Folkman, 1984). Rather than individuals having styles or traits like deniers or problem-solvers, they use different coping strategies depending on the nature of stress, which can change as the stressful situation develops and unfolds. The example in this case may see the individual who is faced with serious hospital treatment denying or refusing to accept the gravity of the situation, but in the event of a relationship break down, the same individual may endeavour to solve the problem (e.g., talk through issues in an attempt to change the situation). Furthermore, the individual may draw on multiple strategies in response to a situation as it evolves as part of an ongoing coping process. Lazarus and Folkman refer

to this as 'coping flexibility', whereby individuals use varying strategies in different and even similar situations.

It is widely accepted that some cross-situational stability exists in the way that individuals cope with psychological stress, and theoretically based research has indicated that individual differences in coping responses may override the demands of particular situations (Ayers, Sandler, West & Roosa, 1996). On the other hand, the predictive value of coping trait/style assessments has been relatively poor in relation to the actual ways in which people cope (Lazarus & Folkman, 1984). It is likely that this poor predictive ability of coping style assessments is particularly prominent when coping is measured in different, specific situations of stress (Folkman, Lazarus, Gruen & DeLongis, 1986). The problem therefore with a coping style based on cross-situational stability is the presumption that it functions equally well in different situations when in fact an effective coping style developed and used in one type of situation or environment may be relatively ineffective in another, hence the poor predictability of measures based on this approach.

Because it is not fixed across situations and time, the coping strategies approach is a more dynamic process. And whereas the coping styles approach generally focuses on broader, more simplistic categories of coping, the coping strategies approach takes into account the many kinds of ways in which an individual may deal with *different* stressful situations (Lazarus & Folkman, 1984, Roth & Cohen, 1986). So though people may have greater tendencies towards one particular broad style of coping (Ayers et al., 1996; Herman-Stahl, Stemmeler & Petersen, 1995), they are also likely to employ other styles of coping depending on the situation and how it evolves (Roth & Cohen, 1984). Also,

within particular styles of coping, individuals are likely to employ a number of more specific methods of coping. In their theoretically derived model of dispositional coping, Ayers et al., (1996) acknowledge that any individual differences in coping *style* may serve to influence how in specific situations certain coping *strategies* are used.

It is not surprising, then, that the coping strategies approach has been more widely studied in the recent literature (Fields & Prinz, 1997), and that much greater evidence exists regarding the predictive ability of coping based on the strategies approach in terms of both how people actually cope, and relationships with coping outcomes (Folkman et al., 1986). This is crucial in terms of coping research, because although firm evidence may exist regarding coping stability, this may be of relatively little value if dispositional measures fail to enlighten us as to the ways people actually cope in different and changing situations, or how coping relates to various psychological outcomes. Therefore the ideal way in which to consider coping is probably as different strategies that can be tried and modified as situations evolve, but that are understood under the umbrella of tendencies towards particular styles.

1.2.2 Definition of coping

Within the context of the broad approaches discussed above, there have been many different definitions of coping (Latack & Havlovic, 1992 present 33 varying definitions of the coping construct), including, '*adaptation under relatively difficult conditions*' (White, 1974, cited in Monat & Lazarus, 1985, p. 119); and '*…responses (thoughts, feelings and actions) that an individual uses to deal with problematic situations that are encountered in everyday life and in particular circumstances*'

(Frydenberg, 1997, p. 25). The most widely cited definition of coping comes from Lazarus & Folkman (1984): *'constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of that person'* (p. 141). In simple terms coping can be understood as a mechanism for managing or attempting to manage stress, though Lazarus & Folkman (1984) defined coping in this way for two main reasons. Firstly, they wanted to emphasise that coping is 'process-oriented' rather than 'trait-oriented'. They recognised that earlier approaches to coping which involved identifying coping *styles* or *traits* that people used in most or all stressful situations was too simplistic and did not capture the adaptive nature of coping. Instead, they saw coping as a process that to be fully understood must be related to specific stressful encounters. Seeing coping in this way recognises that for coping to be truly effective, strategies should be tailored to the specific stressful situations, and the ability to effectively discriminate between appropriate coping strategies for a given situation indicates an individual's overall coping ability. Secondly, they argued that for actions to be considered as coping, they should necessarily involve effortful rather than habitualised thoughts and behaviours. This requires that conscious and intentional attempts are made - either behaviourally or cognitively - to deal with sources of stress, rather than relying solely on automatic responses that involve no conscious effort. To differentiate effortful vs. automatic responses, Lazarus and Folkman (1984) stressed that situations should necessarily be appraised as demanding in order for effortful coping responses to have taken place. Though there have been many other definitions of coping, Lazarus and Folkman's has

been the most commonly cited and comprehensive in explaining coping to deal with specific stressors.

1.3 Conceptualisation of coping

1.3.1 Key distinctions in the conceptualisation of coping

The aim of this section is to outline the most widely known coping conceptualisations in an attempt to highlight some of the different ways coping can be conceptualised, and assist in understanding what is necessary for the formulation of effective coping measurement.

Although there may be no universal agreement on how we define coping, Lazarus and Folkman's (1984) extensively cited definition in both coping research and reviews (e.g., Baumgarter & Strayer, 2008; Connor-Smith, Saltzman, Thomsen & Wadsworth, 2001; Fields & Prinz, 1997; Griffiths, Dubow & Ippolito, 2000; Losoya, Einberg & Fabes, 1998; Skinner & Zimmer-Gembeck, 2007; Stewart & Schwarzer, 1996; Zeidner, 1995) has had such a great impact on the study of coping that a good degree of consensus currently exists. However, far less consensus exists regarding the conceptualisation and classification of the ways in which people cope with stress. Reviews of coping have made profound attempts to assess different conceptualisations (Fields & Prinz, 1997; Compas, et al., 2001; Skinner, Edge, Altman & Sherwood, 2003), but as yet there is still no overall accord. To put the difficulty of this task into perspective, one of these reviews (Skinner et al., 2003) compiled a list of over 400 different lower order categories of coping, which could conceivably fit into any given coping taxonomy.

There is, however, one major distinction which appears most regularly across different conceptualisations. This distinguishes between efforts directed towards the cause of stress (e.g., problem-solving, seeking social support, planning how to cope next time), and efforts aimed at regulating one's thoughts and emotions (e.g. removing oneself from the stressful situation, thinking about other things, venting ones' frustrations). Classified within these two 'broadband' or 'higher order' categories of coping - and across different coping conceptualisations - are 'narrowband' or 'lower order' categories. First, however, three of the most well known coping conceptualizations of the basic dichotomy will be outlined.

1.3.2 Problem- vs. Emotion-focused

Lazarus and Folkman's (1984) transactional theory[1] is a process-orientated approach conceptualising coping into higher order categories of either problem-focused or emotion-focused coping. The conceptualisation of problem-focused coping describes efforts that are generally concentrated on '*defining the problem, generating alternative solutions, weighing alternatives in terms of their costs and benefits, choosing one, and acting on it*' (p.152). Emotion-focused coping on the other hand describes processes directed at lessening the affect of emotional distress caused by stressful encounters and experiences. According to Lazarus and Folkman, lower order categories within the higher category of problem-solving include strategies such as defining the problem, generating alternate solutions and weighing up alternatives, whereas lower order

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[1] In this context the coping theory is described as 'transactional' as it refers to an interaction between the individual and the environment rather than simply one or the other (Folkman, Lazarus, Gruen & DeLongis, 1986).

categories within the emotion-focused dimension includes strategies such as avoidance, distancing and positive comparisons.

Lazarus and Folkman (1984) proposed that emotion-focused ways of coping were more likely to occur when a stressful situation has been appraised as uncontrollable or unchangeable, whereas problem-focused ways of coping are more likely when events are 'appraised as controllable or amenable to change' (p. 150). An important aspect of their conceptualisation of coping therefore is the appraisal of stressful events in determining the choice of coping strategy used and its potential effectiveness. They also make a clear distinction in their model between coping functions and coping outcomes. Coping functions refer to the purpose the strategy serves, whereas the outcome refers to the effect the strategy has. A coping strategy serving the function of making one self feel better (e.g., talking with others), could potentially lead to a positive outcome, but equally could lead to a negative outcome, or have no effect on the outcome at all. This distinction between function and outcome is important in emphasising that regardless of the effectiveness of a given strategy (outcome), the necessary effort involved in the strategy should be deemed coping in its own right.

1.3.3 Primary vs. Secondary Coping

A primary vs. secondary vs. relinquished control model of coping was formulated by Weisz and colleagues from research into people's perception of control (Band & Weisz, 1988; Rothbaum, Weisz & Snyder, 1982; Weisz, McCabe & Denning, 1994). This model distinguishes between *primary* coping which involves attempting to change stressful circumstances and influence objective events or conditions; and *secondary*

coping which involves trying to adjust to stressful circumstances as they are, or coping aimed at maximising one's fit to the status quo. *Relinquished* control refers to neither attempting to change stressful circumstances or adjust one's self to them. In their 1988 study, Band and Weisz provide examples of (lower order) ways of coping as follows: primary coping includes '*direct problem solving*' and '*problem-focused aggression*'; secondary coping includes '*social/spiritual support*' and '*emotion-focused avoidance*'; and '*doing nothing*' is an example of relinquished control (p. 251).

A central feature of this model is that it views coping responses and coping goals as distinct constructs in that a coping goal is defined as the *objective* of a coping response rather than the responsive act of coping itself (Rudolph, Dennig, & Weisz, 1995). For example, a primary coping response to failing an exam may be 'I will work harder next time' with the primary goal being 'so I get a better grade'. In contrast, a secondary coping response to failing an exam may be 'I don't really need to do well in exams' with the secondary goal being 'I don't want to feel bad about failing'. This model of coping is similar to Lazarus and Folkman's (1984) problem-focused vs. emotion-focused model in the sense that coping responses will vary according to the perceived demands of the particular stressful situation.

1.3.4 Approach vs. Avoidance Coping

The approach-avoidance model of coping outlined by Roth and Cohen (1986) suggests that coping can be grouped into these two basic types. Roth and Cohen describe these categories as '*metaphors for cognitive and emotional activity*' that is either oriented toward a stressor in the case of approach strategies or away from a stressor in the case of

avoidant strategies. Empirical evidence for this conceptualization has shown that problem-solving and social support seeking are examples of approach strategies, whereas internalising, externalising and distancing are examples of avoidance strategies (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002). According to this model, approach strategies allow for appropriate action and/or the possibility for becoming aware of and taking advantage of changes in a situation that might make it more controllable. Avoidant strategies, in comparison, can be useful in that they act to reduce stress and make the anxiety associated with it more manageable. Some evidence has suggested that approach coping is more adaptive (Herman-Stahl et al., 1995), though according to Roth and Cohen (1986), individuals use both approach and avoidance strategies as part of a dynamic process in coping with stress, with a recognition that individuals may have a consistent preference for one orientation over the other. This conceptualisation therefore views coping as a process, while recognising the potential for relatively stable preferences of coping orientation stemming from the coping styles approach.

Although both approach and avoidance strategies can have positive consequences in coping with stress, avoidance strategies tend to work as short-term solutions to avoid being overwhelmed with stress while reducing anxiety, whereas approach strategies aim to directly influence or change the stressful situation, and work on a longer-term basis. Thus, avoidance strategies can often have the positive consequence of facilitating approach strategies through the initial management of distressing emotions, allowing for the more effective selection of approach coping strategies once emotions are under greater control. Roth and Cohen (1986) suggest that when both modes of coping with

stress are used in this way with the costs and benefits of each minimised and maximised respectively, coping in general is most effective.

The approach vs. avoidance concept stems from a number of previous coping formulations - e.g., Blunting vs. Monitoring (Miller & Managan, 1983), Repression vs. Sensitisation (Houston & Hodges, 1970) and Denial vs. Intrusion (Horowitz, 1976), based largely on the dispositional approach to coping with stress – but Roth and Cohen's own findings (Cohen & Roth, 1984; Manuel & Roth, 1984, cited in Cohen & Roth, 1986) suggest that people can not simply be categorised as 'approachers' or 'avoiders', but rather as using a combination of the two to a greater or lesser degree. It is more useful therefore to examine more specific categories of coping (e.g., problem-solving, social support seeking, internalising etc) with regard to how individuals cope in specific stressful situations.

1.3.5 Behavioural vs. Cognitive Coping

Another basic distinction across all of the various conceptualisations is between behavioural and cognitive coping. Behavioural coping involves taking some kind of physical or verbal action and actually doing something, whereas cognitive coping involves mental strategies and self-talk (Latack & Havlovic, 1992). On the face of it, this distinction appears very similar to other coping conceptualisations, e.g., approach vs. avoidance or problem- vs. emotion-focused, though behavioural and cognitive coping spans across most coping conceptualisations. For example, cognitive coping can be emotion-focused in that one could '*try to see the positive side of things'* in a stressful situation or problem-focused if one were to '*plan to do things differently next time'*.

Behavioural coping can be emotion-focused, e.g., '*playing sport to feel better*' or problem-focused by '*seeking out help or physically confronting the source of stress*'. For these reasons it is of greater use to consider this coping distinction as cutting across other coping conceptualisations. A good practical reason to consider the cognitive vs. behavioural distinction concerns the measurement of coping, particularly since aspects of cognitive coping are generally more difficult to measure using some methods (e.g., observational).

1.3.6 Conceptual comparisons

The models outlined above can all be considered transactional models of coping with stress as they all operate within a dynamic framework between the individual and the environment. That is, they take into account the interplay between environmental stressors and the individual's subjective interpretation of those stressors (Cohen, Kessler & Gordon, 1997). These conceptualisations also concur that the use of coping strategies is an integral part of the coping process. With the exception of the relinquished control dimension within the primary-secondary model of coping (Band & Weisz, 1988), which involves no coping effort, the three conceptualisations outlined above can all be distinguished by either a focus or orientation towards the source of stress in the case of approach/problem-focus/primary control coping, or away from the source of stress, on one's feelings, or one's 'goodness of fit' in relation to the source of stress. Furthermore, all of the models are comparable in the sense that coping is viewed as a dynamic process, dependent upon the nuances of a particular situation, despite the fact that the approach vs. avoidance model (Roth & Cohen, 1986) stems largely from the coping styles approach.

The primary-secondary and problem/emotion-focused models, however, provide a clearer picture of important aspects of these processes than the approach vs. avoidance model. Broadly speaking, they both - as part of their theorised processes - begin with an emphasis on the assessment or interpretation of the given stressor in terms of its controllability (primary-secondary model) or amenability to change (problem/emotion-focused model). Indeed in the primary-secondary model of coping, the concept of control is central to, and interwoven with the concept of coping. This assessment of the sources of stress receives less detailed attention in the approach/avoidance model, though Roth and Cohen (1986) do refer to the controllability of stressors e.g., '*noticing and taking advantage of situations, such as changes in controllability of aspects of the situation also calls for an orientation towards threat*' (p. 817). This model does not make clear the extent to which avoidance strategies are likely to be opted for over approach strategies based on perceived controllability. In fact it appears to suggest that approach strategies may be best in both controllable and uncontrollable situations with avoidance strategies serving largely to manage emotions for the effective use of approach strategies.

The primary-secondary and problem/emotion-focused models both make important distinctions between coping responses and the function that the coping response serves. The former model distinguishes responses from goals, making it clear that a coping response (e.g., problem-solving) should not be confounded with what an individual sets out to achieve in the stressful situation (e.g. aim to resolve an argument), and thus reflects the *motivational* nature of coping. The latter model differs in that it focuses on distinguishing the response from the outcome (e.g., did the response actually

achieve the aim of resolving the argument) reflecting the *consequences* of coping efforts. As well as distinguishing between coping efforts and coping goals and outcomes, both of these models highlight the importance of goals in the coping process, which contribute to the effective choice of coping strategy. Importantly, though the basic approach vs. avoidance model makes no clear distinction between coping, and the goals or outcomes of coping, these are concepts that can be easily integrated within the model and therefore this is not necessarily a weakness of the model.

1.3.7 Coping appraisals and goals

What appears clear from the main models of coping outlined previously is the importance of recognising an individual's assessment of potentially stressful situations. Lazarus and Folkman (1984) proposed that this assessment is made in two main forms, primary and secondary appraisals. Primary appraisals are fundamental in judging whether an event will actually turn out be stressful, e.g., a threat, challenge etc, or turn out to be benign. According to Lazarus & Folkman (1984), these appraisals can be framed by asking questions such as, 'Am I in trouble, and in what way'? (p. 31). In contrast, secondary appraisals refer to the evaluations made of the coping resources at one's disposal and the scope of one's own coping repertoire in light of a potential stressor. These kinds of appraisals can be framed by asking questions such as, 'What if anything can be done about it'? (p. 31).

A key factor in both kinds of appraisal is the perception of control (Lazarus & Folkman, 1984). For example, a situation deemed as controllable is likely to be appraised as a challenge, whereas a situation deemed uncontrollable is more likely to be

appraised as a threat (Folkman, 1984). The extent to which a situation is appraised as controllable subsequently determines the choice of general coping type, e.g. approach or avoidance (Folkman & Lazarus, 1980). Within each of the main models of coping (Rothbaum et al., 1982; Lazarus & Folkman, 1984; Roth & Cohen, 1986), the choice of coping either towards the source of stress or away from it/on one's emotions is based largely on perceived controllability of the stressor at hand.

Rothbaum et al. (1982) propose that the appraisal of a situation as uncontrollable leads to a more general tendency to focus inwards, which in coping terms is likely to be thoughts and behaviours orientated away from the source of stress and/or on one's emotions. Lazarus and Folkman (1984) state that emotion-focused coping is generally more likely to occur following an appraisal that little can be done to control/change a situation, whereas problem-solving is more likely when a situation is appraised as controllable and open to change, which research has supported (Hunter & Boyle, 2002; Hunter, Boyle & Warden, 2004). Similarly in Roth and Cohen's (1986) approach vs. avoidance model of coping, evidence is provided showing that avoidance coping is more effective in uncontrollable situations, whereas approach coping is more effective in situations that are more controllable. It seems clear therefore that the way individuals appraise stressful situations (e.g., threat, challenge etc.) can lead to a more general choice of either approach/primary/problem-focused coping when situations are assessed as more controllable or avoidant/secondary/emotion-focused when they are assessed as less controllable, in this way, appraisals are an integral part of the coping process.

Coping goals are another important element of the coping process proposed in both the problem/emotion-focused and primary-secondary models. Coping goals are

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associated with secondary appraisals in that the choice of coping strategy is influenced by the goals one seeks from the particular strategy chosen. This is highlighted in Crick and Dodge's (1994) model of information-processing (see Figure 1) where they view goals as, 'focused arousal states that function as orientations toward producing (or wanting to produce) particular outcomes' (p. 76).
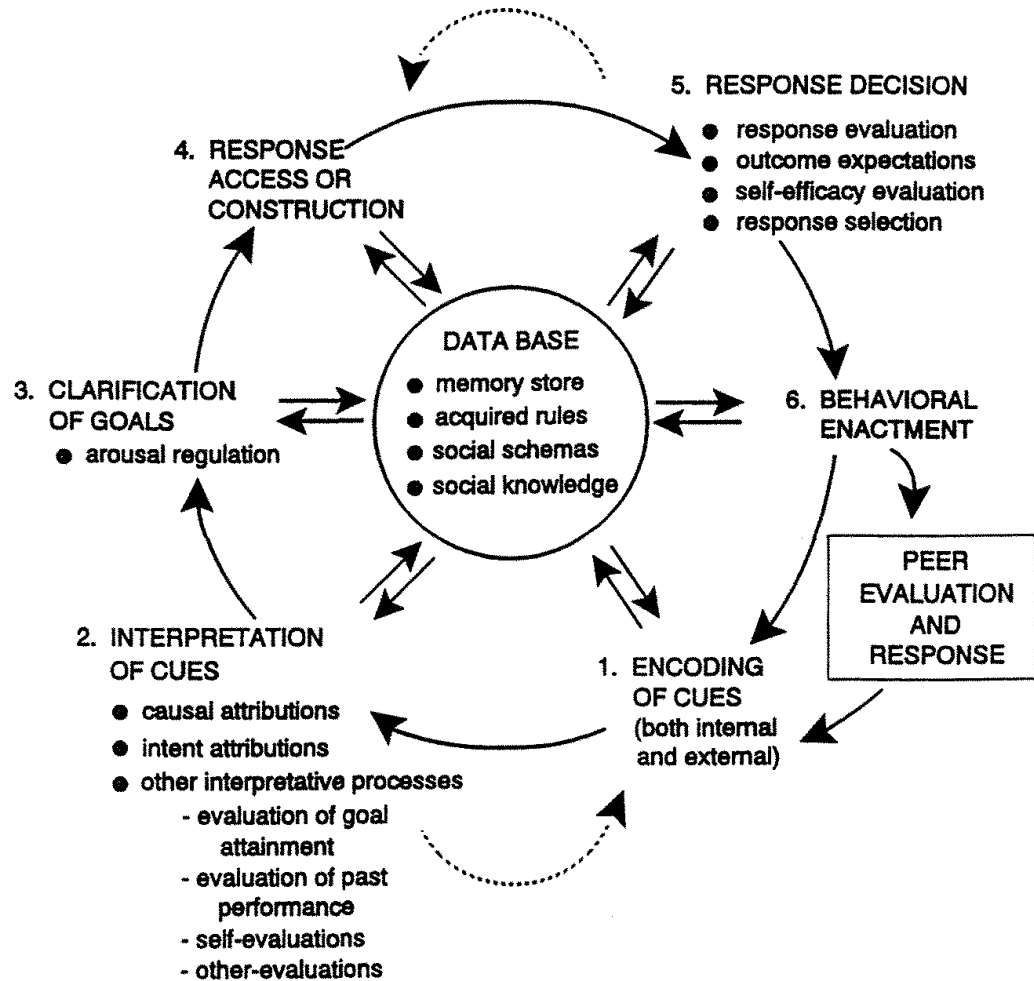
Figure 1: Crick and Dodge's (1994) reformulated social information-processing model of children's social adjustment.

According to Lazarus and Folkman (1984), in order for coping to be successful, there should be a consistent fit between coping responses and the goals sought through coping efforts. This view of coping matching goals has been supported in research, which has examined children's goals and coping strategies for dealing with peer conflict (Chung & Asher, 1996; Sorkin & Rook 2006). Chung and Asher (1996) found that children selected strategies consistent with their goal orientation, for example, children with the goal of avoiding trouble preferred passive and pro-social strategies, whereas children whose goals were about having control over activities and possessions opted for more hostile/coercive strategies. Lochman, Wayland and White (1993) found that, compared with children who had social goals of affiliation, children with social dominance goals showed not only higher aggressive and less pro-social behaviour, but also greater peer rejection and higher (teacher-rated) levels of depression. This suggests that goals not only map onto the way one acts in stressful situations, but also influence the outcome of the situation. It makes sense therefore that the match of one's goals with one's chosen coping strategy is essential in achieving successful adaptational outcomes.

1.4 Measurement of coping

If reaching a broad consensus on the conceptualisation of coping has been difficult, then reaching a consensus on how best to measure coping has by comparison been virtually impossible. For a start, coping can be measured in a number of fundamentally different ways, such as by observation of behaviour, semi-structured interviews, self-report questionnaires, and report by relevant others.

Observation

Observation of behaviour, though ecologically valid as it captures coping in real-life situations, often makes it difficult to compare results from different studies reliably due to the nuances from situation to situation and the researcher's own observational interpretation. It tends to work reasonably well in situations that follow a structured procedure, e.g., medical stressors (Compas et al., 2001), but is far less effective in situations without structure (e.g., interpersonal conflict) where the detail of different encounters can drastically vary. And while they are good for capturing behavioural coping strategies, observational methods are poor with regard to measuring cognitive coping strategies and are often expensive and time intensive, involving relatively small numbers of participants. For these reasons, relatively few studies employ observational methods.

Interviews

Semi-structured interviews are less ecologically valid compared with real-life observation, but they are good for allowing participants the freedom to give their own unique responses to a situation, rather than having an observer judge what they have done to cope, or require them to make pre-determined coping response as is the case with questionnaires. However, like observations they also make it difficult to reliably compare results because open-ended responses given can vary widely (Oakland & Ostell, 1996) and methods can be time consuming, making it difficult to collect data from larger samples (e.g., Altshuler & Ruble, 1989; Curry & Russ, 1985). They are also verbally demanding, posing important challenges for working with younger samples. For these

reasons - as seen in Compas et al.'s (2001) review of child and adolescent coping - interview measures are used relatively rarely compared with the use of questionnaires.

Questionnaires

Questionnaires, which are probably the most widely used method of measuring coping, allow for standardised responses making them potentially more reliable in terms of comparing results. However, a criticism of coping questionnaires is that they *do* require participants to make predetermined choices that they may not ordinarily have thought of, and they cannot provide the exhaustive array of coping responses that necessarily exist in the real world. Another criticism is that questionnaires usually rely on one's memories of a past stressor or thinking of coping in response to hypothetical stressors. They also tend to differ from paper to paper, even when they are based on the same coping conceptualisation. For example, some coping scales have as many as fourteen or more different coping categories within core coping dimensions (Carver, Scheier, & Weintraub, 1989), others have only two core categories (Herman-Stahl, Stemmler, & Peterson, 1995), while others focus on only one core dimension, e.g., cognitive coping (Garnefski, Rieffe, Jellesma, Terwogt, & Kraaij, 2006).

Despite these criticisms, however, questionnaires enable measures to be constructed on good theoretical grounds and provide a consistent set of coping responses across participants. They are also more efficient for use with large samples and can capture both cognitive and behavioural coping responses in a way interview and observations are unable to. What is more, questionnaires can be derived from and externally validated by interviews, observational methods, and other-reports. And lastly, although there have been valid criticisms of the use of factor analyses in particular for

developing coping scales (see review by Skinner et al., 2003 who present the scale of the problem of measurement by examining over 100 coping assessments), questionnaires can be derived from exploratory factor analyses and validated by both exploratory and confirmatory factor analyses.

1.5 Coping with social stressors through childhood

1.5.1 Introduction

The earliest infant behaviours for managing stress, e.g., crying, are involuntary mechanisms, governed by reflexes which according to Lazarus & Folkman's (1984) definition cannot be classified as coping. However, during the ensuing months of life infants begin to engage in more coordinated actions such as, head turning, thumb-sucking and intentionally seeking the attention of caregivers, as deliberate attempts to manage stress (Losoya, Eisenberg & Fabes, 1998). These volitional behaviours can be considered the beginnings of effortful coping processes. As infants advance through and beyond their first year, they begin to show improved attention regulation and engage in more self-comforting and problem-solving behaviours (Parritz, 1996), building up a repertoire of coping skills and abilities - the likely antecedents of more advanced coping behaviours.

As children move into early childhood, this repertoire of coping skills becomes increasingly multifaceted as physical and cognitive abilities develop and they experience greater autonomy. In particular, their cognitive strategies for coping with stress begin to increase through wider social experiences and increased meta-cognitive abilities (Losoya

et al., 1998). At the same time, the stressful circumstances they encounter become more complex and begin to change in nature, e.g., from stranger anxiety and novel stimuli (Parritz, 1996) to more complex social interactions (Baumgartner & Strayer, 2008).

Like adults, young children experience a wide range of different stressors such as divorce (Amato, 2004; Lengua & Sandler, 1997), illness and medical procedures (Fields & Prinz, 1997; Ryan-Wenger, 2007), marital conflict (O'Brien, Bahadur, Gee, Balto & Erber, 1997) and the death of close family members (Kaffman & Elizur, 1983) though these stressors of a more extreme nature are less commonly experienced than everyday stressors and many children may not experience them at all. In contrast, as Fields and Prinz (1997) recognise in their review of children's coping, '…almost all children experience the stressors associated with school entry and peer relations' (p. 942). Children's peer relations and peer conflict in particular are among the most commonly experienced stressors children face and, as a result, have contributed to a large proportion of the literature on children's coping. The present research therefore will focus on hypothetical incidences of children's peer conflict (e.g., arguments or being picked on) as the stressors from which coping will be measured.

1.5.2 Coping in pre-school children

Relatively little coping research has been conducted on preschool children, which is unsurprising given the methodological difficulties involved in recording their coping responses. Developmental immaturity in verbal abilities and reading comprehension renders self-report questionnaires and interviews somewhat ineffective. Thus, observation and other-report are the only really effective ways of collecting data in this

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age range. This of course limits the opportunity to capture various cognitive coping responses, but this is not a serious constraint given the limited use of cognitive coping by children during this period.

In their review of coping development, Skinner and Zimmer-Gembeck (2007) refer to only three studies for children under 5 years of age (all of which rely on observation of behavior), without reference to the type of stressor, and Fields and Prinz (1997) report on eight studies, four of which examine stressors stemming from peer relationships. Of these studies, all four found that preschool children reported a greater use of problem-focused/approach type strategies compared with emotion-focused/avoidant type ones and the avoidant type strategies tended to be behavioural rather than cognitive in nature (Fields & Prinz, 1997). This is probably due, in part, to the underdevelopment of preschool children's meta-cognitive abilities which are necessary for controlling one's emotions, something that becomes more developed as children move into and through the primary school years.

1.5.3 Coping in primary school children

By the time children reach primary school age, their coping repertoire becomes increasingly complex with the development of more sophisticated language and meta-cognitive capacities, but so do the social stressors they face (Losoya et al., 1998; Compas et al., 2001; Skinner & Zimmer-Gembeck, 2007). During this period, interview and self-report questionnaire methods become more effective and widely used (see reviews by Fields & Prinz, 1997; Compas et al., 2001), reflecting children's increased verbal abilities. These techniques have the advantage of being able to capture the internal

coping responses that increase during this age range. However, while the use of self-report measures is important for capturing the increasing use of cognitive strategies, the repertoire of these strategies may still be somewhat limited; ideally this needs to be taken into account when developing age-appropriate self-report measures. More generally, as Compas et al. (2001) point out, while preadolescents can prove to be reliable informants, evidence from interviews suggests that children under the age of 10 years are less reliable informants than adolescents. Thus, observational and other-report methodologies can ideally be used to verify/validate the self-report responses.

Though children are still engaging most in problem-focused/approach strategies during this period - including social support - their use of emotion-focused and cognitive coping strategies, such as, cognitive reframing and cognitive distraction begins to increase (Fields & Prinz, 1997; Compas et al., 2001) reflecting these greater meta-cognitive abilities. Fields and Prinz however report that during this period, children's propensity to use a variety of coping strategies is in a continual state of fluctuation with children at the upper end of primary school using a greater array of cognitive coping strategies than younger children. They also noticed that older children during this age period increasing employ coping strategies differentially depending on the type of stressor, again reflecting more complex mental capabilities.

Even at the age of upper primary school when children are relying more on emotion-focused and cognitive coping strategies, problem-focused/approach strategies still remain the dominant form of coping (Causey & Dubow, 1992; Fields & Prinz, 1997; Kochenderfer-Ladd, 2004; Kochenderfer-Ladd & Skinner, 2002). However, as Compas et al. (2001) note, children are increasingly 'generating alternative solutions to solve

problems' (p. 91). This suggests that rather than a simple shift from problem-focused to emotion-focused strategies, there is an increase in the number and complexity of cognitive/emotion-focused strategies, with a continuing reliance on problem-focused strategies to cope with stress. In fact Compas, Malcarne & Fondacaro (1988) found that across grades 6, 7 and 8 (10 -14 year-olds) the use of problem-focused coping was fairly consistent, while the use of emotion-focused strategies increased with age. This again suggests that rather than a shift from one type of coping to another, it is the increase in cognitive and emotion-focused coping alongside high levels of problem-solving that marks the developmental transition from middle childhood to adolescence.

1.5.4 Coping in adolescence

As children move into adolescence, coping responses increase in their diversity and flexibility, with greater metacognitive skills and the ability to select coping efforts to match the intricacies of different stressful situations (Compas et al., 2001). As with preschool and primary school children, adolescents have a stronger preference for approach type strategies over avoidance ones for coping with interpersonal stress (Fields & Prinz, 1997; Griffith, Dubow & Ippolito, 2000). However, unlike younger children, adolescents use relatively more cognitive and emotion-focused strategies (Fields & Prinz, 1997) following the trend seen from younger to older primary school children. As a consequence, research suggests that youths of this age group can provide valid reports of their own coping responses using measures originally developed for adult samples, although the measures admittedly do show somewhat less reliability in adolescent samples (Compas et al., 2001).

1.6 Measurement of coping in children

There are several fundamental issues regarding the effective measurement of children's coping which include: the way in which coping is measured; the measurement of coping styles vs. specific coping strategies; the validity and reliability of coping measures; the type of stressor to which coping responses are related; the extent to which coping measures are developed specifically for children or derived top-down from adult models of coping; and the possibility that coping items are confounded with psychopathology.

As with adults, children's coping can be measured by observation of behaviour, semi-structured interviews, self-report questionnaires and report by relevant others (usually parents or teachers, but also by other children). Although it may be practical to use behavioural observation to measure preschool children's coping strategies when cognitive and emotion-focused strategies are in their infancy, these kinds of measures are less effective in measuring coping in older children whose coping repertoire includes increasingly sophisticated strategies. Similarly, the report of coping by relevant others is relatively ineffective in capturing the more sophisticated cognitive and emotional strategies increasingly used as children move into middle childhood. Indeed, Compas et al. (2001) report that of the few studies that do use observation methods, two include younger children (3-7 and 3-9-years-of-age) and all three of them involve the use of medical procedures as stressors due to the fact that children's behaviour is relatively constrained in these situations and therefore easier to code. Measuring coping in this way is far less effective in more complex situations such as problematic interactions.

Because problems with interviews and questionnaires addressed in section 1.4 included examples from both adult and child samples, the focus for the rest of this section will be specifically on questionnaires designed for measuring children's coping that can be used for measuring coping with peer-related stress.

The next issue regarding the measurement of children's coping is to distinguish between instruments that separate coping by dichotomous, broadband categories (e.g., problem-focused vs. emotion-focused or approach vs. avoidance coping) and instruments which focus more on the specific coping strategies within these broadband categories (e.g., problem-solving, social support seeking, venting of emotions, cognitive restructuring and so on). The former (e.g., Band & Weisz, 1988; Compas, Malcarne & Fondacaro, 1988; Herman-Stahl et al., 1995) are more effective for assessing coping styles, whereas the latter (e.g., Brodzinsky, Elias, Steiger, Simon, Gill & Hitt, 1992; Causey & Dubow, 1992; Garnefski et al., 2006) are more effective for measuring specific ways of coping from situation to situation. For the purposes of this thesis there will be a focus on instruments measuring the latter, as the stressors of interest are specific situations of children's interpersonal conflict.

Compas et al. (2001) report that many scales have the problem of not addressing a wide enough range of potential coping responses with regards to different strategies. In particular, they highlight the problem with emotion-focused type coping where scales often only emphasise *negative* responses with few including more *positive* responses, such as positive restructuring. Despite this criticism, many scales do include positive emotion-focused responses with subscales such as positive refocusing or restructuring (Garnefski et al., 2006; Kliewer, 1991; Reijntjes et al., 2006). And while other scales may

not include such positive subscales (e.g., only measuring distancing and avoidance), these subscales often include potentially positive emotion-focused items, such as 'I tell myself it doesn't matter' (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002), but include them on generally less positive subscales alongside more negative items. Therefore part of the challenge in developing a good measure lies in ensuring that individual coping responses have a clear conceptual fit with coping subscales and that emotion-focused responses cover both positive and negative ways of coping that children actually engage in. In the present programme of empirical work, the Self-Report Coping Scale (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002) was extended in order to measures children's coping.

2. Coping, social anxiety, depression and peer status

2.1 Introduction

A fundamental function of any given coping strategy is the attempt to manage stress or the negative emotions associated with it. Lazarus and Folkman (1984) stated that however coping is defined or conceptualised, the main point of coping processes and appraisals is that they affect adaptational outcomes. These outcomes include adaptive functioning in areas such as physical and psychological health (Burker, Evon, Losielle Finkel & Mill, 2005; Zautra & Wrabetz, 1991), well-being (Sorkin & Rook, 2006) and social functioning (de Boo & Wicherts, 2009) with these areas often associated with one another (e.g. poor social functioning may be linked to depression or other psychological problems). Though a great deal of evidence exists to support the associations between coping and adaptation in these different areas, the focus here will be on the association between children's coping and emotional adjustment - specifically with regard to the conditions of social anxiety and depression.

2.2 Social anxiety and depression

2.2.1 Childhood Social anxiety

Social anxiety or social phobia is described in the DSM-IV as 'a marked and persistent fear of social or performance situations in which embarrassment may occur' (APA, p. 411). And while being one of the most prevalent anxiety disorders - as well as being one of the most prevalent psychiatric disorders among the general population

(Schneier, Luterek, Heimberg & Leonardo, 2004) - it is also a common experience in everyday life (Widiger, 2001). Though the most common age of onset for social anxiety is in early to mid-teens (Rapee, 1995; Schneier et al., 2004), many sufferers report that symptoms were present in early childhood (Schneier et al., 2004). Ronald, Rapee & Sweeney (2001) note: 'most studies cite prevalence rates of social phobia to be approximately 1-2% of the general child population' (p. 507), though it is likely much greater numbers experience at least some of its symptoms. Of the situations that arouse social anxiety, Schneier et al. (2004) state that social gatherings and interpersonal contacts are among the most common and this can become overwhelmingly stressful when those interpersonal situations involve encounters of conflict, particularly among children when they occur more frequently.

The etiology of social anxiety has its roots in the genetics of temperament and shyness (Rapee & Spence, 2004; Schneier et al., 2004), but is also linked to other factors, e.g., over-bearing or over-protective parenting (see Rapee & Spence, 2004; Banerjee, 2008) and information-processing biases (Banerjee, 2008; Crick & Dodge, 1994; Daleiden & Vasey, 1997), particularly with regard to interpersonal situations. Social anxious children, for example, are more likely to interpret social situations of an ambiguous nature as threatening, encoding more negative/threat cues and self-appraisals (Banerjee, 2008). They are also more likely to focus on, and anticipate, future outcomes, with greater negative rather than positive cognitive processing. In terms of parenting, Rapee and Spence (2004) report evidence that anxious children (including those with social phobia) experience greater parental control and protection with greater isolation from social interactions. Banerjee (2008) attempts to link these potential causes of

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(social) anxiety by stating: 'these kinds of characteristics [intrusive parenting] could conceivably contribute to the negative cognitions evident in anxious children' (p. 257).

2.2.2 Childhood Depression

There are many different sub-types of depression, each with its own list of criteria (see Gilbert, 1992), which this thesis will not attempt to outline. However, of the different cognitive, emotional and physical symptoms that contribute to diagnoses of different types of depression, negative mood, a lack of interest in otherwise pleasurable activities, and feelings of worthlessness are central factors in diagnoses of depression. In children this is often characterised by feelings of sadness, crying more than usual and feeling alone. Along with social anxiety, depression is one of the most common psychiatric disorders (Comer, 1992) and during childhood has a similar prevalence rate to that of social anxiety/phobia with 1-2% of children affected by it, increasing significantly in adolescence to 2-8%, with lifetime prevalence rates among adolescents as high as 15-20% (see Zahn-Waxler, Klimes-Dougan & Slattery, 2000). Unlike social anxiety however - which is aroused in social situations only - depression is experienced in almost all situations (Ingram, Ramel, Chavira & Scher, 2001), making it significantly more debilitating.

There are many theorised causes of depression including psychoanalytic theory, genetic and biological models, neurobiological processes and cognitive-behavioural theories (see review by Zahn-Waxler et al., 2000). And although they all provide important contributions in understanding the etiology of depression, it is cognitive-

behavioural theories (e.g., Beck, 1967; Seligman, 1975), which offer more sophisticated accounts of the disorder which are conducive to effective and lasting forms of treatment.

According to Seligman's learned helplessness theory (Maier & Seligman, 1976; Seligman, 1975), experiencing events as uncontrollable can result in the expectation that no matter how one responds, future outcomes can not be controlled leading to a sense of helplessness. Although originally from the animal literature, Seligman (1975) highlighted how these learned helplessness deficits were similar to the motivational, cognitive and emotional deficits seen in human depression. In a reformulation of the theory applied to depression, Abramson, Seligman, and Teasdale (1978) added that individuals who attribute negative events to internal, stable and global causes were at greater risk of depression compared with those who did not. This was support by Seligman, Peterson, Kaslow, Tannenbaum, Alloy & Abramson (1984) who found that children scored higher on the Children's Beck Depression Inventory (CDI) when they attributed negative events in this helpless way. Ultimately, this theory proposes that people are likely to become depressed when they feel they have no control over life events.

Beck's (1967, 1976) cognitive model of depression posits that faulty thinking in the form of *automatic-negative thoughts* leads to the motivational, emotional and behavioural aspects of depression. Formed in childhood, this kind of thinking causes biases in information-processing, leading individuals to encode stimuli more negatively, interpreting ambiguous and even positive events in a negative light. This then feeds back into the automatic negative thinking of depressed individuals, creating a negative feedback system (Comer, 1992).

2.2.3 Co-morbidity of social anxiety and depression in children

Although anxiety and depression are distinct disorders, research has shown that substantial co-morbidity exists between the two (Ingram et al., 2001; Katon & Roy-Byrne, 1991; Watson et al., 1995a; Watson et al., 1995b), with social anxiety in particular among the psychiatric conditions most commonly co-morbid with depression (Ingram et al., 2001). For example, in a review of clinical studies, Merikangas and Angst (1995) revealed that an average of 60% of people receiving treatment of social phobia report a history of depression or dysthymia. Evidence shows that this co-morbidity also exists in childhood (Brady & Kendall, 1992; Chavira, Stein, Bailey & Stein, 2004; Chorpita, Plummer & Moffitt, 2000; Crook, Beaver & Bell; Kendall, Kortlander, Chansky & Brady, 1992; King, Ollendick & Gullone, 1991; Ogul & Gencoz, 2003; Stark, Humphrey, Laurent, Livingston & Christopher, 1993) with regard to behavioural, cognitive and emotional characteristics. Regarding social anxiety in particular, Chavira et al. (2004) revealed significant co-morbidity rates with depression of between 28-38% in non-psychiatric samples. They also found that social anxiety was the only anxiety disorder to present an increased likelihood of depression. What is more, it has been shown that the onset of social anxiety preceded depression, suggesting a temporal relationship between the two (Brady & Kendall, 1992).

Despite high co-morbidity between social anxiety and depression, there are also major differences. Clark and Watson's (1991) tripartite model of anxiety and depression arguably makes the greatest attempt to understand both the differences and similarities seen between anxiety and depression, based on three basic dimensions. Firstly, they propose a dimension of positive affect (e.g., interest, enthusiasm, pleasure) which is low

among depressed individuals, but not among those with a diagnosis of anxiety only and those without either diagnosis; a dimension of physiological hyper-arousal (e.g., nervousness and tension), which is high in anxiety only; and a dimension of negative affect (e.g. upset, guilty, worried), which is high in both anxiety and depression.

To assess their tripartite model, Watson et al. (1995a) tested the discriminant and convergent properties of five scales developed using items from the Mood and Anxiety Symptom Questionnaire (MASQ). Two were designed with separate foci on the specific symptoms of anxiety and depression including only items specific to each, two were designed that also focused on measuring anxiety and depression separately, but included non-specific symptoms in each, and one was designed to measure mixed anxiety and depression. They found that the scales measuring specific symptoms of anxiety and depression correlated most poorly and had the best discriminant ability, whereas the anxiety and depression scales including the non-specific items showed the highest correlations (Watson et al., 1995a). This provides evidence supporting the tripartite model, which has also provided a framework for understanding the similarities and differences between anxiety and depression in children (Chorpita et al., 2000; Laurent & Ettelson, 2001).

However, the tripartite model has received some criticism, particularly in relation to its application to childhood samples (Chorpita et al., 2000; Anderson & Hope, 2008). In a review in relation to youth samples, Anderson and Hope (2008) highlighted some of the model's limitations. Firstly, they provide evidence suggesting the factors within the model may function differentially across anxiety disorders and suggest each type should be considered separately. Secondly, they highlight that more research needs to be

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conducted on youth samples. And thirdly, they make the point that self-report measures of physiological hyper-arousal need to be objectively validated by actual measures such as heart rate monitoring. However, the main issue appears to be the need for further research and, as it stands, the tripartite model offers an effective framework from which to examine the convergence and divergence of these two disorders, particularly with regard to specific anxiety disorders (e.g., social anxiety).

2.3 Children's coping: links with adjustment

Evidence has shown that the coping strategies children use to manage stress are significantly associated with children's emotional adjustment (see reviews by Fields & Prinz, 1997; Compas et al., 2001). For example, of eleven studies reviewed by Fields and Prinz (1997), all supported the general trend that active, approach, or problem-solving coping strategies were related to reduced internalising and externalising symptoms. Also, among these studies, avoidant and negative cognitive strategies (e.g., negative focus, escape thoughts etc.) were associated with increased anxiety whereas use of more positive cognitive strategies (e.g., distraction, self-calming etc.), were associated with lower anxiety. In a meta-analysis looking specifically at children's coping with interpersonal stress, Clarke (2006) also found that active coping strategies were related to fewer internalising symptoms. Examining links between broader categories of coping and adjustment, Compas et al's. (2001) review showed that engagement coping was generally related to fewer internalising and externalising symptoms, whereas disengagement coping was generally related to more internalising symptoms. The latter

findings were, however, mixed with regard to externalising symptoms with three studies showing fewer externalising symptoms and three studies showing more. So, although much of the evidence indicates that approach type coping and positive cognitive strategies are related to fewer adjustment problems, the picture regarding avoidant type strategies is less clear.

2.3.1 Children's coping and social anxiety

A substantial body of research has shown that children's coping behaviours are significantly associated with anxiety, social anxiety and anxious behaviours (Burgess, Wojslawowicz, Rubin, Rose-Krasnor & Booth-LaForce, 2006; Eisenberg, Shepard, Fabes, Murphy & Guthrie, 1998; Findlay, Coplan & Bowker, 2009; Garnefski et al., 2006; Griffiths et al., 2000; Rubin, Daniels-Beirness & Bream, 1984). There is also good evidence to suggest that the antecedents and consequences of children's social anxiety (e.g., shyness, self-consciousness, interpretation biases, social withdrawal, fearfulness, worry etc) are linked to specific ways of coping with stress.

Firstly, several studies have reported links between shyness and various coping and emotion regulation strategies. In a study by Burgess et al. (2006), shy/withdrawn children endorsed greater avoidant coping than controls. Eisenberg et al. (1998) examined parent and teacher-rated shyness in children 6-12-years of age and found it was positively related to 'coping by doing nothing' and avoidant coping, and negatively related to instrumental coping and support seeking. Findlay et al. (2009) found that among 9-11-year-olds, self-reported shyness was related to internalising coping - a coping dimension used in Causey and Dubow's (1992) questionnaire measure. They

found shyness also related to internalising difficulties, with internalising coping mediating the link between the two, concluding that: 'shy children's coping style may account for some of the negative outcomes associated with shyness' (p. 52).

Interpretation biases associated with social anxiety also influence children's coping behaviours. Vassilopoulos and Banerjee (2009) found that among 11-13-year-olds, social anxiety was associated with catastrophising in response to mildly stressful events, suggesting a tendency to overreact in coping terms. Garnefski et al. (2006) also found catastrophising - along with self-blame and rumination - to be related to features of social anxiety in the form of worry and fearfulness. At the same time, they found that positive refocusing and positive reappraisal had negative associations with worry and fearfulness, suggesting that interpretation biases leading to rumination make it difficult to positively reassess stressful events. Vassilopoulos (2007) found that students with high levels of social anxiety engaged in greater preparation for stressful events and reported more planning thoughts about avoiding them, but also more negative evaluations of the events. This suggests socially anxious individuals do have a tendency towards problem-solving, but largely in an attempt to reduce anxiety and 'escape' stressful situations rather than identify positives and sort out problems. Rubin et al. (1984) found that socially isolated children tend to have a greater reliance on adults for social problem-solving to avoid conflict with peers. This suggests that, regarding adults at least, more withdrawn children may have a greater tendency to seek support to deal with problems, possibly because they worry more about dealing with interpersonal stress on their own.

It appears therefore that while symptoms of anxiety and social anxiety are often linked to avoidant ways of coping, such as internalising and rumination, they may also be

linked to approach coping tendencies of problem-solving and support seeking. Furthermore, while socially anxious symptoms appear to be negatively related to some positive cognitive coping strategies (e.g., positive refocusing), there is the need for research which examines how these symptoms are related to other more positive cognitive strategies.

2.3.2 Children's coping and depression

A substantial body of research also exists linking children's coping to symptoms of depression (Garnefski & Kraaij, 2006; Garnefski et al., 2006; Glyshaw, Cohen & Towbes, 1989; Herman-Stahl, Stemmeler & Petersen, 1995; Horowitz & Garber, 2006; Jaser et al., 2007; Morrow & Nolen-Hoeksema, 1990; Murberg & Bru, 2005; Ogul & Gencoz, 2003; Reijntjes, Stegge & Meerum Tergwogt, 2006; Reijntjes, Stegge, Meerum Tergwogt, Kamphuis & Telch, 2006a and 2006b; Rohde, Lewinsohn, Tilson & Seeley, 1990) with the characteristics of depressed individuals (e.g., faulty attributions, poor sense of control, feelings of helplessness, information-processing biases and negative thinking etc.) associated with a more negative coping profile. Herman-Stahl et al., (1995) found that children using more approach coping reported lower levels of depressive symptoms compared with avoidance copers who reported higher levels of depressive symptoms. Similarly, in a study of 10-13-year-olds in real-life rejection scenarios, Reijntjes et al. (2006a) found that children higher in depressive symptoms engaged in more avoidant and passive coping, while Garnefski et al. (2006) found that self-blame, other-blame and catastrophising was associated with increased depression. Murberg and Bru (2005) found that aggressive coping in adolescence was a risk factor for depression,

particularly when they perceived high levels of stress. The higher levels of depressive symptoms seen in children who use more passive and avoidant coping can be explained to some extent by a perceived lack of control in the face of stress, and subsequent feelings of helplessness in dealing with stressful situations. The increased likelihood for depressed children to cope aggressively may also be due to a perceived lack of control in stressful situations, but additionally may be a hallmark of biased information-processing, leading to negative attributions regarding the sources of stress, especially in situations of peer conflict.

In contrast, children higher in depressive symptoms tend to use relatively fewer cognitively and behaviourally positive and proactive coping strategies to deal with stress. For example, they are less likely to endorse coping strategies related to mood improvement, such as positive refocusing, positive reappraisal and behavioural distraction (Garnefski et al., 2006; Reijntjes et al., 2006), with behavioural distraction being positively linked to increased positive affect (Reijntjes et al., 2006). According to the tripartite model (Clarke & Watson, 1991) higher positive affect is opposed to a depressive profile where low positive affect is more characteristic, so one would expect depressed children to engage less in distractive coping. In fact, distracting oneself from problems is the opposite from ruminating over problems, again suggesting that distraction is likely not to be associated with depressive symptoms.

At the same time, greater use of problem-focused coping has been associated with the alleviation of depressive symptoms in adolescents (Ogul & Gencoz, 2003), and interventions that include problem-solving skills have been shown to be effective in the treatment of depression (Horowitz & Garber, 2006). The greater negative thinking

patterns seen in depression (Beck, 1967) and the tendency to ruminate over problems explains, to some degree, the inability of those higher in depressive symptoms to engage in positive cognitive strategies and distract themselves from problems. It is also likely that the motivational deficits outlined in the learned helplessness theory drive depressed individuals to avoid problems rather than attempt to solve them.

So, in a similar way to anxiety and social anxiety, depressive symptoms are often linked to avoidant ways of coping, but in contrast to these conditions, depressive symptoms tend to be negatively linked to approach coping strategies such as problem-solving, and positively associated with aggressive coping responses. Like anxiety, depressive symptoms also appear to be negatively related to positive focus strategies, but additionally, they are negatively related to distractive coping strategies as well.

2.4 Children's peer status

2.4.1 Children's peer status: acceptance and rejection

It has long been acknowledged by social and psychological researchers that peer relations play a crucial role in children's social and emotional development (Asher & Coie, 1990; Foot, Chapman & Smith, 1980; Hartup, 1975; Kupersmidt & DeRosier, 2004; Ladd, 1988; Ladd, 2006; Ladd & Kochenderfer, 1998). These relationships take many forms, e.g., friendships, acquaintances, team mates, classmates etc. (Ladd, 1988), with children's acceptance or popularity among their classmates providing arguably the greatest focus for research into peer relations. This may be because in the classroom, children remain in familiar and stable groups providing greater scope for research (Miller

& Gentry, 1980). Ladd (1988) makes the argument that children's relationships in the school environment can provide support and learning opportunities, but can also be a source of distress and rejection. It is the understanding of children's peer status (i.e. acceptance or rejection) in this context and its relation to social behaviour and social and emotional adjustment that drives many researchers.

The most ubiquitous method of measuring children's peer relations has been through sociometric classification systems and sociograms which involve children nominating class or playmates (Miller & Gentry, 1980; Newcomb et al., 1993). Early unidimensional approaches relied on children nominating peers who were friends or who they most liked to play with (positive nominations), creating a measure of peer acceptance only, which while avoiding children being labelled as disliked, was seen as somewhat restrictive (Newcomb et al., 1993). Later two-dimensional models included both positive and negative nominations (nominations of peers children least liked to play with), recognising the need to distinguish between children who were simply overlooked by their peers from those who were actively disliked and rejected. This allowed for measures of both peer acceptance and peer rejection, corresponding to most liked (ML) and least liked (LL) nominations. It also permitted the combining of the two nomination types, differentiating between likability (i.e., standardised scores of ML - LL (social preference)) and social visibility (i.e., standardised scores of ML + LL (social impact)) (Coie, Dodge & Coppotelli, 1982). Coie and Dodge (1983) elaborated on this to create peer status categories (popular, rejected, neglected, controversial and average). Children categorised as popular were those who have a standardised social preference score > 1, a ML > 0 and a LL < 0; rejected children have a social preference score < -1, a ML < 0 and

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a LL > 0; controversial children have a social impact score > 1, a ML > 0, and a LL > 0; and neglected children have a social impact score < -1, a ML < 0, and a LL < 0.

Categorisations of children's sociometric status, i.e., how much they are accepted or rejected by their peers, have proved to be a consistently reliable and relatively stable measure of group differences in children's peer relations (Coie & Dodge, 1983, 1988; Jiang & Cillessen, 2005). Meta-analyses of children's sociometric status have indicated that popular children show an array of competencies (e.g., greater social problem-solving skills, positive social actions, positive social traits) making them likely recipients of positive peer nominations (Newcomb et al., 1993). Popular children are also rated by peers as trustworthy, kind, cooperative and sociable (Cillessen & Mayeux, 2004). In contrast, high levels of aggression and withdrawal, and low levels of sociability and cognitive abilities, as well as disruptive behaviour and violation of rules are associated with rejected peer status (Coie, Dodge & Kupersmidt, 1990; Dodge, 1983; Newcombe et al., 1993). Interestingly, research has shown that controversial children also fare poorly with regards to adjustment, whereas neglected children tend to fare no worse than children of average sociometric status (Ollendick, West, Borden & Greene, 1992). Suffice to say, peer acceptance is more generally associated with adaptive behaviour and hence likely to lead to more positive outcomes, whereas peer rejection is associated with maladaptive behaviour and likely to result in poorer outcomes.

2.4.2 Children's peer status: moderators of the links between coping and social anxiety and depression

As highlighted in the previous section, children's peer relations not only predict their social adjustment and behaviour, but are also associated with their emotional adjustment - with low acceptance, aggression, shyness and withdrawal often leading to later maladjustment (Parker & Asher, 1987). Research has shown that this is particularly true regarding social anxiety and depression in childhood (e.g., Asher & Coie, 1990; Furman & Gavin, 1989), and the behaviours associated with peer acceptance and rejection suggest that peer status may play a moderating role in the link between coping and emotional adjustment.

Evidence has shown that the behavioural characteristics of rejected children puts them at increased risk of maladaptive outcomes (Asher & Coie, 1990), including depression. Allen et al. (2006) for example found that in the close peer relationships of 13-year-olds, withdrawn, angry and dependent behaviours - hallmarks of rejected children - predicted increases in depression one-year later. Similarly, Kiesner (2002) found that low peer status (i.e., social preference score) within a sample of 13-year-olds predicted depressive symptoms over time, even after controlling for depressive symptoms at the first timepoint. Specifically, Kiesner found that children's depressive symptoms were negatively associated with social preference. In a sample of 8-12-year-old children, Kennedy, Spence and Hensley (1989) found that not only were children high in depressive symptoms more likely to be rejected by peers, but they also reported higher behavioural social skills deficits. Panak and Garber (1992) found that increased aggression was associated with significant increases in depression, which was partially

mediated by peer rejection. These findings suggest that social skills deficits and aggression are a key factor in the link between peer rejection and depression in children. Indeed, Hymel, Vaillancourt, McDougall & Renshaw (2002) point out that rejected status is related to deficits in socio-cognitive skills and aggressive and withdrawn behaviour.

In contrast, the behaviour of popular children (high in peer acceptance) is likely to reduce the risk of depression. Nangle, Erdley Newman, Mason & Carpenter (2003) proposed a model of popularity, friendship quality, loneliness and depression. Though not directly associated with depression, they found that popularity negatively predicted depression through its influence on friendship quality and loneliness. The opposite is true of low peer acceptance or perceived low peer acceptance which puts children at greater risk of depression (Kistner, 2006).

Research has also shown that social anxiety is related to poorer social functioning and hence less peer acceptance and increased peer rejection (e.g., Gazelle, 2006; Interbitzen, Walters & Bukowski, 1997; Spence, Donovan & Brechman-Toussaint, 1999). In a study of 7-14-year-old clinically diagnosed social phobics, Spence et al. (1999) found that social phobics were less likely to be rated positively by their peers, with greater social skills deficits compared with controls. Gazelle (2006) found that children with a history of anxious solitude (shy, socially anxious and often playing alone) were more rejected by their peers, and Interbitzen et al. (1997) found that rejected and poorly accepted children in grades 6-9 reported more social anxiety than children of popular, controversial or average status groups. In Interbitzen et al.'s (1997) study, a subgroup of submissive-rejected children reported significantly more social anxiety than a subgroup of aggressive-rejected students, suggesting that rejection linked to aggression

was less associated with social anxiety than rejection associated with withdrawn type behaviour. This is particularly interesting as aggression tends to be related to depression, as well as rejection, hinting at a potential differentiation between social anxiety and depression in the reasons for peer rejection (aggressive vs. submissive behaviour). So while research evidence shows undoubted links between low peer acceptance/rejection and both depression and social anxiety, the different antecedent behaviours leading to peer acceptance/rejection may also lead to differential associations with the two disorders.

Peer acceptance and rejection and their associated behaviours are also likely to influence children's coping. For example, social skills deficits which are characteristic of peer rejection and are associated with social anxiety and particularly depression, are likely to inhibit successful social problem-solving. In contrast, peer acceptance which is associated with greater social competence has been linked to *greater* problem-solving ability (Newcomb et al., 1993). In a similar way, withdrawn, isolated behaviour, a characteristic of peer rejection (Coie, Kupersmidt & Dodge, 1990) has been linked to greater support seeking - particularly from adults (e.g., Rubin et al., 1984).

Crucially, Kochenderfer-Ladd & Skinner (2002) have provided evidence of interactions between coping and peer relations. For example, they found that problem-solving was effective for children without significant peer difficulties, but ineffective for children experiencing greater peer difficulties. Links between children's peer acceptance and rejection and adjustment on the one hand, and coping on the other, suggest that acceptance and rejection may act as moderators between adjustment and coping. In particular, one would expect poor peer relations to exacerbate negative associations of

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emotional maladjustment with problem-solving and social support seeking, as well as to amplify positive associations with internalising and externalising coping responses. On the other hand, positive peer relations could act as a buffer between them, by mitigating the negative impact of maladaptive coping on adjustment outcomes, or potentially by facilitating active coping strategies to deal with distress. In the sequence of studies reported here, peer acceptance and rejection are therefore included in the analyses as a potential moderator of associations between coping and adjustment; longitudinally, they may influence the consequences of coping for adjustment as well as the consequences of adjustment for coping.

2.5 Summary and conclusions

It is clear that the ability to cope effectively with stress is fundamental to adaptive social and emotional functioning. Although there are two main approaches to coping, the dispositional approach to coping appears to be more effective for understanding individual's general coping tendencies, whereas the transactional coping approaches appear to be more effective for understanding coping within the context of specific stressful situations and how coping changes over time. The coping strategies approach is also more effective in terms of measuring how individuals actually cope in stressful situations and appears to demonstrate a greater ability to predict specific coping outcomes.

The key coping distinction is between activity oriented towards the source of stress or away from it and/or on the emotions it elicits, and the three coping

conceptualisations presented outline how this works as part of wider coping processes, including appraisals and goals regarding stressful situations. Children's use of coping changes as they move through childhood, with greater abilities in cognitive coping emerging through middle to late childhood. While children's symptoms of social anxiety and depression are related to some coping strategies in similar ways, there are also clear differences - particularly regarding approach type coping - based on the antecedents of these conditions, which can be understood within theoretical frameworks. Finally, evidence exists suggesting that children's peer status may have some role to play in the link between children's use of coping strategies and emotional adjustment.

The challenge here is to further understand the links between children's use of coping and their emotional adjustment, specifically to examine the links between the use of individual coping strategies and levels of social anxiety and depression. Finally, there is a need to consider moderating and mediating factors that influence these links, and to see how these relationships change over time.

3. Overview of empirical chapters

3.1 Summary of studies

The central aim of this thesis was to investigate differential associations between the strategies primary school children employ to cope with peer conflict (conceptualised with reference to an approach vs. avoidance framework; Roth & Cohen, 1986), and their emotional adjustment in terms of social anxiety and depression. Additional aims, based on theoretical considerations outlined in transactional models of coping (Rothbaum, Weisz & Snyder, 1982; Lazarus & Folkman, 1984), concerned the extent to which these associations are mediated by both children's appraisals of peer stressors and the goals they seek from their coping efforts. Finally, the extent to which peer status (i.e., levels of peer acceptance or rejection) moderated the link between coping and emotional adjustment was also investigated.

Four papers, reporting on seven studies, are presented in this thesis - two studies in each of the first three papers and a single study in the final paper. The first study in Paper 1 used semi-structured interviews to capture children's open-ended coping responses in an attempt to categorise the actual ways of coping children self-generate, and assess the utility of an existing coping categorisation (from the Self-report Coping Scale - SRCS, Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002). Ratings of children's feelings before and after the generation of coping responses were obtained, with correlational analyses used to evaluate associations between children's perceived efficacy of coping and the frequency of using different strategies. The second study in Paper 1 used single item measures, reflecting the seven categories of coping validated in

study 1.1, to investigate the use of different types of coping and their perceived efficacy among two groups of children, one group attending a pupil referral unit and the other a mainstream school. The expectation was that children attending the pupil referral unit would see less efficacy in what is typically regarded as adaptive coping (e.g., problem-solving) and greater efficacy in coping considered to be more maladaptive (e.g., aggressive coping) compared with children attending the mainstream school.

The first study in Paper 2 was designed to evaluate the factor structure of the modified SRCS (Kochenderfer-Ladd & Skinner, 2002) including newly added items to reflect two further coping dimensions. It was expected that along with the five sub-scales of coping included in the original questionnaire (problem-solving, social support seeking, distancing, internalising and externalising), factor analyses would reveal additional subscales of distraction and positive restructuring. The second study in Paper 2 was a longitudinal investigation into the differential associations between six validated sub-scales from the previous study and social anxiety and depression, with peer acceptance and rejection included as moderators. Coping strategies were assessed in a single peer conflict situation. Confirmatory factor analyses were performed to confirm the factor structure of the modified questionnaire and all variables were measured twice over the course of a school year (a nine-month period). Cross-lagged panel analyses were used to confirm the extent to which coping strategies would predict emotional adjustment at the second time point after controlling for coping at the first timepoint, and vice versa. There are persuasive theoretical arguments in the literature supporting the view that coping strategies act as antecedents to emotional adjustment, and equally persuasive arguments that emotional adjustment acts as an antecedent to coping. The general expectation was

that social anxiety and depression would show divergent associations with coping strategies. In order to provide some external validity to children's coping scores, measures of teacher-rated social competence were obtained where social competence was expected to be related to the more observable dimensions of coping.

Paper 3 includes two studies exploring differential associations between coping and emotional adjustment across different interpersonal stressful scenarios at single timepoints. The first study examines differential associations between the approach coping strategies of problem-solving and social support seeking and social anxiety and depression across six scenarios of varying stressfulness. Analyses were conducted with coping as the dependent variable and social anxiety and depression as covariates, across the six scenarios. The second study used a further modified measure of the SCRS, with three item sub-scales, to examine the associations of five coping strategies (problem-solving, social support seeking, internalising, externalising and distraction) with social anxiety and depression, across three interpersonal stressful scenarios. Additionally, children's appraisals (controllable vs. uncontrollable) and goals (pro-social and escape) were studied as mediators of the links between coping and adjustment, with path analyses conducted to examine the strength of direct and indirect effects.

The final paper follows up the sample studied in Paper 2, and reports data from two following timepoints of data collection over 24 months. The first aim was to confirm the stability of measures of coping, social anxiety, depression, and peer acceptance and rejection across the three timepoints. Secondly, following on from study 2.2 of Paper 2 - which looked at links between coping and adjustment over 9 months, links between coping and adjustment (with peer acceptance and rejection included as moderators) were

examined over a further 12 months and 24 months using cross-lagged analyses to see how these links change over time.

3.2 Methods

3.2.1 Recruitment of schools and parental consent

Schools for the present research were recruited from three different areas of England (Warwickshire, London and Brighton), and the Randstad region of the Netherlands. The schools in Brighton, Warwickshire and the Netherlands were part of larger projects looking at wider aspects of children's social and emotional development, and the schools in London were recruited for the purpose of studies within this thesis. The sample of children from the Netherlands was recruited from seven primary schools in collaboration with colleagues working at the University of Leiden, only taking part in the first study of Paper 2, which evaluated the factor structure and reliability of the modified version of the SRCS (Kochenderfer-Ladd & Skinner, 2002). The two schools in London (a pupil referral unit and a mainstream school) consisted of secondary school children recruited for the second study of Paper 1 designed to compare perceived coping efficacy between excluded children and children attending a mainstream school. One primary school in Brighton was recruited for the first study of Paper 3 examining links between approach coping and adjustment, as part of a larger project looking at children's social and emotional adjustment. Lastly, 13 schools were recruited from the Warwickshire area, which were part of a larger 'Emotional Literacy' project that began in 2005 looking at children's social and emotional adjustment. Children from the schools in

Warwickshire took part in study 1 of Paper 1, study 2 of Paper 2, study 2 of Paper 3, and the longitudinal study in Paper 4.

A total of 833 children participated in the present research. Of these children, 270 took part in the Warwickshire 'Emotional Literacy' project over 3 years, with different numbers of children taking part at different timepoints as more schools came onboard and the older children moved onto secondary schools (see Paper 4). A sample of 404 children in the Netherlands provided data for scale development work in Paper 2. In addition, 84 of the children were part of a Brighton project on social and emotional development and 75 of the children were from secondary schools in the Croydon area of London, 25 attending a pupil referral unit and 50 attending a mainstream comprehensive. Data from the children in the schools in London and Brighton were only collected at single timepoints. The children involved in the present research came from a wide range of socio-economic backgrounds and ethnic groups (see Participant sections of empirical chapters).

Once schools had provided consent for the children to take part in the studies, parental information sheets were sent home to parents, who could opt out of the studies by returning a signed form if they *did not* want their child to take part. In the letter of consent parents were informed as to the nature of the research and who was conducting the research, and were assured there would be no disruption to their child's learning, and informed that there were no right or wrong answers to the questions in the measures. They were also informed that details of the results would only be used in the context of the relevant project.

3.2.3 Measures

The present research included the use of semi-structured interviews, self-report questionnaires, teacher-report questionnaires and peer-report surveys, some of which were existing measures and some of which were created or adapted for this thesis.

Coping

Semi-structured interviews were used so that children could provide open-ended coping responses to nine peer conflict scenarios presented both verbally and visually on a laptop computer. This interview measure was only employed in two of the Warwickshire schools for study 1.1. A measure was also provided along with the interviews allowing children to rate how they would feel before and after coping, which was employed in studies 1.1 and 1.2. Based on the subscales identified from the interviews, a measure was created for study 2.1 only, consisting of single coping responses related to each kind of strategy (e.g., problem-solving, internalising, distraction etc.). This measure also included questions rating how the enactment of these responses would influence stressors, which strategies would be most effective and which strategy the respondent was most likely to use.

The main coping measure was a modified version of the original Self-Report Coping Scale SCRS (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002), which was completed by children at all data collection timepoints in the 13 schools in Warwickshire. This was chosen for several reasons. Firstly, based on the broadband conceptualization of approach and avoidance, it includes lower-band categories of coping which have been highlighted as core, or which can be easily modified to fit core lower-band categories. It was developed for and has been used to measure children's coping

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with regards to peer relations and anxious and depressive symptoms. It has been shown

to be a reliable measure of children's use of coping strategies, and it has been validated

by other-report measures (see Causey & Dubow, 1992).

In study 3.1, a measure of problem-solving and social support seeking was used

made up of three items each from the main coping measure (see appendix 9). In study

3.2, a further modified measure of the SRCS was used (see appendix 10) including five

coping categories, made up of three items each. This measure also included questions

about children's appraisals and goals in conflict situations with two questions regarding

appraisals and two regarding goals (see appendix 10).

Social anxiety and depression

Measures of social anxiety (The *Social Anxiety* Scale for Children – Revised, La

Greca & Stone, 1993) and depression (The Children's *Depression* Inventory-short form

(CDI-S), Kovacs, 2003) were completed in all of the schools in Warwickshire at all

timepoints, and additionally in the school in Brighton as part of study 3.1. These scales

were chosen as they are among the most widely used instruments for measuring

children's levels of social anxiety and depression and have been shown to be both valid

and reliable.

Teacher-rated social competence

The teacher-report questionnaire (The Walker-McConnell *Social Competence*

Scale, Walker & McConnell, 1995) was completed by children in the 13 schools in

Warwickshire at all timepoints, but was only included to provide external validation of

the coping measures in study 2 of paper 2. This was chosen because social competence

has been shown to be related to the more observable coping behaviours (Peck, Blattstein, Blattstein & Fox, 1980).

Peer acceptance and rejection

Lastly, peer acceptance and rejection were assessed using a sociometric survey (Coie & Dodge, 1983). In the survey, children nominate 'the three children they would most like to play with' and 'the three children they would least like to play with' in their class. Peer acceptance and rejection scores are created based on the number of most liked (ML) and least liked (LL) nominations each child receives (see section 2.4.1). Continuous scores for peer acceptance and rejection were chosen as measures of peer status rather than sociometric categories in order to maximise, the utility of data from the whole sample.

Paper 1: Children's coping responses to peer stressors, and their perceived consequences

Abstract

Although many measures for assessing children's coping exist, they have generally relied on adult conceptual models and often assess coping using a single stressful situation. Study 1 used semi-structured interviews to ask 58 7-11-year-old children how they would cope with nine different stressful social situations, as well as how they would feel before and after coping. In study 2, 75 12-16-olds attending a mainstream school and a school for pupils with emotional and behavioural difficulties (Pupil Referral Unit - PRU) reported how the use of these coping strategies would change their feelings and the stressful situations they were presented with. Results of study 1 revealed that children's self-generated coping strategies could be meaningfully classified as problem-solving, social support seeking, avoidance, distraction, positive restructuring, internalising, externalising and doing nothing. They also revealed that greater use of problem-solving and social support seeking strategies was generally associated with significant improvements in feelings, whereas externalising and doing nothing to cope were associated with little or no improvement in feelings. Results of study 2 revealed that children attending the PRU reported feeling comparatively better than the mainstream sample after reporting greater use of externalising coping. These results shed light on the link between coping with interpersonal stress and children's immediate feelings and confirm that youths with greater behavioural and emotional problems believe that aggressive coping is a more effective strategy compared with mainstream pupils.

Introduction

The aim of the present study was to identify key dimensions in children's approaches to coping in a variety of different stressful situations and to investigate how these different coping strategies relate to children's anticipated changes in feelings after coping. It is widely accepted that the coping strategies children use to deal with stress are significantly associated with their subsequent feelings and emotional adjustment (Band & Weisz, 1988; Compas, Connor-smith, Saltzman, Thomsen & Wadsworth, 2001; Fields & Prinz, 1997; Reijntjes, Stegge & Meerum Tergwogt, 2006). Significant consensus also exists among theoretical models of the most widely used dimensions of coping. Lazarus and Folkman (1984), for example, have distinguished between problem-focused versus emotion-focused strategies, Rothbaum, Weisz and Snyder (1982) distinguish between primary versus secondary versus relinquishing control, while Ebata and Moos (1991) delineate coping by engagement versus disengagement, and Roth and Cohen (1986) separate strategies by approach versus avoidance coping. The key basic distinction common to all of these conceptualisations of coping are two main 'broadband', or 'higher order' categories distinguishing between either activity directed toward the source of stress, or coping with the subsequent emotions and/or avoiding it[2].

Research examining the relationship between coping and adjustment has often been based on these broadband distinctions (e.g., Herman-Stahl, Stemmler & Petersen, 1995; Band & Weisz, 1988; Griffiths, Dubow & Ippolito, 2000), but reviews of both the adult (Skinner, Edge, Altman & Sherwood, 2003) and child (Compas et al., 2001)

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[2] Although Rothbaum et al.'s (1982) model includes a third broadband category, the same basic distinction exists between an orientation towards stress in primary coping, and activity directed away from stress in secondary coping and relinquishing control.

literature have emphasised a necessity for more detailed measurements of coping. Compas et al. (2001) go so far as to say, '…Both the conceptualisation and measurement of coping in children…have now advanced to the point at which studies that distinguish coping responses only on one of these broad dimensions or fail to place coping subtypes within a theoretical framework are unlikely to make much of a significant contribution to the literature' (p. 120). While this provides a persuasive argument for examining coping strategies in much greater detail, a myriad specific ways of coping exist, and even though these specific ways of coping can be incorporated into a reduced number of 'lower order' or 'narrowband' categories (e.g., problem-solving, ruminating, venting escape and so on), analyses of coping assessments have shown that this can still result in as many as 400 different categories of coping (Skinner et al., 2003)! The challenge therefore, in terms of the effective measurement of coping, has been to construct taxonomies capable of incorporating this huge range of specific responses to stress into a practical number of lower order categories while ensuring these categories fit within broader coping conceptualisations.

Skinner et al.'s (2003) excellent review of the adult literature has made the most thorough attempt to date of reducing ways of coping to a manageable number of lower order categories through the analysis of 100 different coping assessments, with 13 core categories or 'families' of coping identified. This poses several obvious problems however. Firstly, for an instrument to incorporate 13 different categories of coping a large number of items would be needed to adequately cover them, which is not ideal for use with child samples; secondly, Skinner et al.'s (2003) review covers coping with almost every type of stressor, including very specific strategies (e.g., 'symptom

management'), therefore many strategies used to cope with stress would be inconsequential for dealing with interpersonal stress; thirdly, the 13 categories are based on an almost endless repertoire of strategies at one's disposal, whereas children have a more limited repertoire, particularly with regard to cognitive and other sophisticated strategies (e.g. would children use delegation to cope?); and most significant in terms of the present research, findings were not differentiated by age and therefore are not necessarily based on the kinds of responses children would generate to deal with stress.

In fact, a key criticism of child coping measures has been the reliance on top-down approaches based on adult models of coping (see Fields & Prinz, 1997). In their review of coping in childhood and adolescence, Compas et al. (2001) make the point that 'most measures of coping had been developed for adults and applied to children…with little or no modification' (p. 104). They also highlight the necessity for measures of child coping to adequately reflect the characteristic ways in which children cope with stress. Band and Weisz (1988), for example, found that when interviewing children about how they would cope in stressful situations, 40% of all responses could not be identified within the adult ways-of-coping check list (Folkman & Lazarus, 1980). Bearing this in mind, Compas et al. (2001) report that relatively few interview studies have been conducted to determine the nature of children's coping. Of the child-report measures reviewed by Compas et al. (2001), twenty-four were questionnaire measures while only seven were interview measures. Of the questionnaire studies, only four included interviews as part of the item generation, and only five involved coping with interpersonal stress. Of the seven interview studies only one involved coping with interpersonal stress - one of the most common stressors children experience. They also

report that of the interview studies that have been conducted, the theoretical bases for coding interview responses has focused on broadband categories (e.g., the ones outlined above) rather than more specific lower order categories (e.g., Compas, Malcarne & Fondacaro, 1988; Weisz, McCabe & Dennig, 1994). Thus, one aim of the present study is to use semi-structured interviews in order to document the actual coping responses generated by children and code these responses into specific lower order categories, based on one of the broadband conceptualisations.

Although there are clearly issues with developing coping instruments for children based on conceptualisations derived from adult models, Skinner et al. (2003) highlight five 'core' lower order categories present in up to half of all systems of both adult and child coping and span across both general and domain specific stressors. These are: problem-solving, social support seeking, avoidance, distraction, and positive restructuring. Of the questionnaire measures reviewed in Compas et al.'s (2001) paper on childhood coping, Causey and Dubow's (1992) Self-Report Coping Scale (SRCS) (revised by Kochenderfer-Ladd & Skinner, 2002) offers the best representation of these five categories within the approach vs. avoidance broadband conceptual framework (Roth & Cohen, 1986). Furthermore, Causey and Dubow (1992) measured children's coping with regard to both an interpersonal stressor and children's adjustment, showing good internal consistencies and providing moderate validity by comparing children's self-report with peer rating of coping strategies. This scale therefore would appear to provide a good basis for the present research: it contains a 'reasonable number' of lower order categories which have been identified as core to coping; these categories fit within one of the key broadband coping conceptualisations; it has been designed with regard to dealing

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with interpersonal stress; and it has been used with regard to children's emotional adjustment.

However, several potential issues exist. Firstly, of the five core categories mentioned above, Causey and Dubow's (1992) measure includes clear problem-solving and social support seeking subscales, but items of avoidance, distraction and positive restructuring are clustered together as a single avoidance subscale labelled as *distancing*. Secondly, their measure includes two additional subscales of *internalising* and *externalising* under the broadband avoidance category, which are not included in the five core categories mentioned above and warrant further justification for inclusion. Lastly, though their measure, to some extent, contains the five core categories outlined by Skinner et al. (2003), items did not appear to derive from children's actual responses to stressful situations. With regard to the distancing subscale, the present study included an effort to code interview responses under the three separate lower order categories of avoidance, distraction and positive restructuring as evidence has been presented which suggests differential associations between these three strategies and adjustment (Compas et al., 2001, p. 101-102). With regard to the internalising and externalising subscales, Skinner et al. (2003) refer to *rumination* as the next 'strongest candidate' for inclusion as a core category, which in a similar way to internalising is a strategy of inward focus, away from the source of stress. Again, though not in the core five categories outlined by Skinner et al. (2003), but in their final 13, *opposition* - a strategy akin to externalising - is less commonly used among adults, but significantly reported among children (particularly in relation to use of verbal or physical aggression). Both of these type strategies (internalising and externalising) have been linked to children's negative

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encounters with peers (Kochenderfer-Ladd & Skinner, 2002), so may be important in identifying children's coping differences. So despite the fact that these strategies are not considered among the core five outlined by Skinner et al. (2003), it is believed their inclusion is warranted in the present study as they capture unique ways in which *children* cope, are included among the existing strategies of the SRCS, and they resemble strategies which are considered candidates for core strategy status. Lastly, by allowing children to give open ended responses to semi-structured interviews, the present study will capture children's actual responses to stressful situations and determine whether or not they do indeed correspond with the above categories, rather than simply relying on items derived from the top-down approach of adult models of coping.

Although it is essential for a valid measure of coping to recognise children's actual responses to stressful encounters, it is also important to gain an understanding of how children think different coping strategies will affect their feelings in stressful situations in terms of improving or worsening them (e.g., Band & Weisz, 1988). Additionally, it is important to understand how children perceive different coping strategies to be effective in terms of changing the outcome of a stressful situation (i.e., making the situation better or worse). These are both important considerations in understanding whether children broadly recognise how different strategies might be effective, and while we recognise that the impact of a given strategy may be dependent on the situation (Lazarus & Folkman, 1984), it nevertheless indicates the extent to which different strategies may be generally more or less efficacious. For this reason, study 1 will record the extent to which children report feeling better after coping with

interpersonal stress and a second study will be conducted examining the extent to which children rate the efficacy of different coping strategies as well their change in feelings.

Previous research (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002; Kochenderfer-Ladd, 2004) and reviews of the literature (Field & Prinz, 1997; Compas et al., 2001) have found that problem-solving and social support seeking are generally the strategies most widely adopted by children to cope with stressful situations. They have also indicated that these approach strategies have been related to more adaptive social and emotional outcomes, whereas internalising and externalising (or similar types of coping) have been associated with poorer adaptational outcomes. Because approach type strategies also serve the function of managing or changing sources of stress (Lazarus & Folkman, 1984) - rather than simply serving to regulate the emotions elicited by stress - approach strategies should work to make a situation more manageable and therefore better. It is thus expected that the use of approach strategies will be reported most frequently, and linked to an improvement in children's feelings, whereas internalising and externalising strategies will be linked to a worsening in feelings. It is also expected that problem-solving and social support seeking will lead to a reported change in situations (i.e., make the situations better).

Positive restructuring has also been linked to fewer maladaptive emotional outcomes (Garnefski & Kraaij, 2006; Garnefski, Rieffe, Jellesma, Meerum Terwogt & Kraaij, 2006) as has distractive coping (Morrow & Nolen-Hoeksema, 1990; Broderick, 1998), though the evidence regarding distancing/avoidance type strategies has yielded mixed results (e.g., Kliewer, 1991; Kochenderfer-Ladd & Skinner, 2002). We therefore

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expect positive restructuring and distraction to lead to a reported improvement in feelings and have no expectations about the relationship between distancing and reported feelings.

The present study

The overall aim of the two preliminary studies reported here is to evaluate the nature and perceived consequences of children's coping responses. The first aim of study 1.1 is to categorise children's open-ended coping responses to stressful situations within the subscales of the SRCS: problem-solving, social support seeking, distancing, internalising, and externalising, with two additional categories of distraction and positive restructuring including in the coding scheme. The second aim is to examine the extent to which individual differences in the use of coping strategies will be correlated with individual differences in the levels of improvement in feelings children expect following coping. It is hypothesised that problem-solving, social support seeking, positive restructuring, and distraction will be associated with greater expected improvement in feelings, and that internalising and externalising will be linked with lower expected improvements in feelings.

The first aims of study 2 are to clarify the links between use of coping strategies and children's expected change in feelings, and to examine the extent to which differences in the use of coping strategies will affect children's expected outcomes of stressful situations. The second aim is to see how children attending a mainstream school differ from children attending a pupil referral unit, where attendees have higher levels of emotional and behavioural difficulties, with regard to the hypothesised changes in feelings and outcome expectancies.

Study 1.1

Method

Participants

A total of 58 7-11-year-old children (30 girls and 28 boys), attending two primary schools in Warwickshire, UK participated in the present study. The schools were located in rural areas and children were generally from middle-class socio-economic backgrounds. The children were involved in an ongoing study into mental health and peer relations commissioned by the local educational authority. Schools provided informed consent for data collection in the participating classes, and parents were provided with full information regarding the project and were able to refuse to allow their child's participation. Participation rates of greater than 95% were obtained. Children were informed that their responses would remain anonymous.

Measures

Semi-structured coping interviews based on different scenarios. Nine different vignettes were created from stories generated by teachers, educational psychologists, previous research (Chung & Asher, 1996), and the present researchers based on everyday events of varying stressfulness. The vignettes (see appendix 1) were based on three general contexts: 'peer conflict' stressors (overt aggression, social exclusion and unreasonable behaviour), 'teacher/classroom' stressors (not getting recognition, unfair punishment and an undesirable instruction) and 'other' stressors (losing a favourite possession, separation from a friend and parent getting cross). An example of a vignette (overt aggression) is '*You are in the playground minding your own business. Then an older child from another class, who you never play with, goes up to you and start calling*

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you names and then hits and pushes you'. The vignettes were made up on a power point

presentation with the written text accompanied by an audio version along with an

illustration of the hypothetical incident. In order to first find out how children would feel

if the incident in the vignettes happened to them, a card was provided (Appendix 2) with

a Likert response scale from 1 = very upset; 2 = quite upset; 3 = a little upset; 4 = just

OK; 5 = a little happy; 6 = quite happy; 7 = very happy. A response sheet was used by the

researcher to write down what children said they would feel, think and do after each of

the hypothetical situations and what they thought would happen after adopting the coping

strategy.

>*Interview procedure*

All children were interviewed individually, away from other children and

informed they would be presented with different scenarios and were given the following

explanation: '*There are lots of things that can happen to children that make them feel bad*

or that they feel are unfair. There are also lots of things children can think or do to try

and deal with the things that happen to them. I am going to explain some things that can

happen to children and I want you to imagine it was happening to you and what you

would think or do'. Children were then presented with the power point presentation on a

laptop, one scenario at a time in a counter balanced order. After each scenario, children

were first presented with the Likert scale and asked for a judgement of how they would

feel if this had happened to them. Children were then asked what they would do or think

in order to deal with each situation and each response was recorded as a coping strategy,

written down in full and also recorded on a digital voice recorder. Using the same Likert

scale, children were then asked how they would feel after they had carried out what they

said they would do to deal with the situation. All of this was recorded by the researcher. After going through the nine scenarios, children were debriefed as to the purpose of the study and asked not to discuss it with any of their peers.

Coding of responses

Children's responses were coded into different categories based on an existing taxonomy of approach versus avoidance coping, used in a questionnaire by Causey and Dubow (1992) and revised by Kochenderfer-Ladd & Skinner (2002). These were: problem-solving (e.g., 'I would talk to them and sort it out'), social support seeking (e.g., 'I would go to a teacher'), distancing ('I would not think about it'), internalising ('feel sorry for myself') and externalising ('shout at the other kid'). Distancing was broken down further into three categories of avoidance ('I would walk away and not think about it'), distraction ('I would think of other things') and positive restructuring ('tell myself it's not such a big deal'), based on the different items in Causey and Dubow's measure, core categories identified in an extensive review of coping (Skinner et al., 2003) and coping categories used in other questionnaires (e.g., Ayers, Sandler, West & Roosa, 1996; Garnefski et al., 2006). An eighth category of 'doing nothing' was created to reflected responses where children explicitly said they would do nothing to cope or provided no coping response, and a final category 'other' was created for all residual responses. These responses were sufficiently vague in the context of the scenarios provided, that lower order categories from other conceptualisations could not accommodate them. As examples of the coding process, a response of, 'I would go to a teacher', was coded as social support seeking, whereas a response of 'I would talk to them and sort it out' was coded as problem-solving.

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In 148 incidences, children generated more than one strategy for a single scenario. In the scenario where children were asked to imagine they were being picked on, for example, one child said 'If it kept happening I would go to a teacher *(seeking social support)*, but if it was only once I'd just get on with other things *(distraction)*'. In these cases, each individual strategy was coded separately into the appropriate category. Over the nine scenarios, the number of responses categorised within each strategy was as follows: problem-solving 220, social support seeking 126, avoidance 33, distraction 55, positive restructuring 50, internalizing 35, externalizing 27, doing nothing 41, and other 17. Thus, of over 600 coping responses generated by children across the nine different scenarios, more than 90% could reliably be categorised as problem-solving, social support seeking, distancing, distraction, positive restructuring, internalising, or externalizing. In all, just 7% were considered non-coping efforts and fewer than 3% which *were* considered coping efforts were not deemed to fit within these categories.

Once the children's responses were coded into the appropriate categories, another independent researcher - briefed about the process of categorisation - coded the coping responses into the categories mentioned above in 15 out of the 58 response sheets. For scenarios in which children generated more than one coping response, each different response within that scenario was considered separately. The Kappa coefficient of .78 denoted a good level of agreement between the two coders and indicated that the process of categorisation was reliable.

Scoring

'Coping difference' scores were created for each scenario in order to see the extent to which children thought their coping responses would improve how they felt

about each situation. This was done by taking the rating of how they thought they would feel (from 1-7) in each scenario and subtracting it from how they expected they would feel after using the coping response they chose for dealing with the scenario. This was completed for each of the nine scenarios and a total 'coping difference' score was created by averaging the difference scores across all scenarios.

Results and discussion

We first present descriptive statistics on the usage of coping strategies and ratings of feelings before and after coping. The main analyses were designed to examine how children's usage of coping strategies was associated with their general change in feelings after dealing with stressful scenarios. Firstly, to examine how children's reported use of each strategy was associated with a general change in feelings after coping (i.e., associated with improved feelings or worsening of feelings), Pearson's correlations between the frequency of children's use of each strategy and their total 'coping difference' scores across scenarios (i.e., difference between how they felt after experiencing the stressor and how they felt after coping) were computed. Secondly, t-tests were used to compare children who cited the most common coping strategies in each scenario versus children who did not, in order to see if the most commonly cited strategies were associated with greater changes in reported feelings from before to after coping.

Table 1. *Mean use of Coping Strategies across all 9 scenarios* ($n = 58$).

Coping strategy	Mean (SD)
Problem-solving	3.79 (1.76)
Social support seeking (adult and peer)	2.17 (1.31)
Avoidance (cognitive and behavioural)	.57 (.82)
Distraction (cognitive and behavioural)	.95 (1.02)
Positive restructuring	.74 (.93)
Internalising	.53 (.78)
Externalising	.47 (.94)
Doing nothing	.71 (1.06)
Other (unable to categorise)	.28 (.59)

Table 1 shows that in terms of the overall reported use of coping strategies across the nine different scenarios, problem-solving and social support seeking were cited far more frequently than any of the other coping strategies. Table 2 provides descriptive statistics for the children's reported feelings before, and after coping, separately for each scenario.

Table 2. *Mean ratings of how children reported they would feel before and after coping with each scenario.*

Scenarios	Mean ratings of feelings			
	Mean (before coping)	*SD*	**Mean (after coping)**	*SD*
Being picked on	1.43	.62	4.14	1.67
Social exclusion	1.93	.93	4.57	1.63
Peer disagreement	2.57	1.03	4.57	1.53
Not getting recognition	2.83	1.03	4.40	1.51
Undesirable instruction	2.90	1.09	4.62	1.40
Friend moving away	1.57	1.04	4.48	1.79
Parent getting cross	1.90	.95	3.93	1.67
Losing favourite possession	1.59	.80	4.10	2.09
Unfair punishment	1.66	.69	3.97	1.68

Our first main analysis examined whether the frequency of using particular coping strategies was related to the mean improvement in feelings following coping. Table 3 shows that children who used relatively more problem-solving and social support seeking strategies generally reported relatively greater improvements in feelings following coping, whereas children who used relatively more externalising or did nothing to cope generally reported relatively less improvement (or greater worsening) in feelings after coping.

Table 3. *Correlations between coping strategies and coping difference scores (change in feelings from before coping to after) coping across all 9 scenarios (n = 58).*

	Correlation of strategy usage with
Coping strategy	**'coping difference' scores**
(1) Problem-Solving	.24†
(2) Social Support Seeking	.29*
(3) Avoidance	.21
(4) Distraction	-.08
(5) Positive restructuring	.04
(6) Internalizing	-.02
(7) Externalising	-.25†
(8) Doing nothing	-.46***
(9) Other	.004

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Next we examined the frequency of using each coping strategy in each scenario. Table 4 shows that problem-solving was the most commonly cited coping strategy for dealing with scenarios 3, 5, 6, 7, 8, and 9, with seeking social support cited most to deal with scenarios 1 and 2, and positive restructuring cited most to deal with scenario 4. The table also shows the variation in the extent to which different strategies are used depending on the scenario, e.g., in scenarios 8 and 9 problem-solving is overwhelmingly used, whereas in scenarios 4 and 5, there is more of a spread in the strategies children say they would use.

We then used t-tests[3] to compare the mean improvements in feelings among those who used the most commonly cited strategies in each scenario (strategies identified by at least ten children) versus those who did not. Significant differences are identified in Table 4 using asterisks.

Table 4. *Number of times each coping strategy was reported in each scenario (total n = 58).*

	Coping scenarios								
Coping strategy	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Problem-solving	9	6	32	12†	17**	35**	32	45†	32
Social support seeking	45†	30	20†	6	2	2	1	12	8
Avoidance	5	4	0	8	5	5	2	0	4
Distraction	7	23	2	5	2	6	7	0	3
Positive restructuring	0	0	4	23	14	6	1	1	1
Internalising	2	2	3	4	4	3	8	1	8
Externalising	8	1	4	1	1	0	7	3	2
Doing nothing	0	2	1	10***	6	4	11*	2	5
Other	2	3	2	1	3	1	1	2	2

Note: Scenario 1 = being picked on, 2 = social exclusion, 3 = Peer disagreement, 4 = not getting recognition, 5 = undesirable instruction, 6 = best friend moving away, 7 = parent getting cross, 8 = losing favourite possession, 9 = unfair punishment. Significant t-tests comparing improvements in feelings for children who used the most commonly cited strategies in each scenario versus those who did not denoted with asterisks: † p < .10, * p < .05, ** p < .01, *** p < .001

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[3] Because of the exploratory nature of these analyses and due to the small sample size, corrections for multiple t-tests were not conducted.

In scenarios 1 and 3, children who indicated they would use social support seeking reported significantly improved feelings from before to after, and in scenarios 4, 5, 6 and 8, children who indicated they would use problem-focused coping also reported significantly greater improvements in feelings from before to after. In contrast, in scenarios 4 and 7, children indicating they would do nothing to cope reported significantly lower improvement in feelings compared to children who reported they would use some form of coping.

In summary, results from study 1 revealed that children's open-ended responses for dealing with stressful situations could be meaningfully and reliably coded into lower order coping categories of: problem-solving, social support seeking, avoidance, distraction, positive restructuring, internalising and externalising. Problem-solving and social support seeking were by far the most commonly reported strategies across scenarios and were both associated with generally greater improvements in children's feelings, whereas externalising and doing nothing to cope were associated with significantly less improvement (or greater worsening) of children's feelings. Results also revealed that the strategies children reported they would use varied depending on the situation. Similarly, differences in levels of improvement between children who used the most common strategies versus those who did not varied, to an extent, depending on the scenario.

Overall, these results suggest that, based on children's actual responses to interpersonal stress, the system of lower order categories outlined above can provide a valid measure of children's coping strategies, within the broader approach versus avoidance conceptualization. They also suggest that children's usage of different coping

strategies is differentially associated with their changes in feelings after stressful scenarios. The evidence of some differences between scenarios reminds us of the need to consider the contextual generalisability of findings regarding links between coping and adjustment in future research.

Study 1.2

Introduction

In order to investigate how the coping strategies identified in study 1 related to anticipated changes in the feelings of youths with greater emotional and behavioural difficulties, the present study included a sample of pupils attending a Pupil Referral Unit (PRU) with varying behavioural, social and emotional problems, as well as pupils attending a mainstream school. Thus, beyond extending the results from study 1 by examining the perceived efficacy of different coping strategies in a very different sample, the present study specifically focused on which strategies children attending the PRU felt were most efficacious for dealing with peer conflict and compared this with children attending the mainstream school.

PRUs can be described as 'off-site' units which are used to accommodate and provide specialist help for children who have been excluded from mainstream schools (Hill, 1997), and it has been recognised that children attending these units tend to have greater emotional and behavioural difficulties (Morris, 1996). Longstanding research has shown that compared with children attending mainstream schools, children attending PRUs show significantly more maladjusted behaviour (Longworth-Dames, 1977), and

evidence has indicated that these children have deficiencies in motivation and coping strategies (Soloman & Rogers, 2001). In particular, Longworth-Dames (1977) found that these excluded children score higher in levels of hostility and 'over-reaction', characteristics that are closely related to aggressive coping, and at odds with more pro-social coping strategies. By including a sample attending a PRU in the present study, we set out to examine how coping strategies adopted by these children are associated with their feelings and perceived coping efficacy in stressful scenarios, compared with a sample of children attending a mainstream school.

The main aim of study 2, therefore, was to compare the associations between different coping strategies and changes in expected feelings (i.e., feel better or worse), and changes in the expected outcome of scenarios (i.e., make the situation better or worse) between children attending the PRU versus children attending the mainstream school. We also directly examined which coping strategies children from each group believed would be the best and worst for dealing with the stressful encounters.

Firstly, it was hypothesised that children attending the mainstream school would report expectations of greater improvement in feelings and in the situations after using coping responses typically regarded as more adaptive (e.g., problem-solving, social support seeking, positive restructuring and distraction) compared with children attending the PRU. In contrast, it was hypothesised that children attending the PRU would report expectations of greater improvement in feelings and in the situations after using externalising responses, compared with children attending the mainstream school. It was also hypothesised that children attending the mainstream school would rate problem-

solving as the most effective strategy and externalising as the worst strategy to a greater extent than children attending the PRU.

In this study, children were presented with single item coping responses, which reflected the seven coping strategies identified in study 1, based on Causey and Dubow's (1992) coping measure. This allowed us to focus on seeing whether the key strategies identified are also meaningful to children with emotional and behavioural difficulties and whether the coping responses can give us some insight into their social and emotional functioning.

Method

Participants

A total of 75 12-16-year-old secondary school children from the south London area took part in the present study. Twenty-five of the children were attending a Pupil Referral Unit (PRU) in the area (18 boys and 7 girls), and had a variety of behavioural, educational and social needs (most had been permanently excluded from mainstream schools). The region is characterised by substantial areas of social deprivation, though children do come from a range of socio-economic backgrounds. Fifty children were from a local mainstream comprehensive in the same area as the PRU (26 boys and 24 girls), and were generally from low socio-economic backgrounds. The majority of children at both schools were from a non-white background (>80%). There was no significant difference in mean age between the two groups.

Measures

Coping measure. The measure presented children with seven different single item coping strategies which they were asked to imagine using in three different problematic interpersonal situations (e.g., being picked on, being socially excluded, and a peer disagreement). The seven coping strategies were: Problem-solving ('You try and talk to the other child to sort out the problem'); Distancing ('You pretend nothing happened and try to forget about the whole thing'), Internalising ('You think about the situation over and over in your head and about how it might happen again'); Externalising ('You start shouting at the other child and hitting and banging things'); Distraction ('You do something else that you like or think about something else to take your mind off the situation'); Social support seeking ('You go and find someone else to talk to about what happened'); and Positive restructuring (You tell yourself it's not that bad and it's not worth getting upset about'). Children were asked to rate on a 7-point response scale how much better they thought they would feel after using each strategy (1 = very upset; 4 = just OK; 7 = very happy) and the extent to which they thought the use of each strategy would make a particular situation better or worse (1 = much worse; 4 = about the same; 7 = much better). Lastly, children were asked what they thought would be the best strategy and the worst strategy in each scenario. A response sheet was provided for each of three different stressful social situations along with pictures of the scenarios and details of the scenario written underneath.

Procedure

Children were seen in groups of between two and six at a time by two researchers and a member of staff in the pupil referral unit. In the mainstream school, students were

seen in groups of six to eight at a time. Each child was provided with a copy of the coping measure and it was explained to them how they should fill them in. For the coping questionnaire, children were shown each of the three scenarios, one at a time, which were also read to them aloud while they filled in their responses before moving on to the next scenario. Once they had completed the measures, children were debriefed and told about the purpose of the study.

Scoring

Firstly, mean scores were created for how children would feel in the stressful situations, how they would feel after using each coping strategy and how much they thought that using each particular strategy would change the situation (i.e., make it better or worse) for each scenario. Difference scores were created for the change in feelings in each scenario by subtracting the score of how they felt before coping from the score of how the situation made them feel after coping. This was done for each coping strategy. These scores were then averaged across the 3 scenarios to create overall difference scores, '*change in feelings*', across scenarios.

Results and discussion

Initial analyses were conducted to test the hypotheses that across groups, coping was associated in specific ways with children's expected improvement or worsening in feelings. Analyses were then conducted to test the main hypotheses that children attending the PRU would differ from children attending the mainstream school in the associations between use of coping and their expected change in feelings and in

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situations. Analyses were also conducted to compare which strategies children from each group rated as most and least effective for dealing with the three problematic scenarios.

Differences in the associations between coping strategies for dealing with stressful situations and children's expected feelings

Table 5 provides descriptive statistics on the reported 'change in feelings' and 'change in situation' for the two groups. In order to test the hypothesis that, overall, problem-solving, support seeking, positive restructuring and distraction would lead to a general improvement in reported feelings, and internalising and externalising to a worsening of feelings, paired sample T-tests were conducted comparing mean reported feelings in response to the stressors vs. mean reported feelings after the use of each coping strategy. Results revealed significant expected improvements in feelings after the use of all strategies $ts(72) > 3.25$, $ps < .01$, with the exception of internalising, which resulted in a significant worsening of feelings $t(72) = -3.58$, $p < .001$. To test the next hypothesis, concerning the expected improvements in the situations themselves, one sample t-tests were conducted comparing the mean rating of change in the situations after coping against the midpoint of the scale (i.e., no change). Results revealed a reporting of significant positive changes in the situations after problem-solving, social support seeking, distraction and positive restructuring $ts(72) > 2.65$, $ps < .01$, no reported change after distancing $t(72) = -.28$, $p = .78$ and a reported worsening in the situation after internalising and externalising, $t(72) = -10.82$, $p < .001$ and $t(72) = 7.93$, $p < .001$ respectively.

Table 5. *Descriptive statistics showing means and SDs of children's change in feeling after coping and change in situation.*

	Change in feelings (scale -6 to +6)		Change in situation (scale 1 to 7)	
	Mean (*SD*)			
	PRU	Mainstream	PRU	Mainstream
Problem-solving	1.08 (.37)	1.24 (.95)	3.78 (.98)	4.55 (.85)
Distancing	.47 (1.39)	.83 (1.02)	2.99 (1.12)	4.37 (2.63)
Internalising	-.42 (1.39)	-.38 (.75)	2.19 (.98)	2.93 (.99)
Externalising	1.12 (1.92)	.50 (1.95)	2.72 (1.85)	2.50 (1.40)
Distraction	1.51 (1.79)	1.89 (1.19)	4.17 (1.27)	4.89 (.89)
Social support seeking	1.44 (1.81)	1.80 (1.51)	4.39 (.84)	4.81 (.99)
Positive restructuring	.88 (2.07)	1.68 (1.33)	4.02 (1.35)	4.84 (1.11)

Differences in the effect of coping on dealing with stressful situations (PRU vs. Mainstream)

Two sets of ANOVAs were conducted with group as the between-subjects variable (PRU vs. mainstream) in both analyses. The first analyses, using the 'change in feelings' difference scores as the dependent variable, examined the differences between the groups of children in the extent to which they reported that different coping strategies (problem-solving, distancing, internalising, externalising, distraction, social support seeking and positive restructuring) would improve or worsen their feelings after the stressful encounters with peers. The results showed a near significant main effect of

group on externalising coping only $F(1, 70) = 3.78$, $p = .056$, indicating that the expectations of improvement in feelings after using externalising for children attending the PRU was higher than for children attending the mainstream school. Main effects of group on the other six coping strategies were non-significant Fs < 2.57, $ps > .10$. The second set of analyses examined differences between the groups in the extent to which they reported that the use of different coping strategies would improve the situations after the stressful encounters. Results showed significant main effects of group on problem-solving, distancing, internalising, distraction and positive restructuring, Fs > 6.81, $ps <$ .05, with children attending the PRU reporting a lower improvement in the situations after the stressful encounters than children in the mainstream group (see Table 5).

Table 6. *Frequencies and percentages of coping strategies chosen at least once as best for dealing with the three stressful scenarios (n = 21 for PRU, n = 48 for mainstream).*

	PRU		Mainstream	
	Best strategy (%)			
Strategy	Yes	No	Yes	No
Problem-solving	5 (24%)	16 (76%)	34 (71%)	14 (29%)
Distancing	7 (33%)	14 (67%)	7 (15%)	41 (85%)
Internalising	0 (0%)	21 (100%)	1 (2%)	47 (98%)
Externalising	3 (14%)	18 (86%)	6 (13%)	42 (88%)
Distraction	10 (48%)	11 (52%)	13 (27%)	35 (73%)
Seeking social support	9 (43%)	12 (57%)	18 (38%)	30 (63%)
Positive restructuring	8 (38%)	13 (62%)	19 (40%)	29 (60%)

Cross-tabulations with Chi-square analyses were conducted to see how many children attending the PRU chose each coping strategy as the best for dealing with stressful encounters at least once (across the three scenarios) compared with children attending the mainstream school (Table 6). Chi-square results revealed that a far higher percentage of children attending the mainstream school reported at least once that problem-solving was the best strategy compared with PRU children χ^2 (1) = 13.15, $p <$ .001. In contrast, a higher percentage of children attending the PRU reported that distancing was the best strategy χ^2 (1) = 3.18, $p < .08$. Results also revealed that a higher percentage of children attending the mainstream school reported at least once that externalising was the worst strategy (90% for mainstream, 73% for PRU); χ^2 (1) = 3.52, p = .06. No other significant differences were found between the groups regarding the choice of best or worst strategy (ps > .10).

In sum, results revealed that across the two groups, children's use of problem-solving, social support seeking, distraction and positive restructuring were associated with the general expectation that feelings and situations would improve after coping, whereas use of internalising was associated with the expectation that feelings would worsen, and use of internalising and externalizing were associated with the expectation that situations will get worse. However, the results showed that beliefs about an expected improvement in feelings following externalizing were more apparent among children attending the PRU compared with children attending a mainstream school. These results suggest that children with greater levels of behavioural and emotional difficulties (who

may be more likely to cope aggressively in everyday situations) believe this type of coping will make them feel better compared with mainstream children. It was also revealed that the expectation that problematic situations would improve after coping was generally greater for children attending the mainstream school compared with children attending the PRU. Finally, when compared with children attending the mainstream school, a greater percentage of children attending the PRU rated distancing as the best strategy to cope with peer conflict across situations, whereas compared with children attending the PRU, a greater percentage of children attending the mainstream school rated problem-solving as the best strategy and externalising as the worst strategy.

General Discussion

The results from the two preliminary studies suggest that children's open-ended coping responses can be meaningfully and reliably mapped onto the Self-Report Coping Scale dimensions conceptualised by Causey and Dubow (1992, revised by Kochenderefer-Ladd & Skinner, 2002), and that these strategies are differentially associated with children's feelings and perceived coping effectiveness when encountering stressful situations. We argue that the categories identified in the present study largely correspond to the core categories of coping outlined in Skinner et al.'s (2003) review of coping, and can be understood within the broadband approach vs. avoidance conceptualization (Roth & Cohen, 1986). We also argue that the way in which coping strategies are related to children's feelings and beliefs about coping efficacy can be understood within the theory and literature on coping and children's emotional adjustment.

In study 1, the vast majority of coping responses (> 90%) could reliably be categorised as problem-solving, social support seeking, distancing, distraction, positive restructuring, internalising, or externalizing. This suggests that the factor structure of lower order categories in the Self-Report Coping Scale (SRCS) (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002) provides a good basis and taxonomy within which to code children's coping responses and is potentially a valid instrument for measuring children's coping.

This did, however, involve a re-conceptualisation of the distancing subscale with separate categories of 'distraction' and 'positive restructuring' created, along with the purely avoidant concept of distancing. This was deemed necessary as items within the

SRCS distancing subscale (e.g., 'I tell myself it doesn't matter' and 'I do something to take my mind off it') relate more to categories of positive restructuring and distraction respectively, than the more purely avoidance items (e.g., 'I refuse to think about it'). This re-conceptualisation was also justified because these three ways of coping correspond with three of the five 'core' categories identified in Skinner et al.'s (2003) review of coping, along with problem-solving and social support seeking. These results indicate that the inclusion of positive restructuring and distraction subscales in a modified measure of the SRCS could contribute to providing a more comprehensive scale with which to measure childhood coping.

Though the subscales of internalising and externalising had not been considered core categories in reviews of coping (Compas et al., 2001; Skinner et al., 2003), there are nonetheless good theoretical and empirical reasons for their continued inclusion in measures of coping. As outlined in the introduction, internalising - or rumination as it is often referred to - appeared in at least 20 of the coping systems reviewed by Skinner et al. (2003) across different ages and stressors and was considered in their review to be a strong contender for inclusion as a core lower order coping category. From an empirical point of view, the inclusion of an internalising subscale is important as it captures avoidant ways of coping of an inward nature, which none of the other core avoidant type strategies do. In fact, one intriguing issue is that some internalising responses may involve the stressor or problem as the focus of rumination, but in a passive and often negative way (Skinner et al., 2003), rather than actively dealing with the source of stress. Correlations found between internalising and problem-solving found in previous research (Causey & Dubow, 1992) support this view.

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Externalising, or 'aggressive' ways of coping also appeared in over 20 of the

coping systems reviewed by Skinner et al. (2003) and was deemed to be of empirical

value in the present research because none of the other ways of coping in the SRCS

capture children's physical reactions to stressful encounters. This may be especially

significant regarding the measurement of coping in samples which include children with

emotional and behavioural difficulties, as evidence has suggested these difficulties are

associated with aggressive coping (Dise-Lewis, 1988; Fields & Prinz, 1997;

Kochenderfer-Ladd & Skinner, 2002; Murberg & Bru, 2005). Together, the seven

strategies identified in the present study appear to reflect the key dimensions of children's

coping based on their self-generated responses.

In study 1 the approach strategies of problem-solving and social support seeking

were by far the most commonly reported across scenarios and were both associated with

significant improvements in children's feelings. This supports previous findings that

children endorse these strategies most in attempting to deal with interpersonal conflict

(Causey & Dubow, 1992; Kochenderfer-Ladd, 2004; Kochenderfer-Ladd & Skinner,

2002), and that they are usually associated with adaptive emotional outcomes,

particularly with regard to social stressors (Field & Prinz, 1997). Of these two strategies,

problem-solving was reported almost twice as often as social support seeking and was

reported most often in six of the nine scenarios. Tellingly however social support

seeking was used most in the two more extreme peer conflict scenarios, 'being picked on'

and 'social exclusion'. This supports both theory and research suggesting that while

problem-solving is often effective in more controllable situations, it may be less effective

in situations of an uncontrollable nature when eliciting the help of others may be more

effective (Lazarus & Folkman, 1984; Kochenderfer-Ladd & Skinner, 2002). Though not commonly reported across scenarios, positive restructuring was reported most to deal with 'getting no recognition from a teacher'. This makes some sense as while it is a situation that one can do little about (uncontrollable), thus less likely to be helped by problem-solving, it is less stressful than being picked on by a peer, for example, thus not warranting social support. Therefore, by reframing the scenario in a more positive light, one can potentially reduce the likely feelings of disappointment without 'overreacting' in the case of getting help, or trying to 'sort out' a situation that is beyond one's control.

In contrast to the strategies associated with more adaptive outcomes, externalising and doing nothing to cope were associated with significant worsening of children's feelings, supporting previous evidence that coping aggressively leads to poorer emotional outcomes (Asarnow, Carlson & Guthrie, 1987; Dise-Lewis, 1988; Fields & Prinz, 1997; Kochenderfer-Ladd & Skinner, 2002). Doing nothing to cope had the strongest impact in terms of worsening children's feelings, which in line with theories of helplessness, is related to motivational problems (e.g., passivity) and poorer emotional adjustment (Weiner & Litman-Adizes, 1980; Nolen-Hoeksema, Seligman & Girgus, 1986). Strategies of positive restructuring and distraction however were not found to be associated with an expected improvement in children's feeling across stressful scenarios, failing to support hypotheses. One explanation may be that each of these strategies was frequently opted for in only one of the nine scenarios, 'social exclusion' and 'not getting recognition' respectively. With regard to positive restructuring in particular, previous studies have often measured coping in response to more general stressful life events (e.g., Garnefski & Kraaij, 2006; Garnefski et al., 2006). The present findings however suggest

the possibility that this strategy may be effective in very specific situations only, at least with children this age. And crucially, it has been proposed that these strategies do not become mastered until late childhood (Losoya, Eisenberg & Fabes, 1998; Skinner & Zimmer-Gembeck, 2007) with the expansion of meta-cognitive abilities. So for younger children who tend to lack this meta-cognitive ability, the link between these strategies and emotions may be at the very least unreliable and children's lack of mastery over these abilities may mean they have difficulty in adopting these strategies effectively in situations where they may be most successful in improving feelings.

Results also revealed differences in the expected change in feelings after coping between children who reported using the most common strategies versus those who did not, depending on the scenario being responded to. Children who chose social support seeking expected a greater improvement in feelings in two of the peer problem scenarios ('being picked on' and 'peer disagreement'), whereas children who chose problem-solving expected a greater improvement in feelings in four of the scenarios ('not getting recognition', 'undesirable instruction', 'friend moving away' and 'losing favourite possession'). In contrast, children doing nothing to cope expected a worsening of feelings in two of the scenarios ('not getting recognition' and 'parent getting cross').

There were insufficient numbers of children choosing each coping strategy in each scenario to evaluate the perceived efficacy of different coping strategies comprehensively, but these results underline the adaptive value of approach coping while also raising the question of variations across scenarios. For example, one could speculate that children who use more support seeking, in comparison with those who do not, might expect to feel better in conflict situations - often considered to be less controllable - due

to previous experience regarding the outcomes of adopting this strategy. With the possible exception of the scenario involving being given an undesirable instruction by a teacher, children adopting problem-solving (in comparison with those who do not), expect to feel better in non-conflict scenarios - often considered to be more controllable. Based on theories of coping (Lazarus & Folkman, 1984), this is entirely reasonable, since problem-solving should then be feasible and effective. In contrast, the fact that children who chose doing nothing to cope thought they would feel worse in situations involving adults suggest that the failure to attempt to cope may be related to few experiences with adults where coping is effective. One possibility is that these children have had greater experience of controlling, overbearing adults, although this needs to be evaluated in future research.

The results of Study 2 confirmed the findings from study 1 that greater use of problem-solving and social support seeking was associated with expected improvements in feelings. Additionally, they show that in an older sample of children, positive restructuring and distraction were also associated with an expected improvement in feelings. The key finding in study 2, however, was that the association between externalising and an expected change in feelings was different for children attending the PRU compared with children attending a mainstream school. Additionally, a higher percentage of children attending the mainstream school chose problem-solving as the most effective strategy and externalizing as the least effective strategy, whereas the PRU pupils were more likely to choose distancing as the best strategy. Lastly, there were differences between these groups of children in the links between coping and expected

improvements in situations, with the PRU pupils expecting lower improvements following most coping strategies.

Previous evidence has shown that as children move past primary school age, they continue to engage most in approach type coping strategies (see Fields & Prinz, 1997). The findings in the present research indicate that greater use of these strategies is also associated with a general expectation of improvement in feelings. Fields and Prinz (1997) also reviewed evidence suggesting that by the end of primary school children begin to use more cognitive strategies. The present research suggests that for 7-11-year-olds, there is no significant link between using such strategies and the general expectation that feelings will improve after coping, but for older children (secondary school age) using these strategies, there is a general expectation that feelings will improve. We propose this may be - at least partly - due to greater meta-cognitive abilities (see Skinner & Zimmer-Gembeck, 2007) that emerge as children move into adolescence. These greater meta-cognitive abilities may mean that, not only do children become more competent with age in their use of these strategies, but they also seem to have a better recognition of when they might be effective in improving emotions.

The difference between children attending the PRU versus the mainstream school regarding the association between externalising and change in feelings was expected due to the profile of excluded children which is generally one of greater emotional and behavioural difficulties (Morris, 1996). Most notably, the aggressive behaviour which is often characteristic of these children (Longworth-Dames, 1977) suggests firstly that these children are more likely to cope aggressively. Secondly, the deficiencies children attending PRUs tend to have regarding coping (Soloman & Rogers, 2001), and related to

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their general profile, may mean that they perceive more aggressive strategies to have been relatively more effective than other more positive strategies, leading them to believe that aggressive coping to deal with conflict will be effective in improving feelings. So compared with typical children, children with greater adjustment problems may come to rely on aggressive coping and believe it will be more effective in making them feel better.

Although there were no differences between the groups of children in the associations between more positive strategies (problem-solving, social support seeking, positive restructuring and distraction) and expected changes in feelings, there were differences between groups in use of these strategies and expected changes in situations. The fact that mainstream children's use of these more positive strategies was associated with expected improvements in situations compared with children attending the PRU, suggest that they are more optimistic than the PRU pupils with regard to the efficacy of these strategies in terms of dealing with/managing conflict. However, the fact that there was no overall group difference with regard to expected improvement in *feelings* suggests that mainstream pupils are not more optimistic with regard to the efficacy of the strategies in managing emotions. A possible explanation may be due to the fact that the mainstream children attended a school in the same relatively deprived area as the PRU children. Therefore, even though they may recognise the *potential* effectiveness of these strategies, experiences in their general social environment may lead to the expectation that they will not actually be very effective in making them feel better. Nonetheless, it was striking that a far higher percentage of children attending the mainstream school rated problem-solving as the best strategy and externalising as the worst strategy compared to pupils at the PRU.

Limitations of the present research included the fact that in both studies only relatively small samples could be obtained. Also, although we had very good reason to expect children attending the PRU to have greater emotional and behavioural problems (simply by virtue of being in a PRU for pupils excluded from mainstream schools), we had no individual specific measure of this in the present study. In future research measures of emotional and behavioural adjustment should be obtained from both groups to evaluate links between coping judgments and adjustment differences.

Conclusions

These results suggest that, based on children's actual responses to hypothetical interpersonal stress, Causey and Dubow's (1992) conceptualisation of lower order categories - used in the present study to code coping strategies - provide valid dimensions of children's coping within the broader approach vs. avoidance conceptualisation. They also provide evidence of specific associations between use of coping strategies and perceived efficacy in terms of improving emotions as well as the stressful situations themselves. Furthermore, these patterns are somewhat different between mainstream children and children expected to have greater adjustment problems. These findings provide an insight into not just the coping strategies that children use and how they can be categorised, but also how different children perceive the efficacy of these strategies across interpersonal stressors. Future research exploring the specific associations between coping strategies and *actual* indices of emotional adjustment, using a more thorough measure of coping is warranted.

Paper 2: Depression and social anxiety in children: Differential links with coping strategies

Abstract

Strategies that children use for coping with stressors are known to be related to emotional adjustment, but not enough is understood about specific links with social anxiety and depression. The present investigation tested differentiated associations of social anxiety and depression with specific types of coping strategies, and evaluated the direction of these associations over time. In Study 1, 404 children aged 8-13 years completed a coping scale modified from Kochenderfer-Ladd and Skinner (2002) in order to evaluate factor structure and subscale internal consistency. In Study 2, 270 8-11-year-old children completed depression and social anxiety scales, a sociometric survey, and the coping scale from Study 1, with a follow-up timepoint 9 months later. In Study 1, factor analysis revealed six internally consistent coping subscales. In Study 2, social anxiety and depression were found to have distinctive longitudinal associations with

subsequent coping strategies. Decreased problem-solving, social support seeking and distraction were uniquely predicted by depression but not by social anxiety. Internalising coping was a stronger outcome of social anxiety, and increased externalising was uniquely predicted by depression. There was also some evidence for a moderating role of peer relations. However, none of the coping strategies predicted changes in depression or social anxiety over the two timepoints. These results highlight the impact that emotional adjustment may have on children's coping strategies, and clarify important distinctions between social anxiety and depression in relation to coping.

Introduction

Research has shown that social anxiety and depression regularly co-occur (Ingram, Ramel Chavira & Scher, 2001). For instance, of people with a lifetime diagnosis of social phobia, 37.2% also had a lifetime diagnosis of major depression (Kessler et al., 1994). There is also substantial co-morbidity between depression and social anxiety in childhood, with a review by King, Ollendick and Gulline (1991) finding correlations based on self-reports ranging from .40 to .70 in clinical and non-clinical samples. Nonetheless, there is also clear evidence of differentiation between social anxiety and depression with respect to various behavioural, emotional and cognitive characteristics (Brady & Kendall, 1992; Ogul & Gencoz, 2003; Hong, 2007).

In an attempt to understand these similarities and differences, the tripartite model of anxiety and depression (Clark & Watson, 1991) proposes that there is a common core of high negative affect (e.g., feeling upset) in both disorders, but also that positive affect (e.g., enthusiasm) is low especially in depression, whereas physiological hyper-arousal (e.g., nervousness) is high especially in anxiety. This model has also been used as a framework for understanding these conditions in children (e.g., Crook, Beaver & Bell, 1998, Laurent & Ettelson, 2001), and though there has been criticism of the different components in the model (Anderson & Hope, 2008) it still serves as a useful basis for exploring underlying commonalities and differences in anxiety and depression. An understanding of these patterns is especially important when treating these disorders. Although recommended treatments for social anxiety and depression commonly have a focus on coping strategies (Lewinsohn, Clarke & Rohde, 1994; Spence, Donavan & Brechman-Toussaint, 2000), differentiated coping profiles would suggest that it may be

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more effective to target each disorder in distinct and specific ways. This would of course be important when only one of the disorders is present, but even where there is high co-morbidity (see Chavira, Stein, Bailey, & Stein, 2004), targeting the different coping strategies associated with social anxiety and depression may be crucial for successful clinical outcomes.

Thus, recent theoretical and empirical work, as well as the need to recognise more effective treatments, has challenged us to investigate the convergences and divergences between the two disorders (see Anderson & Hope, 2008; Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). We propose that studies of children's strategies for coping with stressors - a core aspect of socio-emotional development - can provide valuable insight into key areas of distinction between social anxiety and depression.

The relationship between coping strategies and depression and social anxiety

Many theoretical models of coping exist (e.g., Lazarus & Folkman, 1984; Roth & Cohen, 1986), often with a basic distinction between actively coping with a stressor, and avoiding it and/or coping with the emotions it elicits. Causey and Dubow (1992), and more recently Kochenderfer-Ladd and Skinner (2002), operationalised coping in terms of two specific types of approach strategies (problem-solving and seeking social support) and three types of avoidance strategies (distancing, internalising and externalising), measured in a self-report questionnaire. Reviews of the literature have shown that these dimensions of coping may be linked to features of emotional maladjustment including internalising symptoms (e.g., Compas, Connor-Smith, Saltzman, Thomsen & Wadsworth, 2001; Fields & Prinz, 1997).

Importantly, there are good theoretical reasons for suggesting that depression and social anxiety act as both temporal antecedents and consequences of the different coping strategies listed above. First, depression and social anxiety are likely to promote or inhibit particular ways of coping with stressors over time. Major cognitive models of both depression and anxiety hold that these conditions involve distinctive forms of social information-processing (see recent reviews by Banerjee, 2008; Kyte & Goodyer, 2008) which influence the way children encode, interpret, and then respond to ambiguous and negative events. Thus, it is highly plausible that social anxiety and depression will predict changes over time in how children cope with stressors.

At the same time, one could justifiably predict that the use of different types of coping strategies could lead to changes in depressive and socially anxious symptoms. In a study by Abela, Brozina and Haigh (2002), 8- and 12-year-old children using a ruminative response style showed an increase in depressive symptoms over a 6-week period, whereas children using distraction and problem-solving response styles showed no such increase. Additionally, Herman-Stahl, Stemmler & Petersen (1995) found that over a year, adolescents using approach coping reported fewer depressive symptoms, whereas those using avoidance coping reported more. In a similar vein, treatment of social anxiety has often focused on support in the use of adaptive coping strategies, and this could at least partly explain observed reductions in social anxiety following cognitive-behavioural therapy (e.g., Kendall, 1993; Spence, Donovan, & Brechman-Toussaint, 2000). However, despite these promising indications of reciprocal associations between coping and emotional adjustment, to our knowledge there has been no longitudinal assessment of distinctive pathways connecting social anxiety and

depression with the various types of coping strategies discussed above, within a single coherent investigation.

Crucially, we do not yet have a detailed understanding of patterns of convergence and divergence in the coping profiles associated with social anxiety and depression. However, there are good reasons to expect differentiation between the two disorders. Building on Beck's (1967) ideas about content specificity in information-processing, Stark, Humphrey, Laurent, Livingston and Christopher (1991) have shown that self-reported cognitions are the biggest predictors of discrimination between anxious and depressed diagnostic categories. In fact, Ingram et al. (2001) observe that whereas the negative cognitions of depressed individuals take the form of declarative statements about past failure and degradation, those of anxious individuals are often in the more 'future-oriented' form of questions. We believe that this kind of cognitive model relates to a fundamental conceptual distinction between past-oriented feelings of hopelessness (underpinning depression) and future-oriented questions about threat (underpinning anxiety). Indeed, Kyte and Goodyer (2008) have argued that enduring negative self-schemas are at the roots of a range of social-cognitive impairments in depression, including coping responses. In contrast, social anxiety - while also being related to affective characteristics - is especially associated with perceptions of (and responses to) threat in the social environment, in line with the tripartite model's emphasis on hyper-arousal as a key feature of anxiety (see Banerjee, 2008). Below, we outline our main expectations for differential links with specific coping strategies.

First, it could be argued that lower use of *problem-solving* and *social support-seeking* is more likely to characterise depression than social anxiety. Both of these

strategies are likely to be inhibited by enduring negative self-schemas which create a sense of hopelessness (related to the combination of high negative affect and low positive affect, as described in the tripartite model). Thus, even though problem-solving strategies have generally been negatively associated with internalising symptoms (e.g., Kochenderfer-Ladd, 2004), difficulties in orienting to a problem in order to find solutions are especially likely to be associated with depressive symptoms (see Goodman, Gravitt Jr., & Kaslow, 1995; Ogul & Gencoz, 2003; Sacco & Graves, 1984). In contrast, as Daleiden and Vasey (1997, p. 418) conclude from their review of research on information-processing characteristics, "there is a clear indication that many responses accessed by anxious children … are proactive and problem-focused in nature", possibly reflecting the active intention to ward off perceived threats and reduce the core symptom of arousal. In a similar way, social support-seeking strategies should also have differentiated links with social anxiety and depression. There is emerging evidence to suggest that depression is associated with lower perceived social support in adolescents (e.g., Stice, Ragan, & Randall, 2004). In contrast, Deisinger, Cassisi, and Whitaker (1996) have observed that anxious participants are *more* likely to cope through seeking social support than others, and Rubin, Daniels-Beirness and Bream (1984) showed that socially withdrawn preschoolers favour adult-dependent solutions for coping with peer conflict, possibly because of greater parental overprotectiveness (see Rapee & Spence, 2004).

Second, differentiation between social anxiety and depression can be expected with respect to *externalising* but not to *internalising* coping. Regarding the latter, a ruminative response style is widely seen as a hallmark of depressive disorders in both

adults and adolescents (see Nolen-Hoeksema, Stice, Wade, & Bohon, 2007), but

rumination, self-blaming, and catastrophising have been associated with social anxiety

and fears as well (Garnefski, Rieffe, Jellesma, Meerum Terwogt & Kraaij 2006;

Vassilopoulos & Banerjee, 2008). This is consistent with theoretical expectations

regarding the core of negative affect in both disorders (Clark & Watson, 1991). In

contrast, there is some evidence of positive links between depression and aggressive,

externalising coping (e.g., Asarnow, Carlson & Guthrie, 1987; Dise-Lewis, 1988), but

little indication of such links in the case of social anxiety. Murberg and Bru (2005),

commenting on their findings of links between aggressive coping and depression,

suggested that this kind of coping response could be related to the experience of

hopelessness, which we have argued is theoretically more central to depression than to

social anxiety.

Third, although coping by *distancing* might be related to both social anxiety and

depression, in line with the general observation that disengagement from a stressor is

linked to internalising symptoms (Compas et al., 2001), this issue is complicated by the

fact that distancing has been conceived in multiple forms: cognitively restructuring a

stressful event, distracting oneself from the problem, and ignoring the problem (see

Kochenderfer-Ladd & Skinner, 2002). Cognitive restructuring of a stressful encounter in

a more positive way is an effortful cognitive strategy, which seeks to change the negative

interpretation of that encounter. Distracting oneself from the thoughts of a stressful

encounter (e.g., thinking about different things) also involves effortful cognitive activity,

but it is aimed more simply at replacing negative thoughts by turning to a different (and

typically more positive) focus of cognition. In contrast, distancing by simply ignoring a

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stressful encounter differs from restructuring and distraction in that it does not involve effortful cognitive activity aimed at improving feelings. Instead, the aim is simply to avoid the immediate negative effect of the stressful encounter, without proactively attempting to put oneself in a more positive frame of mind. Therefore, the present investigation will involve use of a modified coping scale that includes an expanded set of items relating to positive restructuring and distraction, alongside the entirely avoidant strategies (i.e., strategies aimed at simply ignoring the stressor without any real cognitive effort to lessen its effects). In fact, although the latter strategies may well be linked to greater emotional maladjustment, there is already good evidence that a distractive response style is associated with lower depression (Morrow & Nolen-Hoeksema, 1990) and that positive 'refocusing' has been found to have strong negative relationships with both worry (a feature of social anxiety) and depression (Garnefski et al., 2000). Theoretically, distraction could be a point of discrimination between social anxiety and depression, because the core depressive problems of negative self-schemas and low positive affect could significantly interfere with the possibility of engaging in distraction. However, we do not have a great deal of evidence regarding these issues in youth samples. Similarly, it is not clear whether and how depression and social anxiety might be differentiated by positive restructuring and ignoring strategies. Thus, in order to allow an investigation of distinctive links with social anxiety and depressive symptoms, an initial study will be conducted to explore the factor structure of Kochenderfer-Ladd and Skinner's (2002) coping self-report measure when we add new sets of items to tap positive restructuring, distraction, and ignoring the problem.

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Finally, our study includes a measure of teacher-rated social competence in order to provide some evidence of external validity for the coping subscales, as research has shown that children's social competence and social skills relate to different coping strategies in specific ways. Kliewer (1991), for example found that teacher-rated social competence was related to increased 'active coping' (where the child has decided on a plan of action and followed it through), and fewer 'problem behaviours' in coping, and Eisenberg et al. (1993) found that low levels of constructive coping and high levels of 'acting out' were related to low teacher-rated social skills. However, it is important to stress that because teacher ratings are based on external observation of the child's behaviour, it is expected that teacher-rated social competence will be associated with the more observable aspects of coping (problem-solving, seeking social support distraction, and externalising) only; psychological responses to stressors that relate to patterns of internalising or cognitive restructuring will be less observable and therefore are not likely to be strongly associated with teacher ratings.

The role of peer relations

Our investigation also addresses the possibility that the degree to which a given child is accepted or rejected by his or her peers could moderate the links between coping and emotional adjustment. Although peer relations may be equally important in the development of both social anxiety and depression, there is reason to expect that distinctive coping profiles will assume greater or lesser importance for social anxiety and depression depending on the levels of peer acceptance and rejection experienced by the child. Kochenderfer-Ladd and Skinner (2002) have already provided preliminary evidence of interactions between coping and individual differences in peer relations.

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Moreover, Reijntjes, Stegge & Meerum Tergwogt (2006) have demonstrated specific interactions between experimentally-manipulated peer rejection and depressive symptoms, whereby the combination of peer rejection and depression symptoms was more likely to be associated with maladaptive behavioural responses. Theoretically, peer relations are thought to play a key role in increasing or diminishing the impact of risk factors on behavioural outcomes (e.g., see the biopsychosocial model of Dodge & Pettit, 2003). Coie (1990) suggests that for rejected children, the stress experienced through poor peer relations and its contribution to psychological disturbance limits successful opportunities for social support, positive interactions, the growth of social competencies, and coping skills. In contrast, popular children's greater repertoire of socially skilled behaviours, leading to positive social outcomes (Dodge et al., 1986), points to the opposite pattern of associations seen in rejected children. To summarise, given that peer acceptance and rejection are widely known to be associated with different qualities of social interaction (e.g., Gifford-Smith & Brownell, 2003), we tested the possibility that coping strategies may be differently associated with emotional adjustment for children varying in peer acceptance and rejection. In particular, we expected that peer relations would be most pertinent in the case of the coping strategies that more heavily depend on positive peer relations for effective use when dealing with a social stressor (i.e., problem-solving and social support seeking). Therefore, where negative relationships are found between these strategies and social anxiety or depression, we expect that poor peer relations (low acceptance/high rejection) will exacerbate them, whereas positive peer relations (high acceptance/low rejection) will minimise them.

The present study

We believe that an examination of children's strategies for coping with a stressor can provide insights into key patterns of convergence and divergence between social anxiety and depression. We report on two studies. Our first study was designed to evaluate the factor structure and subscale internal consistency of Kochenderfer-Ladd and Skinner's (2002) self-report coping scale, modified by incorporating new items to tap positive restructuring and distraction as well as purely ignoring items. Our second study was designed to test a number of hypotheses about how coping strategies are associated with social anxiety and depression. It was expected that children higher in depressive symptoms would report less problem-solving, social support seeking and distraction to cope with a stressor, while reporting more internalising and externalising. Children higher in socially anxious symptoms by contrast would use *more* problem-solving and social support seeking; however, we expected them also to use more internalising. No clear hypotheses were made regarding the positive restructuring and ignoring coping strategies.

Our second study was also designed to help us evaluate the direction of the associations between adjustment and coping strategies over time. We used cross-lagged panel analyses to assess the likely causal direction of relationships, by examining how a variable at one timepoint can predict a variable at another timepoint after accounting for stability in the latter over the two timepoints. Although such longitudinal work on this topic is scarce, we feel that there are grounds for predicting reciprocal links, as discussed earlier.

Study 2.1

Study 1 was designed to evaluate the factor structure and reliability of

Kochenderfer-Ladd and Skinner's (2002) self-report coping scale, with newly added

items on positive restructuring and distraction.

Method

Participants

A total of 404 children were recruited from seven local primary schools located in

cities in the Randstad region of the Netherlands. Children were primarily of white

ethnicity (78%) with the remainder from Black-Caribbean, Moroccan, Turkish and other

ethnic groups) and the schools were located in the more affluent areas of the cities where

incomes are generally middle to high. The sample consisted of 171 boys and 233 girls,

with a mean age of 10.72 years (age range 8.34 to 13.05 years, $SD = 0.94$ years). School

consent for data collection was given, and parents were provided with full information

about the study in a letter and were asked for written consent for their child to participate.

Prior to handing out the questionnaires, children were informed about the voluntary

nature of the study and were assured that their responses would be processed

anonymously.

Measures

To assess children's coping responses in a problematic peer situation, a modified

version of the Self-Report Coping Scale (SRCS) was used (Causey & Dubow, 1992;

Kochenderfer-Ladd & Skinner, 2002), containing 40 items. The questionnaire included a

range of new items relating to distraction and positive restructuring, generated by the

authors following a review of the relevant literature and consultation with colleagues. The coping measure describes a specific peer experience: "Imagine that another child was being mean to you by calling you bad names or hitting and pushing you. What would you do? There are all kinds of things that children could do if they were being picked on." Children were then asked to indicate how much they would use each of the 40 coping responses on a 5-point scale. We retained Kochenderfer-Ladd and Skinner's (2002) focus on a specific 'peer problem' stressor in order to avoid having children respond to coping strategies with respect to a range of unknown stressors. Although the measure focuses on self-reported coping in response to a specific stressor, Causey and Dubow (1992) have shown that the self-reported coping strategies in the SRCS are related to peer reports of actual coping behaviour in different situations. There were very little missing data in this sample: overall, 99.40% of the total number of questions were answered across the sample.

Procedure

The SRCS questionnaire was administered in school classrooms by two psychology students, who read instructions aloud to the children. Children were asked to put their hand up if they had questions at any point during the procedure, and these were answered by the students administering the questionnaires. Additional questionnaires that were not utilised for the present study were also distributed.

Results and Discussion

The factor structure of the coping questionnaire was analysed using principal components analysis, with missing data replaced with the mean for each question. Initial

analysis revealed 9 factors, but three of these had two or fewer items loading onto them, and a scree plot clearly indicated a six-factor solution. We then conducted a further analysis extracting six factors and using varimax rotation. This solution explained 46.93% of the variance. Nine items were removed due to low loadings, unresolvable cross-loadings or low item-total correlations. The resulting scale included 31 items in 6 reliable subscales, measuring Problem-Solving, Seeking Social Support, Internalising, Externalising, Distraction, and Trivialising (see Table 1 for factor loadings and internal consistency and Table 7 for descriptive statistics and intercorrelations). This supports four of the original five subscales from Kochenderfer-Ladd and Skinner (2002), and adds new Distraction and Trivialising subscales.

Interestingly, the new items on Distraction formed a separate factor, but the items on positive restructuring and ignoring clustered together to form what we have termed a 'Trivialising' factor. The items loading on this factor, such as 'I would say I don't care' and 'I tell myself it doesn't matter', all seemed to relate to trivialising, or 'making light' of the problem. These findings suggest that, at least within this age group, positive restructuring and other cognitive strategies for diminishing the importance of the stressor may be difficult to differentiate, perhaps because metacognitive strategies are cognitively more complex and therefore more likely to be understood as children increase in age (see Fields & Prinz, 1997).

Table 7. *Rotated factor loadings for coping scale from principal components analysis (n = 404).*

Items	Factor Loadings					
	I	II	III	IV	V	VI
Problem-solving: (α = .82)						
I find a way to solve the problem	.73					
I change something so things will work out	.73					
I do something to make up for it	.73					
I do something to change the situation	.68					
I make a plan of what I am going to do	.62					
I go over in my mind what to do or say	.61					
I try to think of different ways to solve the problem	.54					
Seeking Social support: (α = .79)						
I get help from someone in my family		.81				
I ask someone in my family for advice		.78				
I tell a friend or family member what happened		.69				
I talk to somebody about how it made me feel		.64				
Externalising: (α = .65)						
I stamp my feet and slam or bang doors			.74			
I get angry and throw or hit something			.73			
I swear (use bad words) out loud			.66			
I yell or shout to let off steam			.55			
Internalising: (α = .76)						
I worry that others will think badly of me				.79		
I keep feeling afraid it will happen again				.77		
I worry about it				.65		
I think about it so much that I can't sleep				.63		
I just feel sorry for myself				.52		
Distraction: (α = .71)						
I watch TV or read a book so I can think about something else					.64	
I keep myself busy with other things so I don't worry about the problem					.61	
I do something else to help me forget about it					.60	
I find lots of other things to think about					.50	.45
Trivialising: (α = .78)						
I tell myself that the problem is not very important						.73
I tell myself it doesn't matter						.72
I will think it is no big deal						.62
I would say I don't care						.61
I ignore the problem						.58
I think it is not such a big problem						.57
I forget the whole thing						.54

Note. Factor loadings < .40 are not displayed.

Study 2.2

Introduction

In this study, we first confirmed the factor structure of the coping scale from Study 1 and examined correlations between the coping scores and teacher-rated social competence in order to provide an external criterion for validating the subscales: we expected associations of teacher-rated social competence with the *more observable* coping dimensions of problem-solving, seeking social support, distraction, and externalising, but not with the *less observable* dimensions of internalising and trivialising. Next, we evaluated our main hypotheses regarding distinctive associations of social anxiety and depression with the various coping strategies, and reciprocal longitudinal relations between the coping scores and the emotional adjustment scores.

Method

Participants

A total of 270 8- to 11-year-old children (134 girls and 136 boys), from 9 local primary schools in Warwickshire, UK, participated in this study. We do not have pupil-level data on demographic features, but the schools in the sample were mainly located in rural areas, with pupils of primarily white ethnicity (> 90%) and from a range of socio-economic backgrounds, though generally higher than the national average (e.g., 1 school with above average numbers of pupils eligible for free school meals, 1 school with average numbers, and 7 schools with below average numbers). Pupils were seen on two occasions, at the beginning and end of the school year (approximately 9 months apart).

Data on 257 of the 270 pupils (95% of the original sample) were collected at the second timepoint, with complete data at both timepoints for 222 pupils (82%). Children for whom no data were available at the second timepoint did not significantly differ from the other children on any of the measures at the first timepoint (all $ps > .05$). The children were involved in an ongoing study into mental health and peer relations commissioned by the local educational authority, whereby whole classes in each school were selected to participate in the research. Schools provided informed consent for data collection in the participating classes, and parents were provided with full information regarding the project and were able to refuse to allow participation. We obtained participation rates of greater than 95% at each timepoint. At every data collection session, the children themselves were advised verbally that they did not have to take part in the study and that they could withdraw at any time.

Measures

Five measures were used in the present study, completed at both timepoints.

The *coping scale* was the 31-item modified SRCS developed in Study 1.

The Children's *Depression* Inventory-short form (CDI-S) (Kovacs, 2003) included 10 items, for each of which participants were asked to select one of three statements varying in the degree of symptom severity. The scale has been found in previous research to have excellent reliability and validity (Storch et al., 2007). In the present sample, the items were scored from 1 (least depressive) to 3 (most depressive), and children received a mean score across all items, $\alpha = .83$. The proportion of children scoring above the 85th percentile cutoff recommended in the manual was approximately

15% at the two timepoints, showing a close match to the CDI standardisation sample (Kovacs, 2003).

The *Social Anxiety* Scale for Children – Revised (La Greca & Stone, 1993) included 18 statements describing social fears and worries, along with four filler items. The items related to fear of negative evaluation, social avoidance and distress in novel situations, and social avoidance and distress in general. Children were asked to indicate how often each statement was true for them, on a scale from 1 ('not at all') to 5 ('all the time'). The scale has been found in previous research to have excellent reliability and validity (Findlay, Coplan & Bowker, 2009). In the present study, children received a mean score across all items, $\alpha = .92$. The proportion of children scoring above the SASC-R manual's recommended cutoff for 'high social anxiety' (La Greca, 1999) was approximately 15-20% at the two timepoints, just under the 23% identified in the unselected sample described in the manual.

Peer acceptance and rejection were assessed using a sociometric survey (Coie & Dodge, 1983). Children were given a class roster and asked to nominate 'the three children they would most like to play with' and 'the three children they would least like to play with' in their class. The numbers of nominations received were standardised within each class to create peer acceptance (most-liked) and peer rejection (least-liked) scores for each participant.

Finally, we used the 33 social behaviour items from the Walker-McConnell *Social Competence* Scale (Walker & McConnell, 1995). The items have a broad focus and relate to a range of teacher-preferred and peer-preferred social behaviours (although it should be noted that two of the 33 items related to 'appropriate' or 'constructive'

responses to aggression from others). Class teachers completed ratings for each child on a 5-point scale, and each child received a mean social competence score across all items, $\alpha = .97$.

Proportions of missing data were low. At least 94% of the questions were answered in all of the measures across both timepoints, with 93.30% of children answering at least 28 out of 31 coping questions, 94.60% answering at least 18 out of 20 social anxiety questions and 96.36% answering at least 9 out of 10 depression questions. Also, 98.50% of teachers answered at least 31 out of 33 questions on the social competence scale at the first timepoint, although it should be noted that one teacher was unable to return data for one class of 32 children at the second timepoint. Some questionnaires were administered on different days at each timepoint, resulting in between 1 and 13 children being unavailable to complete data for a given measure. The sample size for each analysis reported below varied depending on the numbers of children with data available for all measures involved in the given analysis.

Procedure

At each timepoint, children completed the social anxiety and coping measures in a whole-class setting with all instructions and questions read aloud by their class teachers. The remaining measures were completed in groups of around 6 pupils, with all instructions and questions read aloud by psychologists.

Table 8. *Descriptive statistics and intercorrelations of coping strategies (n = 404).*

| | Mean (SD) | | | | | | |
	Boys	Girls	2	3	4	5	6
1. Problem Solving	3.13 (.86)	3.40 (.78)[a]	.42***	.05	-.32***	.26***	.36***
2. Seeking Support	2.75 (1.02)	3.28 (1.00)[a]		-.15**	-.15**	.33***	.27***
3. Trivialising	2.55 (.81)	2.22 (.75)[a]			-.06	-.29***	.40***
4. Externalising	1.82 (.74)	1.55 (.69)[a]				.07	-.18***
5. Internalising	2.06 (.84)	2.60 (.89)[a]					.08
6. Distraction	2.87 (1.00)	3.00 (.80)					

$* p < .05$ $** p < .01$ $*** p < .001$
[a] t-test comparing boys and girls, $p \leq .001$

Confirmatory factor analysis (CFA) on the Time 1 data was used to evaluate the six-factor model from Study 1, with blank item scores replaced with the sample mean. The analysis indicated that two items ("I just feel sorry for myself" and "I would say I don't care") had low loadings, and these were removed from the analysis. CFA on the remaining 29 items suggested that the six-factor model provided a satisfactory fit to the data (Figure 1), $\chi^2(358) = 533.45$, $p < .001$; CFI = .90; RMSEA = .04, with acceptable internal consistency (α ranged from .67 to .76), and significant standardised coefficients for each item (ranging from .23 to .77, all ps < .05).
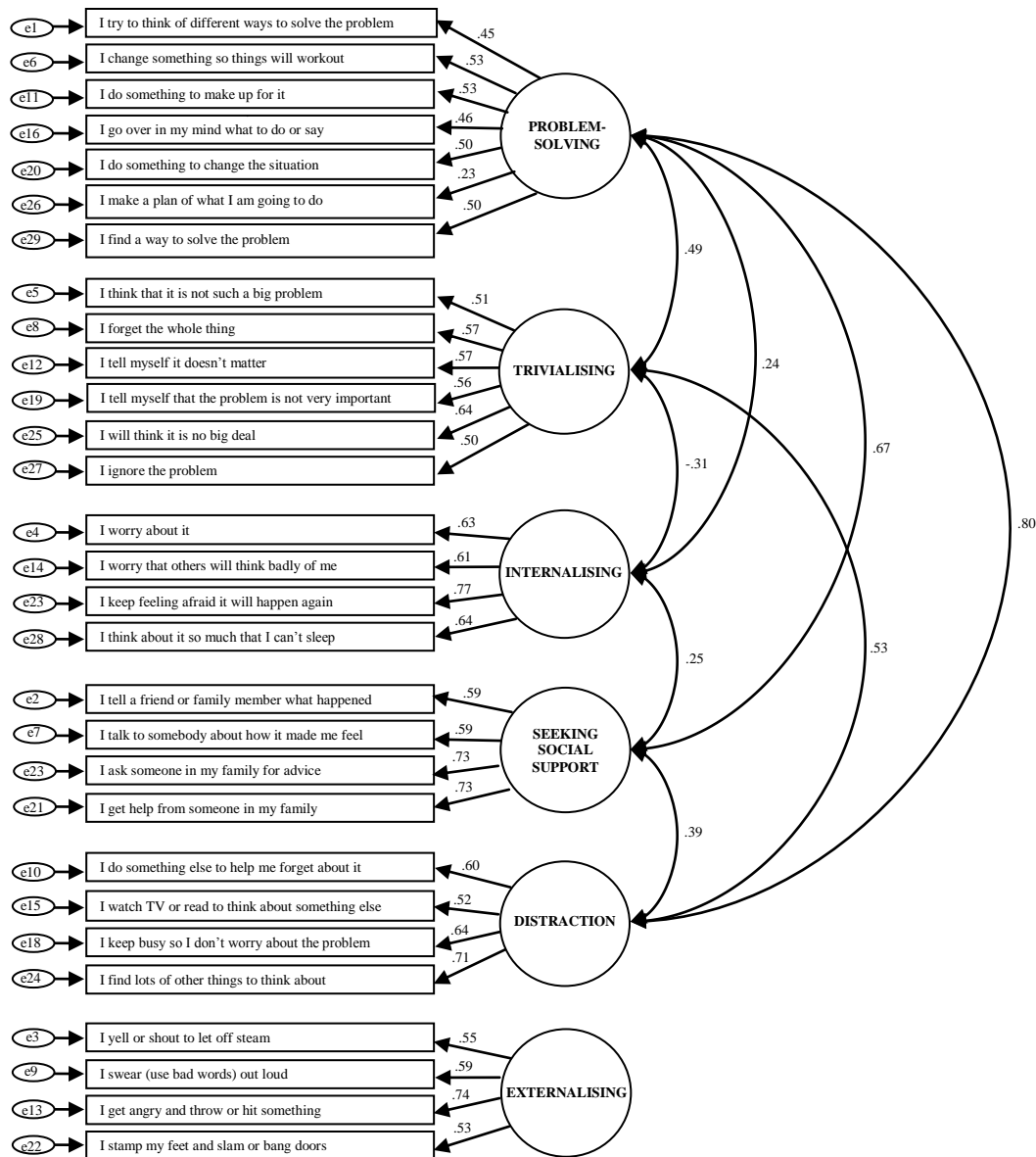
Figure 2. Confirmatory factor analysis of the SRCS-R testing model fit (error terms and

non-significant factor co-variances omitted).

Note. Four pairs of error terms associated with problem-solving items were allowed to

co-vary: items 20 and 1, 6 and 11, 16 and 26, and 26 and 29. The pairs of questions had

distinctive foci on *targeting the problem, consequences of the problem, cognitive activity,*

and *decision making*, respectively.

We next compared the relative plausibility of several factor structures against the current 6-factor model, using chi-square change tests and Akaike's Information Criterion (AIC). We evaluated a 2-factor model of approach coping (collapsing problem-solving and social support seeking) and avoidance coping (collapsing internalising, externalising, distraction and trivialising); a 3-factor model of problem-solving, social support seeking, and avoidance coping (collapsed as above); a 5-factor model of approach coping (collapsed as above), internalising, externalising, distraction, and trivialising; and a second 5-factor model of problem-solving, social support seeking, internalising, externalising, and a combined distraction/trivialising factor (this last model resembling the factor structure of Kochenderfer-Ladd & Skinner's (2002) paper). As shown in Table 9, our 6-factor model provided the best fit to the data.

Table 9. *Summary statistics for nested factor models of the SRCS-R.*

Model	χ^2	df	$\Delta\chi^2$	AIC[a]
Preferred 6-factor model	533.45	358	-	687.45
2-factor (approach vs. avoidance)	1177.17	372	643.72***	1303.17
3-factor (problem-solving, social support seeking vs. avoidance)	1087.04	370	553.59***	1217.04
5-factor (approach vs. externalising, internalising, trivialising and distraction)	627.98	363	94.53***	771.98
5-factor (problem-solving, social support seeking vs. externalising, internalizing and distraction/trivializing	662.90	363	129.45***	806.90

*** *p* < .001
[a] Relatively lower AIC indicates the better-fitting model.

Finally, we also evaluated the measurement invariance of our six-factor solution across the two timepoints, comparing a model where factor loadings were constrained to be equal at both timepoints with a model where factor loadings were allowed to vary across timepoints. In a demonstration of measurement invariance, the former did not have a significantly poorer fit than the latter, $\Delta\chi^2$ (23) = 20.45, $p >.10$.

Associations of coping subscale with teacher-rated social competence. In line with expectations, social competence ratings were positively correlated with the more observable coping dimensions of problem-solving, $r(256) = .15$, $p < .05$, seeking social support, $r(255) = .12$, $p = .05$, and distraction, $r(254) = .18$, $p < .01$, and negatively correlated with externalising, $r(256) = -.13$, $p < .05$. No significant associations were found for the two purely cognitive subscales, internalising and trivialising, rs $< .02$.

Associations between social anxiety, depression, and coping subscales. Table 10 shows descriptive statistics and intercorrelations for the key variables at both time points. Social anxiety and depression were related to each other, and also to lower peer acceptance. However, they showed distinctive patterns of associations with coping. The Time 1 correlations show that, as predicted, depression and social anxiety were both positively associated with internalising coping. However, depression was negatively related to problem-solving and seeking social support, whereas social anxiety was positively associated with these variables as well as with distraction. Finally, depression but not social anxiety was positively correlated with externalising. Overall, this tendency for a much more consistently negative coping profile in the case of depression seems consistent with the fact that our teacher-rated assessment of social competence was

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negatively associated with depression, $r(261) = -.18, p < .01$, but not with social anxiety, $r(255) = -.06, p > .10$.

Table 10. *Intercorrelations between social anxiety, depression, peer acceptance, peer rejection, and coping subscales within Time 1 (lowest n = 251) and within Time 2 (lowest n = 255).*

		Mean (*SD*)	Depression	Social anxiety	Peer acceptance	Peer rejection
Time 1	Depression	1.29 (.32)		.45***	-.20**	.09
	Social Anxiety	2.43 (.83)	.45***		-.21**	.04
	Problem-Solving	3.10 (.74)	-.13*	.13*	.02	-.04
	Social Support	3.53 (.96)	-.15*	.17**	.00	-.07
	Trivialising	2.61 (.88)	-.06	-.08	.00	.12$^+$
	Externalising	2.05 (.92)	.19**	.01	-.07	.21**
	Internalising	2.53 (1.02)	.39***	.63***	-.18**	.05
	Distraction	3.16 (.95)	-.01	.16*	.08	-.06
Time 2	Depression	1.28 (.35)		.41***	-.13*	.17**
	Social Anxiety	2.33 (.77)	.41***		-.14*	.13*
	Problem-Solving	3.01 (.71)	-.02	.12$^+$	.05	-.05
	Social Support	3.48 (.99)	-.19**	.08	.08	-.01
	Trivialising	2.69 (.87)	-.06	-.01	.01	.05
	Externalising	2.13 (.94)	.21***	-.03	-.01	.09
	Internalising	2.44 (.99)	.35***	.62***	-.07	.06
	Distraction	3.07 (.92)	-.09	.04	.02	-.13*

$^+ p < .10$ $* p < .05$ $** p < .01$ $*** p < .001$.

Table 11. *Correlations between social anxiety, depression and coping subscales from Time 1 to Time 2 (lowest n = 234).*

Time 1 variables	Time 2 variables							
	1	2	3	4	5	6	7	8
1. Depression	.46***	.28***	-.07	-.18**	-.03	.23***	.18**	-.19**
2. Social Anxiety	.26***	.48***	.00	.10	-.01	-.02	.32***	-.01
3. Problem Solving	-.05	.08	.23***	.21***	.11	-.03	.08	.11^{+}
4. Social Support	-.04	.11^{+}	.15*	.42***	-.13^{+}	-.11^{+}	.18**	.16*
5. Trivialising	-.06	-.08	.11^{+}	.03	.31***	.01	-.06	.01
6. Externalising	.18**	.01	-.08	-.23***	.02	.56***	-.01	-.15*
7. Internalising	.22***	.41***	.09	.10	-.10	.02	.38***	.04
8. Distraction	-.05	.03	.21***	.11^{+}	.15*	-.02	.05	.14*

$^{+}$ $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Longitudinal predictions of adjustment and coping. Table 11 shows significant stability in individual differences for each variable over time, as well as correlations over time between the different variables. In our main analysis, we examined the longitudinal associations between social anxiety, depression, peer acceptance and rejection, and the six coping subscale scores using cross-lagged panel analyses. First, we examined social anxiety and depression at Time 1 as unique predictors of coping scores at Time 2, after controlling for the corresponding Time 1 coping scores and including peer acceptance and rejection as moderators, with all variables mean-centered. As shown in Table 12, results revealed the following links between initial emotional adjustment and subsequent coping strategies, over and above stability in the coping strategies: 1) Social support seeking was positively predicted by social anxiety and negatively predicted by depression; 2) Externalising was negatively predicted by social anxiety and positively predicted by depression; 3) Internalising was positively predicted by social anxiety only;

4) Distraction was negatively predicted by depression but also predicted by the social anxiety by peer rejection interaction; and 5) Problem-solving was predicted by the depression by peer acceptance interaction.

Table 12

Hierarchical regression analyses predicting coping strategies at Time 2 from depression and social anxiety at Time 1 (lowest n = 226).

| | Time 2 coping strategies | | | | | | | | | | | |
| | Problem-solving | | Seeking social support | | Trivialising | | Externalising | | Internalising | | Distraction | |
Time 1 Predictors	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β
Step 1												
Corresponding Time 1 coping strategy	.04	.21**	.16	.40**	.08	.28**	.34	.58**	.12	.35**	.02	.13
Step 2												
Peer acceptance (PA)	.06	.11	.17	.08	.09	-.06	.34	-.09	.12	-.00	.03	.05
Peer rejection (PR)		-.03		.01		-.08		-.06		.04		-.07
Step 3												
Depression (DEP)	.06	-.07	.21	-.21**	.09	-.05	.37	.17**	.14	-.04	.06	-.22**
Social anxiety (SA)		.02		.16*		.03		-.13*		.18*		.08
Step 4												
DEP * PA	.10	.17*	.22		.11		.38		.16		.10	
SA * PR												-.19*

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

Note. Only significant interaction terms are shown in step 4

Follow-up analysis of the two interaction effects was conducted using an online computational tool designed for probing two-way interactions (Preacher, Curran & Bauer, 2006). We calculated simple slopes for the relationship between the independent variable (depression or social anxiety) and the dependent variable (problem-solving or distraction), with our moderators (peer acceptance or peer rejection) specified at values of the mean and 1 *SD* above and below the mean. Results regarding the first interaction showed that when peer acceptance is low, (i.e. 1 *SD* below the mean) the slope relating Time 1 depression to Time 2 problem-solving is significantly negative, $b = -.46, p = .05$. As peer acceptance rises, the simple slope becomes less negative and non-significant (at mean level of peer acceptance, $b = -.07, p > .10$; at peer acceptance of 1 SD above mean, $b = .33, p > .10$). The second interaction probed showed that when peer rejection is low, the slope relating Time 1 social anxiety to Time 2 distraction is significantly positive, $b = .28, p < .05$. As peer rejection rises, the simple slope becomes less positive and non-significant (at mean level of peer rejection, $b = .11, p > .10$; at peer rejection of 1 SD above mean, $b = -.07, p > .10$).

Finally, we examined coping scores at Time 1 as predictors of social anxiety and depression at Time 2, after controlling for the corresponding Time 1 adjustment scores and including peer acceptance and rejection as moderators. However, this analysis showed no significant effects beyond the stability of adjustment scores (all other main and interaction effects, $p > .05$).

General Discussion

These results shed new light on the links between emotional adjustment and coping in school children. In Study 1, we identified six internally consistent coping factors: four of the five subscales from Kochenderfer-Ladd and Skinner (2002) and additional subscales measuring distraction and trivialising. In Study 2, social anxiety and depression were found to predict differentiated strategies for coping with a peer problem stressor, but there was no evidence for effects in the reverse direction.

We suggest that the present findings can be understood within conceptual frameworks proposing both convergence and divergence with regard to depression and social anxiety. Ingram et al's. (2001) discussion of declarative statements about past failure and loss in depressed individuals, in contrast to the more future-oriented, questioning cognition of anxious individuals, offers a cognitive basis for differentiating depression and anxiety, and ongoing analyses of the tripartite model (see Anderson & Hope, 2008) provides an affective foundation for understanding patterns of similarity and differentiation between anxiety and depression.

First, the cognitive and affective distinctions described above can help to explain the divergence between social anxiety and depression with respect to both problem-solving and social support-seeking. Depression at Time 1 predicted significantly lower problem-solving at Time 2, though this pattern became apparent only when peer acceptance was low. In contrast, this pattern was not observed for social anxiety. This supports previous findings that depression is associated with lower skills in problem-solving (see Goodman et al., 1995; Sacco & Graves, 1984), although the moderating effect of peer acceptance suggests that having at least some positive social relations to

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draw upon could facilitate the use of problem-solving strategies. As outlined earlier, conceptual and empirical work on specificity of thought in anxiety and depression suggests that the cognition of children higher in depressive symptoms is rooted in a greater sense of hopelessness and degradation (see Kendall & Ingram, 1989), rendering them less likely to adopt proactive coping strategies. Furthermore, although those with depressive symptoms and those with social anxiety symptoms both tend to have social skills deficits, these are more commonly allied with greatly reduced social motivation in children with depressive symptoms (Sergrin, 2000), making them particularly less likely to use problem-solving strategies to cope.

With regard to the role of peer acceptance as a moderator, Dodge and Pettit's theoretical analysis (2003) indicates that peer relations may play a key role in increasing or decreasing the impact of risk factors on behavioral outcomes. It seems probable therefore, that positive peer relations may diminish the impact of depression on lower problem-solving, indicating that attention to depressed children's peer relations may be an important element of intervention approaches to help them cope with stressors more effectively. Such arguments are consistent with other evidence that friendships may play an important buffering role in protecting against negative cycles that connect internalising problems with negative social experiences (e.g., Hodges, Boivin, Vitaro, & Bukowski, 1999).

In a similar way, depression and social anxiety differentially predicted subsequent social support seeking, with a negative association for the former and a positive association for the latter. This is consistent with evidence regarding support 'erosion' for depression in adolescents (e.g., Stice et al., 2004) with the present study

showing that this may also be the case in middle childhood. In contrast, the fact that socially anxious children seek more social support points to a higher dependence on others for resolving problems as has been proposed previously (see Deisinger et al, 1996; Rubin et al., 1984). With reference to the tripartite model, it seems plausible that the higher arousal experienced by socially anxious children - and the questioning cognition about harm and danger (Ingram et al., 2001) - could drive them to seek social support as a response to problematic peer interactions, whereas the low social motivation and positivity experienced by depressed children may mean they are likely to seek less social support.

We obtained partial support for our hypotheses regarding internalising and externalising coping. First, depression positively predicted subsequent externalising coping, in line with past research showing links between depressive symptoms and aggressive coping (e.g., Asarnow et al., 1987; Dise-Lewis, 1988). This finding is consistent with our expectation that greater hopelessness could give rise to greater aggressive responding. In contrast, we found that social anxiety predicted lower levels of subsequent externalising. Although we had not predicted an independent association with externalising coping, the more withdrawn behavioural profile of socially anxious children (see Rubin et al., 1984) seems consistent with a lower tendency to respond by acting out and being aggressive.

With respect to internalising coping, we found that although social anxiety and depression did seem to converge in their association with concurrent internalising coping, consistent with the high levels of negative affect common to both disorders (Clark & Watson, 1991), only social anxiety was uniquely associated with increased internalising

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coping over time. We must recognise that there is a degree of potential measurement overlap related to the concept of 'worry', which is both a response to stressors in our measure of internalising coping, and a key indicator of social anxiety in standard social anxiety scales. Nonetheless, our finding does support Garnefski et al.'s (2006) observation that rumination was uniquely associated with worry and fearfulness, features more related to social anxiety rather than depression. It is somewhat surprising that depression did not independently predict an increase in the use of internalising coping given past research (Hong, 2007; Reijntjes et al., 2006; Nolen-Hoeksema, 1991), but one interpretation of these findings is that internalising responses to stressors may be critical for depressed youths particularly where the depressed symptoms are co-morbid with social anxiety.

One final pattern of results that falls in line with theoretical models about differentiated cognition in depression and social anxiety concerns coping through distraction. We found that depression predicted subsequently lower distraction, whereas social anxiety predicted increased distraction when peer rejection was low. This supports previous findings that children higher in depressive symptoms are less likely to endorse distraction as a method of cognitive coping (Garnefski et al., 2007; Reijntjes et al., 2006). Conceptually, it seems plausible that depressed children's enduring negative self-schemas and past-oriented focus on failure and degradation (Kyte & Goodyer, 2008) make it far harder for them to distract themselves from an immediate problem. In contrast, socially anxious children may well be able to engage in distraction from a particular social stressor if their general social experience is not highly negative. The moderating role of peer rejection implies that the capacity for socially anxious children to engage in

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distraction about a particular stressful incident may be thwarted by interfering patterns of worry about more chronic peer problems. This interpretation needs to be evaluated in future empirical work that directly examines children's coping responses to chronic stress as well as specific stressful incidents. In addition, it is not at present clear whether these moderating effects of peer relations would extend to situations involving non-social as well as social stressors. It seems plausible that such effects - and their potential consequences for emotional adjustment - would be significantly stronger in the context of stressful social interactions.

Implications

Our evidence of differentiation between social anxiety and depression in terms of coping with a social stressor may have important clinical implications, insofar as current interventions often focus on the same or similar coping strategies when treating both conditions (e.g., Spence et al., 2002; Horowitz & Garber, 2006), when attention to distinct coping characteristics may in fact be more appropriate. Furthermore, the temporal sequence observed in the associations between adjustment and coping suggests that social anxiety and depression could play a causal role in encouraging or inhibiting specific coping strategies. A crucial challenge for clinical practice, and for future research, is to identify and then target the specific features of the disorders - such as information-processing biases (see Banerjee, 2008; Kyte & Goodyer, 2008) - which are responsible for their effects on coping.

Associations in the reverse direction - from coping strategies at Time 1 to emotional adjustment at Time 2 - were not observed in the present study. This was surprising given preliminary indications from the existing literature that coping *can*

predict adjustment (e.g., Herman-Stahl et al., 1995), and that work on effective coping with stressors is a key part of many cognitive-behavioural interventions (e.g., Kendall, 1993). However, the extent to which a given coping strategy is emotionally adaptive may depend on the context in which it is adopted, differences between children in their social relations, and the different goals for using the strategy. For example, one could anticipate that different approaches to social support seeking (e.g., seeking comfort vs. seeking instrumental assistance; see Greenglass, Schwarzer, and Taubert, 1999) may be adaptive or maladaptive depending on the age of the child, the specific situation at hand, and the wider interpersonal context. Thus, primary school children's reported use of coping strategies may not always map onto the effective *employment* of those strategies in specific stressful situations. In this regard, our study was limited by the fact that the coping measure was based on self-report; although our teacher ratings provided some external validation of the self-reported behavioural coping responses, further research gathering specific coping data from multiple informants and direct observation will be of great importance. Accurately measuring children's adaptive use of complex cognitive strategies, such as positive restructuring, will be a particular challenge in samples of young children because the understanding of these strategies changes with age (Fields & Prinz, 1997), and because the strategies may not appear as a distinct construct until later in development.

The present findings provide a strong foundation for future empirical work with clinical samples. The patterns described here need to be replicated in diagnosed anxious and depressed participants, in order to evaluate the differentiated links with coping in children most in need of intervention. Having detailed assessment data on the preferred

coping strategies of youths in clinical care would provide an excellent starting point for behavioural and cognitive-behavioural approaches to treatment. Most notably, social information-processing patterns - interpretation and attribution, construction of goals, evaluations and enactment of responses - have been recognised as relevant to the treatment of both anxiety and depression (Fonagy & Goodyer, 2008), and these patterns are clearly part of the coping process. Thus, evaluations of children's coping strategies could play a key role in informing the way that clinicians could target the core features of social anxiety and depression. Indeed, if the creation or modification of a child's 'coping template' (Kendall, 1993) is recognised as a goal of therapy, then we need a richly detailed understanding not just of *what* coping strategies to use, but also *when*, *why,* and *how* to use them. This metacognitive reasoning about coping strategies is likely to become more sophisticated with age (Compas et al., 2001), but this has not yet been adequately explored.

Conclusions

Primary school children systematically and reliably reported using a wide range of coping strategies in response to a social stressor. Moreover, social anxiety and depression were found to be associated with distinctive patterns of coping, with longitudinal analyses showing that the conditions encourage or inhibit tendencies to cope in different ways. In peer conflict situations, symptoms of depression appeared to reduce the likelihood of accessing social support and dealing with the problem, as well as the use of distraction to ease negative emotions. Social anxiety, on the other hand, increased worrying thoughts, but also predicted greater willingness to approach others for support. These findings provide clear entrances for practitioners working with socially anxious

and depressed children. However, the absence of reciprocal links - predicting adjustment from earlier coping - raises new challenges. Further research, examining possible developmental changes through adolescence, is needed to develop targeted work on coping that can be effective in interventions for clinical conditions.

Paper 3: Children's coping strategies, appraisals and goals for dealing with different problematic peer situations: Links with social anxiety and depression

Abstract

Recent research has shown that children's coping strategies for dealing with an interpersonal stressor are differentially related to emotional adjustment, but it is not clear whether this is true across different situations or the extent to which these relationships are mediated by appraisals and goals. Study 1 involved a sample of 84 8-11-year-olds to examine the links between problem-solving and social support seeking strategies, and levels of social anxiety and depression in six peer conflict scenarios. Results indicated that the different coping strategies were differentially related to social anxiety and depression across the scenarios. Study 2 involved a sample of 178 9- to 11-year-old children to examine these links, with the addition of three 'avoidant' coping strategies (internalising, externalising and distraction), and to evaluate the role played by appraisals and goals in three peer conflict scenarios. Results confirmed previous associations between coping and social anxiety and depression and revealed mediating effects of both goals and appraisals. Together, the findings extend our understanding of the links between coping and adjustment and show how these relationships are affected by children's appraisals and goals.

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Introduction

Symptoms of anxiety and depression regularly co-occur (Katon & Roy-Byrne, 1991; Merikangas & Angst, 1995) and it has been recognised that depression is the psychiatric condition most commonly associated with social anxiety (Ingram, Ramel, Chavira & Scher, 2001; Pini et al., 1997). This co-occurrence of anxiety and depression is also evident in childhood (King, Ollendick & Gullone, 1991; Brady & Kendall, 1992) and research has shown that social anxiety in particular is often highly co-morbid with depression (Chavira, Stein, bailey & Stein, 2004). There is also however substantial differentiation between social anxiety and depression across a range of cognitive, behavioural and emotional characteristics (Stark, Humprey, Laurent, Livingston & Christopher, 1993; Smari, Petursdottir & Porsteinsdottir, 2001; Ogul & Gencoz, 2003; Hong, 2007) and the challenge remains to further understand these similarities and differences.

A theoretical framework for understanding this differentiation is provided by the tripartite model of anxiety and depression (Clark & Watson, 1991; Watson et al., 1995; Watson, Clark, Weber & Assenheimer, 1995), which acknowledges the co-morbid features of depression and anxiety (negative affect), while highlighting their underlying differences (high physiological arousal in anxiety and low positive affect in depression). This framework has also been used to understand the similarities and differences between these disorders in childhood (Laurent & Ettelson, 2001), and though there have been some problems with the measurement of tripartite factors in clinical samples (Crook, Beaver & Bell, 1998; Chorpita, Plummer & Moffitt, 2000; Anderson & Hope 2008), it nevertheless provides a useful foundation for investigating this convergence and

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divergence, with Ingram et al. (2001) making the point that "….the model may better account for critical and common factors when these affective disorders are in their milder ranges" (p. 374). With regard to treatment, coping strategies for dealing with stress are often considered as key mechanisms in the prevention of social anxiety and depression, but at present similar strategies are commonly endorsed as valuable for treating both conditions (Spence, Donovan & Brechman-Toussaint, 2000; Horowitz & Garber, 2006). However, in reviewing the empirical literature on the treatment implications of *anxiety* and depression for example, Kendall, Kortlander, Chansky & Brady (1992) emphasise the potential need for separate programs addressing the different aspects of a co-morbid condition. Therefore, a more detailed understanding of how different coping strategies relate to social anxiety and depression is needed, in the search for more adaptive outcomes.

Recent research by Wright, Banerjee, Hoek, Reiffe & Novin (2010) found a distinct pattern of differentiation in the links between depression and social anxiety, and coping strategies over time. Their results showed that social anxiety was positively associated with social support seeking, internalising, and distraction and negatively associated with externalising. In contrast, depression was negatively associated with social support seeking, distraction, and problem-solving and positively associated with externalising. However, the processes behind these links remain unclear. The main aims of the present study were to examine whether these links, which were studied in just one extreme peer conflict scenario, hold in a more general sense across peer conflict scenarios. We also sought to investigate the extent to which children's appraisals and

goals regarding peer conflict mediate these links between coping and adjustment in order to better understand these processes.

Differential associations between social anxiety and depression, and coping

The main higher order distinction in theoretical models of coping (e.g., Lazarus & Folkman, 1984; Band, Weisz & Rothbaum, 1982; Roth & Cohen, 1986) is usually between direct attempts to alter a stressful scenario and avoidance of the scenario/or attempting to manage the cognitive and emotional reactions to it. Based on Roth and Cohen's (1986) approach versus avoidance distinction, and developed in previous studies (Causey & Dubow, 1992; Kochendenderefer-Ladd & Skinner, 2002), Wright et al. (2010) used the Self-Report Coping Scale (SRCS) to assess coping with regards to adjustment. This measure included two lower order approach strategies (problem-solving and social support seeking) and three avoidance strategies (internalising, externalising and distancing), with Wright et al. (2010) adding additional subscales of distraction and trivialising, based on theoretical and empirical considerations. Specifically, Wright et al. (2010) found that social anxiety was positively associated with social support seeking, internalising and distraction, and negatively with externalising, whereas depression was negatively associated with problem-solving, social support seeking, and distraction, and positively with externalising.

The finding that social anxiety was positively associated with social support seeking, and depression was negatively associated with problem-solving and social support seeking, is a particularly interesting pattern that needs replication. There are good reasons to expect socially anxious children to seek help when faced with intense interpersonal stress akin to the scenario present in Wright et al.'s (2010) study (e.g.,

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elevated fear and worry), and the greater socio-cognitive deficits and sense of

hopelessness seen in depression can explain why children higher in depressive symptoms

would struggle with problem-solving and be less likely to access social support seeking.

However, there is a need to test whether these associations are unique to more extreme

conflict situations which children often find difficult to control, or whether they can be

expected across different peer conflict scenarios of varying intensity.

The influence of appraisals and goals on the relationship between coping and

adjustment

Appraisals, defined by Lazarus and Folkman (1984) as 'the cognitive

interpretation one has of a potential stressor', have been emphasised as crucial in

determining the extent to which coping strategies are adopted in a given stressful

situation. Though several different types of appraisal have been relevant to research on

coping, such as threat, competence, and control (see Chang, 1998), control appraisals

have been highlighted as of particular importance in influencing the selection of different

coping strategies (Lazarus & Folkman, 1984; Band & Weisz, 1988). Lazarus and

Folkman (1984), for example, suggest that stressors perceived as more controllable elicit

more approach coping responses, whereas ones perceived as less controllable elicit more

avoidance responses. Crucially, emotional adjustment may play an important role in the

way children appraise stressful situations.

One theoretical explanation is that social anxiety and depression may influence

ways of coping with stress due to information-processing biases, which have been

outlined in reviews of social cognition and psychopathology (Banerjee, 2008; Kyte &

Gooyer, 2008). The learned helplessness theory for example - which Seligman (1975)

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points out includes deficits often found in depression - posits that experience with uncontrollable events can lead to an expectation that one's repertoire of responses cannot control subsequent outcomes (also see review by Dodge, 1993). There is good reason to expect therefore that this kind of appraisal (the extent to which an individual believes they can control the outcome of stressful events) may influence the relationship between depression and coping because depressed individuals are more likely to feel a sense of hopelessness in the face of uncontrollable events. Thus, they are less likely to adopt coping strategies that are often appropriate for dealing with peer conflict (e.g., problem-solving), and more likely to adopt inappropriate ones (e.g., externalising).

While socially anxious individuals are equally likely to experience stressful events as uncontrollable, we propose they are less constrained to feel the same sense of hopelessness that is characteristic of depressed individuals (Garber, Miller & Abramson, 1980). Therefore while we expect perceived controllability of stressful situations to influence the coping strategies socially anxious children adopt to deal with peer conflict, we expect their additional focus on resolving the stress to lead to the use of strategies that are more appropriate (e.g., problem-solving) compared with children higher in depressive symptoms. Indeed, although we can expect appraisals of uncontrollability to encourage internalising responses in children with high social anxiety, the lower sense of hopelessness means that other strategies such as distraction can be an alternative coping response to such appraisals.

In addition to appraisals, and included in Crick and Dodge's (1994) social information-processing model of children's adjustment, the goals one has regarding the outcome of stressful encounters are also important mechanisms in terms of influencing

the responses chosen to cope with those encounters. Crick and Dodge (1994) define

goals as 'focused arousal states that function as orientations towards producing particular

outcomes' (p. 76). In their review, they propose that children's 'relationship enhancing'

goals for example (i.e., pro-social ones) are significantly related to positive social

adjustment, whereas 'getting even' goals (i.e., revenge) are more related to aggression

and maladjustment. Research has suggested that these kinds of goals also relate to the

strategies children chose for dealing with peer conflict and emotional adjustment. Chung

and Asher (1996) for example found that children with relationship goals tended to adopt

strategies that accommodated the needs of both parties in conflict situations, and

Lochman, Wayland & White (1993) found that children rated by teachers as high in

depression scored low on goals of affiliation. These kinds of findings indicate that goals

may play an important role in the link between children's adjustment and coping.

In terms of emotional adjustment, the social information-processing model of

adjustment suggests that children's emotions may inhibit or enhance motivation to seek

particular goals (Crick & Dodge, 1994). The fact that depression is linked to a greater

propensity to feel hopeless in the face of stressful situations, particularly stress of a social

nature, may result in children higher in depressive symptoms having reduced

motivational goals to avoid or escape from stressful encounters, and as Lochman et al.

(1993) found, they are also less likely to pursue goals that are pro-social in nature.

Socially anxious children on the other hand are more likely to have goals of striving to

avoid or escape from stressful situations, particularly social ones, in order to reduce the

associated negative arousal (Widiger, 2001). At the same time, there is reason to believe

that the social fears present in children higher in social anxiety and their tendency to

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focus on future outcomes may also lead them to seek pro-social goals. One could

imagine, for example, the socially anxious child thinking about future encounters with

peers and recognising the need for good, or at least 'not bad' relations in order to ward

off further stress and conflict. These motivational inclinations may mean that not only

are socially anxious children more likely to adopt strategies which achieve goals of

avoidance and escape from stressful social encounters ('taking them out' of these

situations), but they are also likely to consider proactive strategies in an attempt to

achieve goals of warding off present and future social conflict.

Because social anxiety is expected to be linked to more escape and pro-social

goals, it is likely that goals of escape will mediate expected positive relationships

between social anxiety and the avoidance strategies of internalizing and distraction,

whereas pro-social goals are likely to mediate expected positive relationships between

social anxiety and the approach strategies of problem-solving and social support seeking.

Depression on the other hand is expected to be linked to fewer of both types of goal, so it

is likely therefore that they will mediate expected negative relationships between

depression and problem-solving and social support seeking.

Study 3.1

Although Wright et al. (2010) found distinct differential links between depression

and social anxiety and both approach and avoidance strategies, the first aim of the current

research was to replicate findings regarding the most common approach strategies,

problem-solving and social support seeking (see Causey & Dubow, 1992;

Kochenderefer-Ladd & Skinner, 2002; Wright et al., 2010), to evaluate whether

previously-observed distinctions between depression and social anxiety would generalise across multiple scenarios. This is important for several reasons. Firstly, not only are these strategies the most commonly endorsed, they are also considered to be among the most adaptive for dealing with conflict. A more detailed understanding of the links between these strategies and adjustment, may offer a more convincing argument for considering them differentially as interventions for dealing with depressive and socially anxious symptoms. Secondly, the 'being picked on' conflict scenario used by Wright et al. (2010) (taken from Kochenderfer-Ladd & Skinner, 2002), while not an uncommon experience for many children, is likely to generate intense psychological arousal, potentially inhibiting the use of some coping strategies in a way less extreme situations might not. This may be especially true for children higher in levels of social anxiety. For this reason we wanted to investigate whether these results could be replicated across scenarios of varying stressfulness, an approach used in previous coping research (Chung & Asher, 1996; Kochenderefer-Ladd, 2004; Band & Weisz, 1998), although the focus of the present research remained specifically on children's coping with interpersonal peer problems.

Lastly, we wanted to use a sufficient range of different scenarios without the coping responses procedure becoming too repetitive for children (i.e., having to respond to a long list of questions many times over). For this reason, instead of the 11 questions that made up the problem-solving and social support seeking sub-scales in our previous study (seven and four respectively) we used just three questions for each sub-scale, which were adapted from the original subscales. The six stressful scenarios chosen for the present study included the aggressive scenario from Wright et al. (2010), and five other

scenarios involving social exclusion, peer rejection and peer disagreements similar to ones used in previous research (e.g., Chung & Asher, 1996).

To summarise, in study 1 we look specifically at the relationships between approach coping strategies (problem-solving vs. social support seeking) and depression and social anxiety across a range of children's interpersonal stressors. We hypothesise that, in line with Wright et al. (2010) and consistent with the tripartite approach, depression will be negatively associated with children's reported use of approach coping strategies and that social anxiety will be positively associated with them across different scenarios of varying stressfulness.

Method

Participants.

Eighty-four 8-11-year-old primary school children (53 boys, 27 girls) from a school in Brighton and Hove took part in the present study. The majority of the sample were from White-British backgrounds (> 90%), and less than 10% of the children at the school were eligible for free school meals.

Measures.

To assess coping responses, a 6-item questionnaire was used enabling children to respond to six different vignettes explaining peer interactions of varying stressfulness. The vignettes included: overt aggression, social exclusion, rejection, and three peer disagreements. An example of a vignette is: '*You are in the playground minding your own business. Then an older child from another class, who you never play with, goes up to you and starts calling you names and then hits and pushes you*' (overt aggression).

The six coping questions children could respond to were taken, or adapted from Wright et al. (2010). Three were problem-solving items ('*I would talk to the other child to try and change the situation*', '*I would work out a way of behaving to make things better for me*', and '*I would look for a way to take care of the situation myself*') and three social support seeking items ('*I would talk to a teacher about what happened and how it made me feel*', '*I would talk to my parents about what happened and how it made me feel*', and '*I would talk to a friend about what happened and how it made me feel*'). The questionnaire used a 5-point response scale (1 = not at all; 2 = hardly ever; 3 = sometimes; 4 = most of the time; 5 = all the time), and children were asked the same six questions after each scenario to indicate the extent to which they would use that strategy. The vignettes were presented pictorially on separate sheets of A3 paper along with a written explanation. Reliability analysis conducted on each of the six questions showed good consistency across the six scenarios with coefficient alphas ranging from .72 to .91. Scores were created for two coping strategies (problem-solving and seeking social support) by calculating the mean of the three questions for each strategy across the six scenarios (α = .73 for problem-solving, α = .80 for social support seeking).

Depression. Children completed the short form of Kovac's Children's Depression Inventory (Kovac, 1992). The short form consists of 10 items, and we added 10 emotionally neutral filler items. Each item consists of three statements, and children are asked to indicate the statement that is most true for them by circling either A, B, or C. Each item was scored from 1 (symptom is absent) to 3 (symptom is most of the time or always present). For each child, a depression symptom score was calculated by taking

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the mean of all the items. The coefficient alpha in the present sample was .77 showing good internal consistency.

Social Anxiety Scale for Children-Revised (SASC-R). Children completed La Greca and Stone's (1993) Social Anxiety Scale for Children - Revised. The 22 items (including 4 filler items) of the scale were presented in the standard questionnaire format, and children responded to each statement by circling one of five answers (from 'not at all' to 'all the time'). Children received a mean score ranging from 1 to 5, with higher scores indicating higher levels of social anxiety. The coefficient alpha in the present sample was .91 showing excellent internal consistency.

Procedure.

Children were seen in groups of six at a time by two or three research assistants. Each child was provided with a copy of the coping scenario questionnaire and it was explained to them how they should complete it. Children were then shown the following statement on a sheet of A3 paper, which was also read to them out loud. Children were then shown each of the six scenarios, one at a time - which was also read to them aloud - while they filled in their responses, before moving on to the next scenario. Once all of the questions had been completed for the six scenarios the children were debriefed about the purpose of the study.

Results and discussion

Table 13 indicates that overall, children reported they would use more problem-solving across the six scenarios than social support seeking (Depression and social anxiety were significantly correlated). Partial correlation analyses were conducted to

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confirm the expected relations between depression, social anxiety and coping across

scenarios. They show that problem-solving and social support seeking had negative

relationships with depression, and positive relationships with social anxiety.

Table 13. *Descriptive statistics and intercorrelations of coping, social anxiety and depression across scenarios, with partial correlations of each adjustment scale after controlling for the other in parentheses (n = 84).*

Measure	Mean (SD)	Social support	Depression	Social anxiety
Problem-solving	3.32 (.70)	.41**	-.22† (-.32**)	.12 (.27*)
Social support seeking	2.92 (1.02)		-.08 (-.23*)	.24+ (.32**)
Depression	1.34 (.31)			.49**
Social anxiety	2.44 (.77)			

†$p < .10$, *$p < .05$, **$p < .01$, ***$p < .01$.

Next, repeated measures ANOVAs on the coping scores were conducted with

depression and social anxiety entered as covariates in each of the analyses.

Problem-solving versus Social support seeking. Our first main analysis

investigated differences in the level of problem-solving and social support seeking, in

relation to pupils' levels of social anxiety and depressive symptoms. An analysis of

variance was conducted on the coping scores with one within-subjects variable (coping:

problem-solving vs. social support seeking) and two continuous covariates (social anxiety

and depression). We modeled the main effect of the within-subjects coping variable, the

main effects of social anxiety and depression, as well as interactions between the

variables. The main effect of coping neared significance, $F(1, 78) = 3.53$, $p = .06$, with

more problem-solving used across scenarios than social support seeking. There were also

significant main effects of social anxiety $F(1, 78) = 9.34$, $p < .01$, and depression $F(1, 78) = 6.45$, $p < .05$. Consistent with the partial correlation analysis, the parameter estimates clarify that social anxiety is associated with the use of more problem-solving ($b = .23$, $p < .05$) and social support-seeking ($b = .41$, $p < .01$) while depression is associated with less, ($b = -.66$, $p < .05$) and ($b = -.63$, $p < .10$) respectively. No significant interaction effects were found, $Fs < 1.51$, $ps > .10$, implying that the difference between problem-solving and social support seeking scores was similar across different levels of social anxiety and depression. A follow-up analysis comparing scores across the six scenarios showed a virtually identical pattern, with no main or interaction effects of scenario.

These findings reaffirm that problem-solving and social support seeking - among the most widely reported coping strategies adopted by primary school children for dealing with interpersonal stress - are differentially associated with depression and social anxiety, supporting previous research (Wright et al., 2010). The present study further differentiates these conditions in relation to coping by showing that social anxiety is indeed associated with higher levels of problem-solving, and also shows that these results generalise across different scenarios varying in interpersonal stressfulness. This link between social anxiety and problem-solving is congruous with Daleiden & Vasey's (1997) view that anxious children's responses are often 'proactive and problem-focused', possibly reflecting the active intention to ward off perceived threats and reduce arousal.

Study 3.2

Introduction

Study 1 confirms Wright et al.'s (2010) findings that depression and social anxiety are differentially associated with the most common approach coping strategies children use to deal with interpersonal stress. In our original study, this differentiation between depression and social anxiety was also evident to an extent with regard to avoidance coping strategies in response to an aggressive peer encounter. This challenges us to further explore this pattern of differentiation between depression and social anxiety in relation to avoidant as well as approach coping strategies across scenarios of varying stressfulness. However, the main goal of the present study was to examine how appraisals and goals mediate the links between coping and social anxiety and depression. Regarding appraisals, it is expected that: positive links between social anxiety, and internalising and distraction will be mediated by appraisals of scenarios as uncontrollable; negative links between depression and problem-solving will be mediated by lower appraisals of scenarios as controllable; and lastly, positive links between depression and externalising will be mediated by greater appraisals of scenarios as uncontrollable.

Regarding goals, it is expected that positive links between social anxiety, and internalising and distraction will be mediated by goals of escape, whereas positive relationships between social anxiety and problem-solving and social support seeking are expected to be mediated by pro-social goals. Lower levels of both pro-social and escape

goals are expected to mediate the negative links between depression and problem-solving, social support seeking and distraction.

Method

Participants.

A total of 178 9- to 11-year-old children (89 girls and 89 boys) attending 8 different local primary schools in Warwickshire, UK, participated in this study. The schools were located mainly in rural areas and children were from a range of socio-economic backgrounds. The children were involved in an ongoing study into mental health and peer relations commissioned by the local educational authority. Schools provided informed consent for data collection in the participating classes, and parents were provided with full information regarding the project and were able to refuse to allow their child's participation. Participation rates of greater than 95% were obtained.

Measures.

Self-Report Coping Scale - Revised (SRCS). To assess children's coping responses to 3 problematic peer situations (being picked on, social exclusion and peer disagreement) a modified version of Kochenderfer-Ladd and Skinner's (2002) Self-Report Coping Scale (SRCS) was used. Four of the five factors from the original; problem-solving, social support seeking, internalising and externalising were included, with the distancing sub-scale replaced with a distraction sub-scale used in previous research (Wright, et al., 2010). The number of questions on each factor was reduced to three based on the ones with the highest factor loadings from previous studies, shortening the questionnaire to 15 items in total. This made it more feasible to administer the

questionnaire across the three different scenarios. Before responding to the coping items, children were asked to respond to 2 different types of appraisal of the situation, '*I would not be able to do much about this*' (uncontrollable) and '*I would know how to deal with this*' (controllable). After the coping responses, they were then asked to respond to 2 different goals they could seek, '*I would want to get on with the other children*' (pro-social) and '*I would want to get out of this situation*' (escape). Children were asked to respond to the questions on a 5-point scale (1 = not at all; 2 = hardly ever; 3 = sometimes; 4 = most of the time; 5 = all the time) asking them how much they would do these things in each scenario. Three principal components analyses conducted on the measure for each scenario revealed the factor structure to be exactly as expected, with the 3 items from each coping strategy loading onto their respective subscales. The range of factor loadings in each scenario was as follows: scenario 1 .69 - .89, scenario 2 .71 - .87 and scenario 3 .71 - .87. Reliability analysis conducted on each of the five coping strategies showed good internal consistency of each three-item scale within each scenarios with the range for coefficient alphas in scenario 1, .73 to .88, scenario 2, .76 to .86 and scenario 3, .79 to .86. Thus, children received a mean score for each coping subscale within each scenario. The reliability of these mean scores across the three scenarios was also satisfactory, alphas = .81 for problem-solving, .87 for social support-seeking, .86 for internalising, .90 for externalising and .82 for distraction. Therefore, children received an overall mean score for each coping strategy, collapsed across the three scenarios.

The depression and social anxiety measures were the same ones used in study 3.1. Coefficient alphas were .86 for depression and .93 for social anxiety showing good internal consistency for both measures.

Procedure.

Children were seen in groups of between five and ten at a time and each child was provided with a copy of the coping questionnaire and it was explained to them how they should complete it. Children were shown pictures of each of the three scenarios (one at a time), which were also read to them aloud before moving on to the next scenario. Children were then debriefed and told about the purpose of the study. The other 3 measures had been completed already several weeks earlier as part of a larger study.

Results and discussion

Confirmatory factor analysis (CFA) on the data from scenario 3 was used to compare the relative plausibility of a 2-factor (approach vs. avoidance) model against the 5-factor solution revealed in the exploratory factor analysis. CFA on the 15 items suggested that the 5-factor model provided a good fit to the data, χ^2 (80) = 102.47, $p <$ .05; CFI = .98; RMSEA = .04, with good internal consistency (α ranged from .79 to .86), and significant standardized coefficients for each item (ranging from .63 to .87, all *ps* < .001). Table 14 clarifies that the 5-factor model provided a better fit to the data.

Table 14. *Summary statistics for nested factor models of coping measure*

Model	χ^2	*df*	$\Delta\chi^2$	AIC [a]
Preferred 5-factor model	102.47	80	-	182.47
2-factor (approach vs. avoidance)	602.92	89	500.45***	664.92

[a] Relatively lower AIC indicates a better fitting model
*** $p <$ .001

Associations between coping strategies, depression and social anxiety

Table 15 shows, firstly, that children reported problem-solving to be the strategy they would use most across the 3 scenarios and that externalising was the strategy they would use least. Secondly, it shows that all of the coping strategies were significantly positively correlated with each other, except for externalising which was negatively correlated with problem-solving and distraction, and unrelated to social support seeking.

Table 15. *Descriptive statistics and intercorrelations of coping strategies across all scenarios, depression (Dep) and social anxiety (SA) (lowest n =167).*

Coping strategy	Mean	(*SD*)	2	3	4	5	Dep	SA
Problem-solving	3.35	0.67	.60***	.20**	-.28***	.59***	-.32***	.16*
Social Support Seeking	3.04	0.88		.46***	-.06	.45***	-.26***	.25**
Internalising	2.16	0.72			.28***	.21**	.09	.41***
Externalising	2.04	0.83				-.24**	.37***	-.001
Distraction	3.00	0.76					-.27***	.19*

* *p* < .05   ** *p* < .01   *** *p* < .001

Note. Depression and social anxiety were significantly correlated (*r* = .49***). Correlations between coping, and depression and social anxiety are partial correlations each controlling for the other.

Associations between coping and social anxiety and depression

The first main analyses examined differences in the levels of five different coping strategies in relation to pupils' levels of social anxiety and depressive symptoms. An analysis of variance was conducted on the coping scores with one within-subjects variable (coping: problem-solving, social support seeking, internalizing, externalizing and distraction) and two continuous covariates (social anxiety and depression). We

modeled the main effect of the within-subjects coping variable, the main effects of social anxiety and depression, and interactions between the two. First, there was a significant main effect of coping $F(4, 656) = 53.29$, $p < .001$, with problem-solving used the most and externalising the least. Bonferonni comparisons revealed significant differences in the use of all coping strategies ($ps < .001$), except for the comparison between social support seeking and distraction. There was also a significant main effect of social anxiety, $F(1, 164) = 22.80$, $p < .001$, though the main effect of depression was not significant $F(1, 164) = 2.67$, $p = .10$. Social anxiety is associated with generally higher levels of coping scores in general, but this effect is qualified by significant coping x social anxiety $F(4, 640) = 13.71$, $p < .001$, and coping x depression $F(4, 640) = 25.01$, $p < .001$ interactions. Follow-up analyses revealed that after controlling for social anxiety, depression was significantly negatively related to problem-solving ($b = -.83$, $p < .001$), social support seeking ($b = -.74$, $p < .01$), and distraction ($b = -.71$, $p < .001$), and positively related to externalising ($b = 1.35$, $p < .001$). In contrast, social anxiety was positively related to problem-solving ($b = .22$, $p < .05$), social support seeking ($b = .47$, $p < .001$), internalizing ($b = .76$, $p < .001$) and distraction ($b = .23$, $p < .05$), and unrelated to externalising, after controlling for depression.

The second main analyses examined the relationship between coping strategies and social anxiety and depression within each scenario. Three separate analyses of variance were conducted with coping as the within-subjects variable and depression and social anxiety entered into the model as covariates. An almost identical pattern of results were found in scenarios one (being picked on) and three (peer disagreement) as found

across scenarios[4], but in scenario two (social exclusion) social anxiety was not

significantly associated with problem-solving and depression was not significantly

associated with social support seeking or distraction.

Associations between coping strategies, appraisals and goals

Table 16 shows that all 5 coping strategies were significantly positively correlated

with children's reported *pro-social* and *escape* goals across scenarios with the exception

of externalising which has a negative relationship with both. Social support seeking,

internalising and externalising were all significantly positively correlated with an

uncontrollable appraisal of the scenario. Problem-solving was positively correlated with

a *controllable* appraisal, whereas internalising was negatively correlated with this.

Table 16. *Intercorrelations of coping strategies, goals and appraisals across scenarios (n = 168).*

Coping strategy	Goal		Appraisal	
	Pro-social	Escape	Uncontrollable	Controllable
Problem-solving	.29***	.46***	.01	.27***
Social Support Seeking	.25***	.44***	.17*	-.04
Internalising	.24**	.30***	.53***	-.28***
Externalising	-.11	-.18*	.18*	-.09
Distraction	.27***	.44***	.14†	.05

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

Note. Uncontrollable and controllable appraisals were significantly correlated (*r* = -.33***).

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[4] Social anxiety in scenario one was not significantly associated with distraction

Direct and indirect effects of depression and social anxiety on coping through appraisals and goals

We evaluated structural equation models of the relationships between depression and social anxiety on the one hand and coping strategies on the other, including appraisals (controllable and uncontrollable) and goals (pro-social vs. escape) as mediators. For each coping strategy, we began with a fully saturated model whereby depression and social anxiety, which were allowed to covary, predicted both the appraisal scores and the coping strategy, and each appraisal score also predicted the coping strategy. We then removed any non-significant associations of depression and social anxiety with the appraisal scores, and any non-significant associations of the appraisal scores with the coping strategy. Models were also created in the same way with goals as the mediators. The final models -- with all non-significant associations omitted -- are shown in Figures 3 and 4 with fit indices listed in table 17. Finally, we used bootstrapping (1000 samples) to evaluate the significance of all remaining indirect pathways between emotional adjustment and the coping strategy[5].

Firstly, we looked at the relations between adjustment and coping when appraisals were included as mediators. Examination of the direct effect path coefficients confirmed the direct associations between adjustment and coping (see above beta coefficients). However, as shown in Figure 3a, indirect path coefficients revealed that the relationships between depression and social anxiety and problem-solving ($z = -.054$, $p < .05$ and $z = -.093$, $p < .01$ respectively) are partially mediated by the extent to which children appraise scenarios as controllable. This suggests that for depression, reduced problem-solving is

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[5] When estimating indirect pathways, we ensured that the relevant direct paths were included in the model, even where these were non-significant.

associated with being less likely to appraise difficult situations as controllable, whereas

for social anxiety, being less likely to appraise a situation as controllable reduces their

otherwise increased use of problem-solving. As shown in Figures 3c and 3e it was also

revealed that the relationships between social anxiety and internalising and distraction (z

$= .143, p < .001$ and $z = .072, p < .05$ respectively) were partially mediated by appraising

scenarios as uncontrollable, suggesting that increased internalising and distraction is

partially due to anxious children appraising situations as uncontrollable.
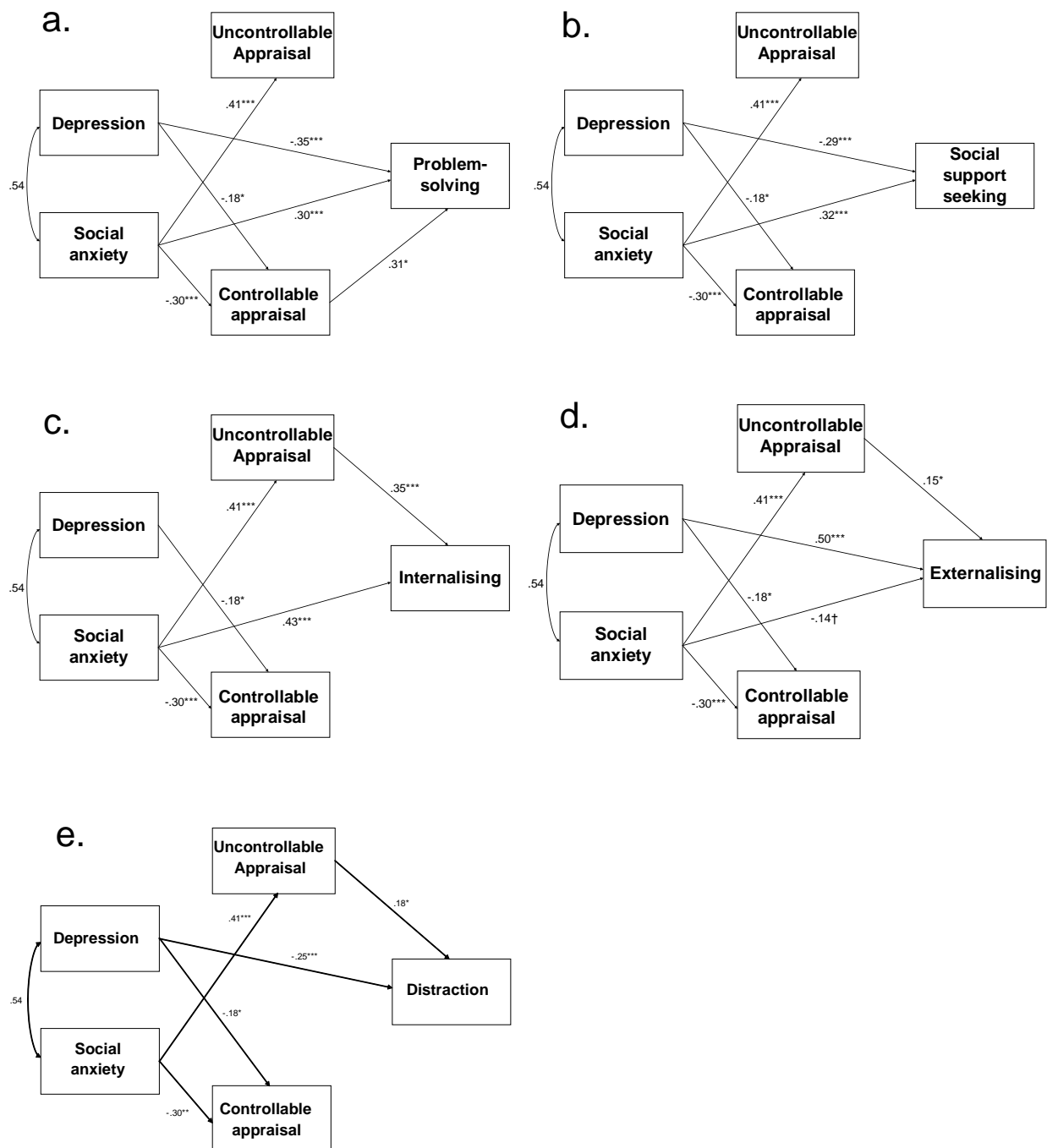
Figure 3. Path diagrams showing the relationships between depression, social anxiety and coping, with controllable and uncontrollable appraisals as mediators in the model.

Secondly, we looked at the relations between adjustment and coping when goals were included as mediators. In this case, examination of the direct effect path coefficients revealed a rather different pattern of results, suggesting stronger mediation effects. *Problem-solving:* As shown in Figure 4a, the direct path from depression to problem-solving was reduced, but still significant, whereas the one from social anxiety to problem-solving became insignificant. Indirect path coefficients from depression and social anxiety to problem-solving revealed mediation through both goals, with partial mediation of the former and full mediation of the latter ($z = .125$, $p < .01$ and $z = -.167$, $p < .001$ respectively). This suggests that for social anxiety, increased problem-solving in difficult situations is due to being more likely to want to 'get along' with other children or escape from the difficult situation, whereas for depression, being *less* likely to want to get on with the other children or escape from the situation is part of the reason they use less problem-solving; *Social support seeking*: As shown in Figure 4b, the direct path from social anxiety to social support seeking was reduced, whereas the one from depression to social support seeking was no longer significant. Indirect paths coefficients revealed the same pattern of mediation as above ($z = .120$, $p < .01$ and $z = -.160$, $p < .001$ respectively); *Internalising*: The direct path coefficient from social anxiety to internalising was significant, but reduced. Indirect path coefficients revealed that this relationship was partially mediated through the escape goal ($z = -.093$, $p < .001$), suggesting that for social anxiety, increased internalising is associated with being more likely to want to escape from difficult situations; *Externalising*: As shown in Figure 4d, only the direct path coefficient from depression to externalising was significant, with no significant indirect path coefficients; *Distraction*: As shown in Figure 4e, the direct path

coefficients from depression and social anxiety to distraction were both non-significant.

Indirect path coefficients revealed these relationships to be fully mediated by the two

goals ($z = .123$, $p < .01$ and $z = -.166$, $p < .01$ respectively), suggesting that for anxious

children, increased distraction in difficult situations is due to wanting to 'get along' with

other children or escape from the situation, whereas for depressed children, less

distraction is due to being less likely to have pro-social and escape goals.
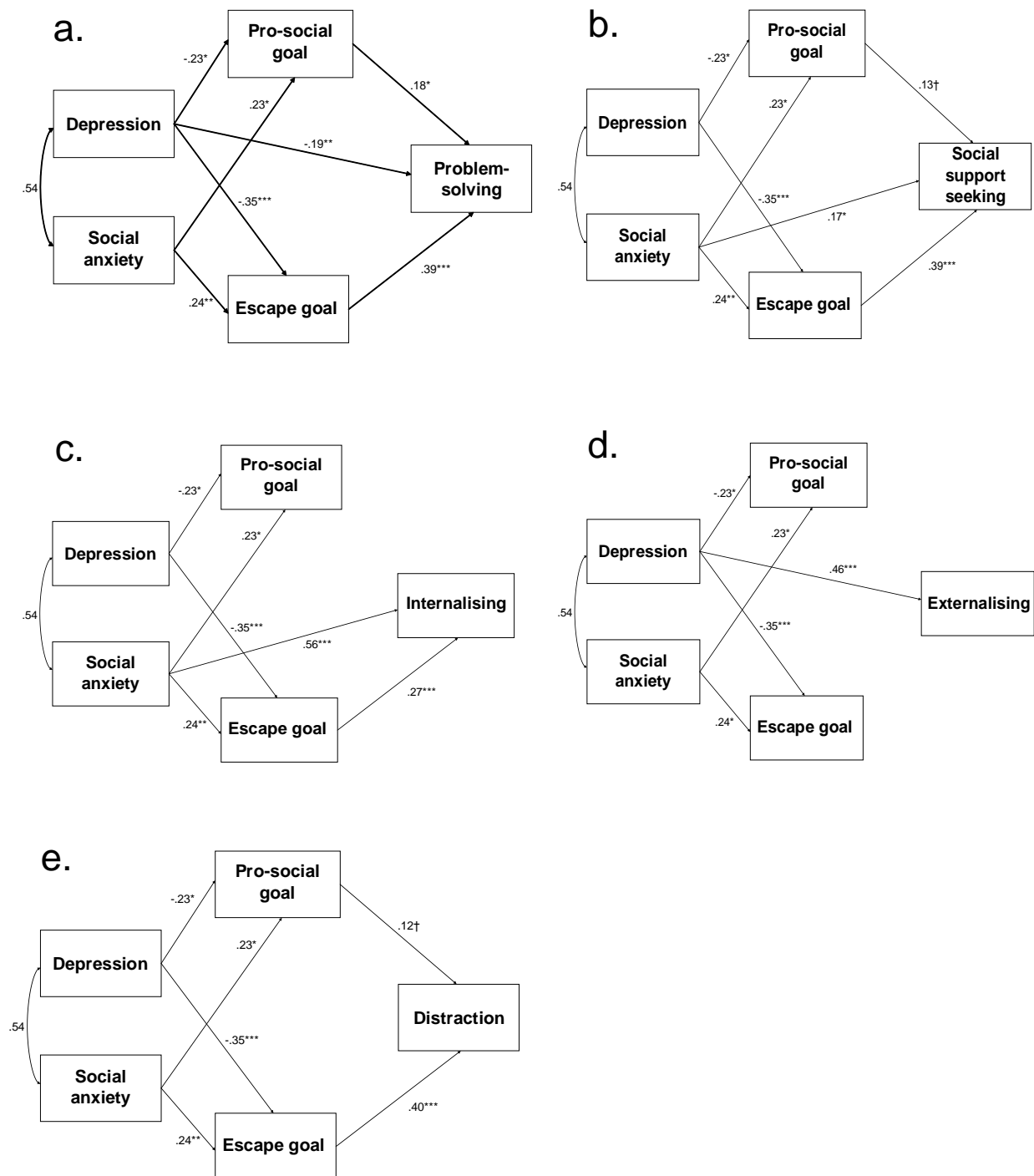
Figure 4. Path diagrams showing the relations between depression, social anxiety and coping with pro-social and escape goals as mediators in the model.

Table 17. *Fit indices for models showing paths from depression and social anxiety, through appraisals and goals to coping strategies*

Model	df	χ²	CFI	RMR	p	z (dep/sa)	p
Appraisals							
Problem-solving	3	7.82*	.97	.05	.05	-.054/-.093	.028/.002
Social support	4	9.28†	.96	.05	.06	.000/.000	/
Internalising	4	8.76†	.98	.05	.07	.000/.143	/.001
Externalising	3	8.25*	.97	.05	.04	.000/.062	/.037
Distraction	4	11.01*	.95	.05	.03	.000/.072	/.045
Goals							
Problem-solving	2	9.49**	.94	.06	.009	.125/-.167	.003/.001
Social support	2	10.64**	.93	.06	.005	.122/-.160	.003/.001
Internalising	3	11.33**	.95	.07	.01	.064/-.093	.005/.001
Externalising	4	9.83*	.95	.06	.04	.000/.000	/
Distraction	3	11.73**	.93	.06	.008	.123/-.166	.002/.002

General discussion

These results extend our understanding of the differential links between primary school children's emotional adjustment and coping and highlight the role played by appraisals and goals in conflict situations. In study 1, we confirmed the differential links of depression and social anxiety with the approach coping strategies of problem-solving and social support seeking across six scenarios of varying interpersonal stress. In study 2, we confirmed the differential links of depression and social anxiety with both approach and avoidance coping strategies across scenarios. We additionally found that these links between adjustment and coping are, to a certain extent, mediated by children's appraisals of controllability of stress, and the goals they seek with respect to interpersonal conflict.

Firstly, we propose that these results can be understood in relation to both theoretical frameworks outlining the convergence and divergence of depression and social anxiety (e.g., Clark & Watson, 1991; Laurent & Ettleson, 2001; Ingram et al., 2001) and empirical research into links between these disorders and coping. Secondly, we believe our results provide empirical evidence, in line with theories of information processing biases (e.g., Crick & Dodge, 1994), that these links may be explained by children's appraisals and goals in conflict situations.

We suggest the findings in study 1 and study 2, which revealed divergence between depression and social anxiety in terms of problem-solving and social support seeking, can be understood by differences regarding affect and cognitive information-processing biases (e.g., Burgess et al., 2006; Kyte & Goodyer, 2008). The association of social anxiety with greater perception of threat also supports this finding, with Zimmer-Gembeck and Skinner (2008) making the point that 'situations perceived as more

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threatening prompt certain emotions and coping strategies, such as more fear and more use of escape, withdrawal and support seeking' (p. 4-5). This can be explained, to some extent, within Crick & Dodges (1994) model and provides support for the finding in study 2 that social anxiety is related to increased escape and pro-social goals, suggesting that the aim of social support is to either remove oneself from conflict situations, or reach amicable outcomes. Depression, in contrast was related to less social support seeking in both studies. An explanation for this lies with the feelings of hopelessness associated with depression and uncontrollable events (Crick & Dodge, 1994; Seligman, 1975), which are liable to result in less adaptive goals (e.g., goals that are not pro-social in nature), and hence less so in strategies expected to lead to more positive social outcomes (e.g., problem-solving or social support seeking). In fact, in study 2, the finding of no direct association between depression and social support seeking indicates that depressed children's lower use of this strategy is fully mediated by both a lack of pro-social goals and possible indifference about escaping from conflict situations. This supports the argument regarding feelings of hopelessness and diminution of more adaptive goals. However, although social anxiety *and* depression were both related to appraising scenarios as less controllable, control appraisals had no impact upon social support seeking tendencies.

Similarly, social anxiety in both studies was linked to more problem-solving whereas depression was linked to less. This can be explained both by the poorer social skills associated with depression (Sergrin, 2000), but also by reduced motivational goals to avoid or escape from stressful encounters, goals that some forms of problem-solving (e.g., doing what it takes to end a conflict) could clearly help facilitate. Indeed, the

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revelation that the negative link between depression and problem-solving was reduced somewhat after taking into account escape goals offers tentative evidence for this notion. Coupled with the fact that depressed children have been shown to pursue fewer pro-social goals (Lochman et al., 2003), we argue that depression is often a real barrier to problem-solving and that this may be due in part to having inappropriate goals (e.g., having no drive to change a problematic situation). In terms of social anxiety, we already argue that motivation to 'ward off perceived threat' offers some explanation for a greater use of problem-solving. We believe the present findings offer evidence that the motivation to ward off threat may lead to both escape and pro-social goals, mediating the link between social anxiety and problem-solving found in both study 1 and study 2.

The finding that internalising coping was associated with social anxiety and not depression supports the case made in the introduction that previous links found between internalising and depression (Kochenderfer-Ladd & Skinner, 2002) may have been confounded with co-morbid social anxiety. It is likely, therefore, that the key features of social anxiety (e.g., worry and fearfulness) are more related to internalising coping (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002) than the key features of depression (e.g., helplessness). We also found evidence that socially anxious children's appraisal of situations as uncontrollable and their escape goals were linked to more internalising, though neither fully accounted for the association between social anxiety and internalising, perhaps because of the close conceptual overlap between social anxiety symptomatology and internalising coping; furthermore, in the case of the role played by escape goals, it is also obvious that ruminating over a problem is ultimately counter-productive in any effort to avoid the problem.

As found in our previous study (Wright et al., 2010), distraction was positively associated with social anxiety and negatively associated with depression. This supports our expectation that unlike children with depressive symptoms, children higher in social anxiety seem able to use distraction as a way of coping with stressful interactions. This can be understood to a degree within the tripartite model (Clark & Wells, 1991), which proposes no deficit in positive affect with regard to anxiety, bearing in mind that in the present study, distraction involved focusing on 'other' less negative things. Of most interest regarding this finding however were the mediation effects of appraisals and goals. We found that the link between social anxiety and distraction was fully mediated by appraisals of scenarios as uncontrollable and that associations of both social anxiety and depression with distraction were fully mediated by both escape and pro-social goals. Coupled with the finding regarding problem-solving and social support seeking discussed above, it seems that while socially anxious children may seek out strategies more proactive in nature to deal with threat, in the face of less controllable stressful encounters, they additionally resort to 'mental escape', also explaining the mediation effects of escape goals on distraction, which could help to 'take them out' of these encounters. At the same time, we believe the additional, albeit weaker mediation effects of pro-social goals may facilitate distraction to the extent that this kind of mental escape could be motivated by a desire to act to reduce the likelihood of escalating conflict. The negative link with depression on the other hand can be explain by a greater tendency for rumination (Hong, 2007; Meerum Tergot & Kraaij, 2006; Reijntjes et al., 2006) and greater focus on past failures (Kyte & Goodyer, 2008), both serving to hinder mental escape from present problems by thinking about other things. The link between

depression and distraction was mediated by both types of goal, but in an opposite pattern to social anxiety. This suggests that the reduced motivation to escape from conflict, or seek amicable outcomes associated with depression, leads to inappropriate goals and less adaptive coping - in this case, an inability to 'take one self out' of problematic scenarios.

Lastly, depression was positively associated with externalising, as hypothesised and in line with previous research (Asarnow, Carlson & Guthrie, 1987; Dise-Lewis, 1988; Murberg & Bru, 2005; Wright et al., 2010). We argue that poor social skills (Sergrin, 2000), information-processing biases leading to a sense of hopelessness (Seligman, 1975; Kyte & Goodyer, 2008) and a paucity of possible responses in one's repertoire may result in greater aggressive responding. However, although depression was negatively related to appraisals of control and with both types of goal, no mediation effects were found. Thus, externalising responses to stressors among children high on depression can be seen as maladaptive 'venting' of emotions (Fields & Prinz, 1997), rather than a consequence of particular appraisals or goals.

The main point we draw from the present research is the role played by children's appraisals and goals regarding peer conflict in understanding the unique coping profiles associated with social anxiety and depression. We suggest that affective differences outlined by the tripartite model (Clark & Watson, 1991) and differences in information-processing biases (Banerjee, 2008; Crick & Dodge, 1994; Kyte & Goodyer, 2008) lead to diverging appraisals and goals for children high in social anxiety versus depression, resulting in enhancement or restraint in the use of various coping strategies. By working on children's interpretation of stressful events and subsequent goal orientations,

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clinicians may have greater success in implementing more effective ways of coping, as interventions for these disorders.

A limitation of this research was the self-report nature of coping with peer conflict. Although this has been a useful method of understanding children's intended behaviour, future research could involve in vivo situations of interpersonal stress and other-report based on observations. While we recognise the hypothetical nature of children's coping responses to stress in the present studies (e.g., what social anxious children say they will do to cope may not necessarily reflect actual in vivo behaviour), in the case of children with social anxiety, there is clear evidence of an understanding of which strategies are appropriate/effective and an orientation towards using them, whereas these features are not characteristic of depression. Also, in an attempt to reduce the number of responses children had to make, measures of appraisals and goals consisted of only single items. While there was good evidence that these mechanisms influence coping, multiple item measures, similar to those used in previous research (e.g., Hunter, Boyle & Warden, 2004; Lochman et al., 1993) may have yielded stronger results.

In conclusion, primary school children's reported use of coping strategies to deal with peer conflict are reliably and differentially related to social anxiety and depression. In general, social anxiety is related to a wide array of potentially adaptive coping responses as well as internalising responses, while depression is related to generally less adaptive coping. Furthermore, it appears that the appraisals and goals children have, driven by affective differences and information-processing biases, offer some explanation regarding their coping differences and challenge us to be specific about the way we address these disorders for more effective intervention outcome.

Paper 4: Depression and Social Anxiety in Children: Links with coping strategies over 2 years

Abstract

A substantial body of evidence exists linking the strategies children use to cope in stressful situations with their emotional adjustment, but little evidence exists regarding the nature of these links over time. The present study tested associations between social anxiety and depression and children's coping strategies over two years, with peer acceptance and rejection as potential moderators. A total of 270 8-11-year-old children completed depression, social anxiety and coping scales and a sociometric survey, with follow-ups one- and 2-years later. Results revealed that over a year, depression was positively predicted by internalising and externalising coping behaviours, and negatively predicted by distraction. Social anxiety was predicted by internalising only, and there was also an unexpected positive association between problem-solving and depression. In the other direction, depression predicted increased internalising and trivialising, while social anxiety predicted increased internalising and lower externalising. Some of these effects interacted with levels of peer acceptance and rejection. However, our analyses showed no significant effects over two years, with the unexpected exception of problem-solving predicting greater social anxiety. The present findings shed light on the relationships between coping and adjustment over time and highlight both stability and change in these associations.

Introduction

There is now extensive evidence linking children's symptoms of depression and social anxiety to the coping strategies they endorse for managing stressful situations (Fields & Prinz, 1997; Compas, Connor-Smith, Saltzman, Thomsen & Wadsworth, 2001; Wright, Banerjee, Hoek, Reiffe & Novin, 2010). However, there are important unresolved main issues regarding the measurement of children's coping and adjustment. Firstly, there is the problem of whether stability exists in children's use of coping strategies over time. Secondly, while some evidence exists regarding links between coping and depression and social anxiety over relatively short periods (e.g., less than a year) little research exists linking coping and these adjustment characteristics over longer periods of time.

While there is evidence of coping stability during childhood (e.g., Herman-Stahl, Stemmeler & Petersen, 1995; Fields & Prinz, 1997), this is also recognised as a period of great flux regarding the use of coping strategies (Fields & Prinz, 1997; Compas et al., 2001; Skinner & Zimmer-Gembeck, 2007; Zimmer-Gembeck & Skinner, 2008). For example, during the early school years children rely heavily on adult support for dealing with stressors, with relatively little use of cognitive coping, whereas by secondary school, children come to rely less on adult support and increasingly on more complex cognitive strategies (Losoya, Eisenberg & Fabes, 1998; Zimmer-Gembeck & Skinner, 2008). At the same time, evidence has indicated that levels of children's problem-solving coping tend to remain consistently high throughout childhood (Fields & Prinz, 1997).

The two main theoretical approaches to coping propose coping as either 'styles/traits', which remain relatively stable over time (Goldstein, 1973; Kavsek &

Seiffge-Krenke, 1996) or 'coping strategies' (transactional models) whose use varies coping from situation to situation (Lazarus & Folkman, 1984; Roth & Cohen, 1986). Although coping styles may provide a better measure of stability over time, Lazarus and Folkman (1984) point out that the predictive value of coping style assessments have been relatively poor in relation the actual ways in which people cope. This is partly due to the fact that coping styles do not take into account the extent to which individuals use different strategies in a given situation. And while coping styles have been effective in predicting adjustment outcomes over time (e.g., Herman-Stahl et al., 1995), they only tend to be effective when based on coping with non-specific stressors, e.g., what individuals would do to deal with a general problem. When based on specific stressful situations, however, coping styles tend to provide relatively poor predictive ability (Lazarus & Folkman, 1984). In contrast, the coping strategies approach, based on specific stressors, has provided greater predictive ability with regard to emotional adjustment. The present study includes a coping instrument based on transactional models to measure the use of multiple coping strategies over time in response to a specific stressful situation.

There are good empirical reasons to expect coping to serve as a precursor to social anxiety and depression. Firstly, some research has already shown that avoidant, ruminative strategies have been predictive of children's depressive symptoms over time (Abela, Brozina & Haigh, 2002; Herman-Stahl et al., 1995). Secondly, coping strategies considered to be generally more adaptive have been incorporated into research for treatment programs designed to alleviate the symptoms of social anxiety and depression (Horowitz & Garber, 2006; Kendall, 1993; Spence, Donovan & Brechman-Toussaint,

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2002). However, Wright et al. (2010) found that over the course of 9 months, rather than coping predicting changes in children's symptoms of depression and social anxiety, these conditions in fact predicted changes in various coping strategies. What is more, the pattern of results confirmed that coping strategies were differentially related to depression and social anxiety. Whilst it is somewhat surprising that depression and social anxiety were not predicted by coping strategies in Wright et al.'s (2010) study, there were nonetheless good theoretical reasons to have expected these conditions to predict coping. Cognitive processes outlined in models of depression and anxiety (see reviews by Banerjee, 2008; Kyte & Goodyer, 2008) and models of social information-processing (e.g., Crick & Dodge, 1994) suggest that these conditions may influence ways of coping. For example, motivational deficits and feelings of helplessness associated with depression (see Seligman's, 1975 learned helplessness theory) may inhibit the use of more proactive coping strategies and result in more ruminative or aggressive strategies. Processes related to more anxious behaviours (e.g., attention to threat) are likely to result in avoidance of threatening situations. Additionally, Wright et al. (2010) found that the extent to which children were accepted or rejected by their peers acted as a moderator in the link between coping and adjustment (e.g. peer acceptance reduced the link between depression and lower problem-solving).

Although there are clearly good explanations for why depression and social anxiety predict children's use of coping, why despite seemingly good justification did coping not predict social anxiety and depression in Wright et al.'s (2010) study? One possibility - as highlighted above - is that coping during this age is in a state of fluctuation, i.e., children's use of coping is less consistent compared with adolescents and

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adults. Losoya et al. (1998), for example, found that while the use of aggressive and avoidant coping were relatively consistent over time, use of positive restructuring and support seeking were generally not as consistent. This period of transience in children's coping, due in part to the increasing use of meta-cognitive strategies (Fields & Prinz, 1997), may mean that some forms of coping are yet to have a significant impact on children's subsequent adjustment. Also, regarding social stressors involving peers, children who are the source of stress (e.g., the *other* child involved in a peer conflict) may respond less predictably to coping efforts compared with adolescents and adults. This may result in children altering coping efforts which might otherwise have been appropriate and adaptive for the situation at hand.

Lastly, there is the possibility that while coping may not have short to medium term effects on depression and social anxiety (e.g., up to a year), they may contribute to or alleviate these symptoms in the longer term, as strategies become more habituated regarding particular situations, and as children experience more regular outcomes as a result of using these strategies. Since we do not have data on the situational efficacy of coping strategies, it is not clear if problem-solving, social support seeking, distancing and trivialising will serve to reduce negative emotion, particularly as the effectiveness of these strategies relies, to some degree, on specific skills and mastery. However, it seems plausible that internalising and externalising will, over time, lead to an amplification of emotional difficulties as they are inherently more negative ways of coping.

This paper reports on a follow-up of the Wright et al. (2010) study, 12 and 24 months after their second timepoint, with the same sample of children. The first aim of the present study was to examine the stability of key measures of coping and adjustment

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over time. As suggested previously, evidence has shown that children's use of problem-solving, and aggressive and avoidant coping remains relative stable over time, whereas use of support seeking and cognitive strategies have been relatively unstable over time. Of the six coping strategies used in the present research, over 12 and 24 months, we expect the use of problem-solving, internalising and externalising to remain relatively stable, and the use of social support seeking, distraction and trivialising to be relatively unstable. Due to ingrained information-processing biases associated with social anxiety and depression, we also expect these adjustment variables to remain relatively stable over time.

The second aim was to examine the links between coping and adjustment over 12 and 24 months. We evaluated three possibilities regarding the effects of adjustment on subsequent coping: 1) social anxiety and depression continue to predict increases in the same variables (as found in Wright et al., 2010) over a longer timeframe, suggesting that the use of particular coping strategies is related to enduring patterns of behaviour that result from greater symptoms of social anxiety and depression; 2) social anxiety and depression begin to predict different coping variables (i.e., not the same ones predicted in Wright et al., 2010) over a longer timeframe, suggesting that different coping responses become more important consequences of social anxiety and depression as children become older; and 3) social anxiety and depression do not predict *any* coping variables over a longer timeframe, suggesting that the developmental experiences in the intervening period are too complex to allow for any long-term predictions of coping behaviours by emotional characteristics.

Also, as discussed above, we evaluated the hypothesis that adjustment

consequences of coping in particular ways will start to accrue over a longer timeframe

(i.e., as children get older, a tendency to cope in specific ways has consequences for

levels of social anxiety and depression). Specifically, we expect internalising and

externalising, which tend to be relatively ineffective strategies, to predict greater

symptoms of social anxiety and depression over time. In all analyses, similar to findings

reported by Wright et al. (2010), we also explore children's levels of peer acceptance and

rejection as potential moderators of the links between coping and adjustment over time.

Method

Participants

A total of 270 children aged 8 to 11 years attending local primary schools in

Warwickshire took part over the course of this 2 year study, with data collected at three

timepoints in the summer term of each school year[6]. We do not have pupil-level data on

demographic features, but the schools in the sample were mainly located in rural areas,

with pupils of primarily white ethnicity (> 90%) and from a range of socio-economic

backgrounds, though generally higher than the national average (e.g., 1 school with above

average numbers of pupils eligible for free school meals, 3 schools with average

numbers, and 8 schools with below average numbers) In the first year (time 1) 270

children from 9 schools took part in the study. Of the 270 children that began the study

at time 1, 169 took part at time 2, with 117 taking part at time 3 who were involved at

every timepoint. Very little of the attrition within school years was the result of children

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[6] The first of the timepoints was Time 2 from Wright et al. (2010).

moving from the school area or due to child or parent refusal ($< 5\%$); the vast majority of attrition between school years was the result of year 6 (final-year) children moving onto secondary school.   The children were involved in an ongoing study into mental health and peer relations commissioned by the local educational authority, whereby whole classes in each school volunteered to participate in the research. Schools provided informed consent for data collection in the participating classes, and parents were provided with full information regarding the project and were able to refuse to allow participation. We obtained participation rates of greater than 95% at each timepoint. At every data collection session, the children themselves were advised verbally that they did not have to take part in the study and that they could withdraw at any time.

Measures

Four measures were used in this study which were completed at all 3 timepoints.

To assess children's coping responses in a problematic peer situation, a modified version of the Self-Report Coping Scale (SRCS) was used (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002; Wright et al., 2010), containing 29 items. The questionnaire included six subscales measuring problem-solving, social support seeking, internalising, externalising, distraction and trivialising. The coping measure describes a specific peer experience: "Imagine that another child was being mean to you by calling you bad names or hitting and pushing you. What would you do? There are all kinds of things that children could do if they were being picked on." Children were then asked to indicate how much they would use each of the 29 coping responses on a 5-point scale. We retained Kochenderfer-Ladd and Skinner's (2002) focus on a specific 'peer problem' stressor in order to avoid having children respond to coping strategies with respect to a

range of unknown stressors. Although the measure focuses on self-reported coping in response to a specific stressor, Causey and Dubow (1992) have shown that the self-reported coping strategies in the SRCS are related to peer reports of actual coping behaviour in different situations.

The Children's *Depression* Inventory-short form (CDI-S) (Kovacs, 2003) included 10 items, for each of which participants were asked to select one of three statements varying in the degree of symptom severity. The scale has been found in previous research to have excellent reliability and validity (Storch et al., 2007). In the present sample, the items were scored from 1 (least depressive) to 3 (most depressive), and children received a mean score across all items, $\alpha = .83$ at time 1, $\alpha = .81$ at time 2 and $\alpha = .85$ at time 3.

The *Social Anxiety* Scale for Children – Revised (SASC-R) (La Greca & Stone, 1993) included 18 statements describing social fears and worries, along with four filler items. The items related to fear of negative evaluation, social avoidance and distress in novel situations, and social avoidance and distress in general. Children were asked to indicate how often each statement was true for them, on a scale from 1 ('not at all') to 5 ('all the time'). The scale has been found in previous research to have excellent reliability and validity (Findlay, Coplan & Bowker, 2009). In the present study, children received a mean score across all items at each time point, $\alpha = .92$ at time 1, $\alpha = .90$ at time 2 and $\alpha = .92$ at time 3.

Peer acceptance and rejection were assessed using a sociometric survey (Coie & Dodge, 1983). Children were given a class roster and asked to nominate 'the three children they would most like to play with' and 'the three children they would least like

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to play with' in their class. The numbers of nominations received were standardized within each class to create peer acceptance (most-liked) and peer rejection (least-liked) scores for each participant.

Procedure. At each timepoint, children completed the social anxiety and coping measures in a whole-class setting with all instructions and questions read aloud by their class teachers. The remaining measures were completed in groups of around 6 pupils, with all instructions and questions read aloud by psychologists.

Results

Stability of measures over time

Pearson's correlational analyses were conducted to examine the stability of measures between the three timepoints. Results displayed in Table 18 show that all measures remained significantly stable over the 2 years, with the exception of distraction.

Associations between coping and adjustment

In the main analyses, four hierarchical regression analyses were conducted to examine the longitudinal associations between the six coping subscales, depression, social anxiety and peer acceptance and rejection using cross-lagged panel analysis. All variables were mean centred to allow for the testing of interaction terms. The first two regressions included variables from times 1 and 2, making up the first cross-lagged analysis and the second two regressions included variables from times 1 and 3, making up the second cross-lagged analysis.

Table 18. *Correlational analyses showing stability of coping, depression, social anxiety, peer acceptance and peer rejection over time (lowest n=90)*

	Corresponding measure at Times 2 and 3	
Measure Time 1	Time 2	Time 3
Coping		
Problem-solving	.26**	.21*
Seeking social support	.42***	.32**
Internalising	.43***	.35***
Externalising	.35***	.24*
Distraction	.29***	.07
Trivialising	.31***	.37***
Adjustment		
Depression	.38***	.24*
Social anxiety	.43***	.41***
Peer status		
Peer acceptance	.45***	.35***
Peer rejection	.57***	.37***

†$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$ (all two-tailed)

Table 19. *Hierarchical regression analyses predicting depression and social anxiety at Time 2 from coping strategies at time 1 (lowest n=138)*

	Time 2 Adjustment			
	Depression		Social Anxiety	
Time 1 Predictors	R^2	β	R^2	β
Step 1				
Time 1 Adjustment	.14	.35***	.16	.40***
Step 2				
Peer acceptance (PA)	.15	-.03	.17	-.01
Peer rejection (PR)		.14		-.12
Step 3				
Problem-solving (PROB)	.23	.18*	.23	.04
Social support seeking (SSS)		.02		.01
Internalising (INT)		.16†		.32**
Externalising (EXT)		.14†		-.07
Distraction (DIST)		-.26**		-.03
Trivialising (TRI)		.07		.05
Step 4 INT x PR	.38	-.22*	.33	
EXT x PR		.34***		
DIST x PR		-.24†		

Note: The R^2 change for step 4 was not significant for social anxiety.

†*p* < .10, *p < .05, **p < .01, ***p < .001 (all two-tailed).

Table 20. *Hierarchical regression analyses predicting coping strategies at time 2 from depression and social anxiety at time 1 (lowest n=139)*

	Time 2 coping strategies											
	Problem-solving		Seeking social support		Trivialising		Externalising		Internalising		Distraction	
Time 1 Predictors	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β
Step 1												
Corresponding Time 1 coping strategy	.07	.27**	.19	.44***	.12	.33***	.13	.36***	.18	.42***	.09	.30***
Step 2												
Peer acceptance (PA)	.08	.04	.21	.06	.17	.23*	.15	-.02	.18	.02	.10	-.04
Peer rejection (PR)		-.09		-.12		-.02		.13		-.04		-.17†
Step 3												
Depression (DEP)	.09	-.01	.21	.04	.22	.23*	.18	.06	.20	.13	.12	.09
Social anxiety (SA)		-.07		.02		-.03		-.20*		.03		.01
Step 4												
DEP * PR	.12		.24		.25		.19		.26	.26*	.14	
SA * PR										-.35**		

Only significant interaction terms are shown in step 4 when *R²* change is significant
†*p* < .10, **p* < .05, ***p* < .01, ****p* < .001 (all two-tailed).

The first of the four sets of analyses examined each of the coping strategies at Time 1 as separate predictors of social anxiety and depression at Time 2, after controlling for social anxiety and depression at Time 1, with peer acceptance and rejection entered as moderator variables (i.e., interactions with coping). The results displayed in Table 19 revealed the following significant associations between coping strategies and emotional adjustment over and above the stability in emotional adjustment: 1) Depression was positively predicted by problem-solving, internalising, and externalising and negatively predicted by distraction; 2) Depression was also predicted by the externalising x peer rejection, internalising x peer rejection, and distraction x peer rejection interactions. Follow-up analyses of the three interaction effects were conducted by creating simple slopes for the relationship between the independent variable (in this case internalising, externalising or distraction) and the dependent variable (depression or social anxiety), with the moderators (peer acceptance or rejection) specified at values of the mean and 1 *SD* above and below the mean (see Preacher, Curran & Bauer, 2006).

The first interaction probed revealed that when peer rejection is high (i.e., 1 *SD* above the mean), the slope relating Time 1 externalising to Time 2 depression is significantly positive ($b = 0.22$, $p < .001$), becoming less positive and non-significant at the mean level of peer rejection ($b = 0.06$, $p > .05$), and at 1 *SD* below the mean ($b = -0.10$, $p > .05$). The second interaction showed that when peer rejection is low, the slope relating Time 1 internalising to Time 2 depression is significantly positive ($b = 0.13$, $p < .01$), becoming less positive, but still significant at the mean level of peer rejection ($b = 0.07$, $p < .05$), and non-significant at 1 *SD* below the mean ($b = 0.01$, $p > .05$). The third interaction showed that when peer rejection is high, the slope relating Time 1 distraction

to Time 2 depression is significantly negative ($b = -0.20$, $p < .001$), becoming less negative, but still significant at the mean level of peer rejection ($b = -0.12$, $p < .05$), and less negative at 1 *SD* below the mean ($b = -0.04$, $p > .05$).

The second analysis examined depression and social anxiety at Time 1 as separate predictors of coping at Time 2, after controlling for coping scores at Time 1, with peer acceptance and rejection entered as moderators. The results displayed in Table 20 revealed the following associations between emotional adjustment and coping strategies over and above the stability in coping: 1) Internalising was predicted by the depression x peer rejection interaction and by the social anxiety x peer rejection interaction; 2) Externalising was negatively predicted by social anxiety; and 3) Trivialising was positively predicted by depression.

The first interaction probed revealed that when peer rejection is high (i.e., 1 *SD* above the mean), the slope relating depression to internalising is significantly positive ($b = 0.85$, $p < .05$), becoming less positive and non-significant at the mean level of peer rejection ($b = 0.35$, $p > .05$), and at 1 *SD* below the mean ($b = -0.16$, $p > .05$). The second interaction revealed that when peer rejection is low, the slope relating social anxiety to internalising is significantly positive ($b = 0.36$, $p < .05$), becoming less positive and non-significant at the mean level of peer rejection ($b = 0.08$, $p > .05$), and at 1 SD above the mean ($b = -0.20$, $p > .05$).

Table 21. *Hierarchical regression analyses predicting depression and social anxiety at Time 3 from coping strategies at time 1 (lowest n=91)*

Time 1 Predictors	Depression		Social Anxiety	
	R^2	β	R^2	β
Step 1				
Time 1 Adjustment	.12	.26***	.15	.38*
Step 2				
Peer acceptance (PA)	.13	-.06	.17	.04
Peer rejection (PR)		.09		-.12
Step 3				
Problem-solving (PROB)	.22	.01	.22	.23†
Social support seeking (SSS)		-.08		.03
Internalising (INT)		.11		-.02
Externalising (EXT)		.06		-.05
Distraction (DIST)		-.18		-.20
Trivialising (TRI)		-.13		.00

Note: Step 4 not displayed as the R^2 change was not significant for either depression or social anxiety. †$p < .10$, *$p < .05$, ***$p < .001$ (all two-tailed)

The next analysis examined each of the coping strategies at Time 1 as separate predictors of social anxiety and depression at Time 3, after controlling for social anxiety and depression at Time 1, with peer acceptance and rejection entered as moderators. The results displayed in Table 21 revealed that over and above the stability in emotional

adjustment, the only significant finding was that problem-solving positively predicted social anxiety.

The final analysis examined depression and social anxiety at Time 1 as separate predictors of coping at Time 3, after controlling for coping scores at Time 1, with peer acceptance and rejection entered as moderators. This analysis revealed no significant effects beyond the stability of depression and social anxiety over time (all other main effects and interaction effects, $p > .05$).

Discussion

The current findings present a broad picture of how the relationship between children's coping strategies and emotional adjustment changes over time during the crucial primary school years. They also reveal significant stability in children's coping, adjustment and peer status over a two-year period. These results add to existing evidence that children's emotional adjustment predicts the coping strategies they use to deal with peer conflict (Wright et al., 2010) and also reveal that over the course of a full year, children's coping strategies predict changes in emotional adjustment. However, they also reveal that associations between coping and adjustment disappear almost entirely over a two-year period, suggesting links between primary school children's coping and adjustment do not endure over longer periods of time.

These findings can be explained within cognitive and behavioural models that describe the conditions of social anxiety and depression (see Banerjee, 2008; Clarke & Watson, 1991; Kyte & Goodyer, 2008) on the one hand, and within existing empirical literature indicating that use of coping impacts upon emotional adjustment on the other. Starting with the finding that coping strategies predicted emotional adjustment over one-year, the fact that internalising coping positively predicted social anxiety and depression supports previous research that children's internalising is related to anxious-depressed tendencies (Kochenderfer-Ladd & Skinner, 2002). This is also consistent with the tripartite model of anxiety and depression (Clarke & Watson, 1991), which proposes a component of negative affect (e.g., upset, guilt, worry etc) - common to both conditions - that has somewhat similar characteristics to internalising. The items of worry and fearful anticipation in the internalising subscale are hallmarks of socially anxious cognitions

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(Banerjee, 2008), explaining why internalising would predict social anxiety. At the same time, the ruminative, negative tendencies in depression outlined in Beck's (1967) theory explain to some extent the relationship between depressive symptoms and internalising.

Externalising coping positively predicted depression, consistent with previous findings (Murberg & Bru, 2005). Cognitive deficits outlined in the learned helplessness theory (Seligman, 1975) and a perceived inability to control outcomes may lead depressed children to 'lash out' in a desperate attempt to gain control of stressful situations, particularly as increased social competence deficits associated with the condition mean they may lack the ability to execute more effective strategies. Building on Wright et al.'s (2010) evidence regarding externalising as a consequence of depression, the fact that aggressive coping predicted depression in the present research suggests that depressed children's tendency to cope aggressively may exacerbate existing depressive symptoms. Though both internalising and externalising coping positively predicted depression, interaction results revealed differential moderating effects of peer rejection. Specifically, externalising predicted depression when peer rejection was high, whereas internalising predicted depression when peer rejection was low. The former finding suggests that for children disliked by their peers, aggressive coping is especially detrimental, whereas as Kochenderfer-Ladd & Skinner (2002) found - at least among boys - externalising was related to fewer depressive symptoms when they do not have problematic peer relations (e.g., when they are not victimised). On the other hand, our finding suggests that for children *low* in rejection, use of internalising coping leads to more depressive symptoms. This seems counterintuitive, but it is possible that

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internalising tendencies in the absence of peer rejection (i.e., even when other social responses should be more viable) are especially predictive of increases in depression.

Also, depression was negatively related to distraction, supporting previous research (Reijntjes, Stegge & Meerum Tergwogt, 2006; Wright et al., 2010). However, unlike the previous studies where depression predicted subsequently lower distraction, in the present study the reverse temporal sequence was true with distraction predicting subsequently fewer depressive symptoms. Cognitive theories suggest that ruminative tendencies associated with depression may render distraction difficult. It seems that children who are able to 'take their mind' off of a problematic situation are less likely to have depressive symptoms, suggesting that engagement in this kind of coping when faced with interpersonal stress may act to reduce children's depressive symptoms. This also fits with adult research on response styles, which suggests that a distractive response style leads to shorter depression episodes than a ruminative response style (Nolen-Hoeksema, 1991). Interestingly, the additional finding that higher distraction scores predicted lower depression only when peer rejection is high suggests that a capacity for distraction may be particularly important for children whose social experience is significantly negative.

Finally, problem-solving coping predicted subsequent depression, which was somewhat unexpected. However, one possible explanation may lie in the observation by Causey and Dubow (1992) that internalising is related to both avoidance and approach coping. In fact, they argued that internalising items such as 'I worry about it' are actually oriented towards stress, at least cognitively, in a similar way to mulling over a problem. Previous researchers have suggested that anxious children's responses may be 'problem-focused by nature' (Daleiden & Vasey, 1997, p. 418), but if this problem-focused

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behaviour involves overly ruminative thoughts, then there is the real possibility that this may fail as a problem-solving strategy and instead be a risk factor for subsequent depression in the same way rumination can be. In a corresponding way, we also found that problem-solving predicted increases in social anxiety over 24 months. Clearly this requires further explanation, but it is possible that earlier social anxiety leads to relatively unsuccessful problem-solving attempts which in turn results in future anxiety.

Turning next to emotional adjustment as a predictor of subsequent coping, the first finding that social anxiety predicted lower externalising was expected and confirms previous findings (Wright et al., 2010). The behavioural profile of socially anxious children of withdrawal and low assertiveness (Rubin, Daniels-Beirness & Bream, 1984) is consistent with looking inwards in conflict situations rather than yelling and shouting in an aggressive manner in an attempt to control a situation. The longitudinal findings here imply that social anxiety leads to progressively less of this kind of aggressive behaviour over 12 months. Depression on the other hand predicted increased trivialising, which was not expected, particularly as this subscale included items of positive restructuring, which in previous research had been negatively associated with depression (Garnefski et al., 2006). However, the trivialising subscale in the present study combined items of distancing (e.g., 'I ignore the problem' and positive restructuring (e.g., I tell myself it doesn't matter), both of which could in fact reflect a failure to cope proactively - a sign of hopelessness, which is a core feature of depression (Seligman, 1975). Depression also predicted increased internalising, but only when peer rejection was high. This is consistent with the ruminative problems associated with depression and suggests that when depressive children have less problematic peer relations, their symptoms are

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less likely to be compounded by negative coping cognitions. Lastly, over a year social anxiety predicted increased internalising, as found previously by Wright et al. (2010). However, unexpectedly, this effect was found to be strongest in children with *lower* levels of peer rejection. This may be an anomalous result and needs to be investigated in future research.

The fact that children's reported use of coping strategies - with the exception of distraction - remained significantly stable over two years suggests that children do, to some extent have habitual coping responses, at least regarding this specific conflict situation. That the use of distraction remained significantly stable over the course of one year only, suggests that children's use of more subtle cognitive strategies are still developing during primary school (Fields & Prinz, 1997; Losoya et al., 1998). For this reason it was somewhat surprising that trivialising remained significantly stable over two years, as in a similar way to distraction, cognitive reframing of stressful situations was expected to be developmentally advanced and therefore show less stability during primary school. One explanation for this is that the dismissive responses that the trivialising subscale is comprised of, requires less cognitive maturity than more imaginative distractive responses. Further research is needed to provide a robust evidence base regarding the longitudinal trajectories for the subtly different cognitive coping strategies.

Conclusions

The associations between coping and emotional adjustment in the present study provide evidence that in the medium term primary school children's use of coping can predict later symptoms of social anxiety and depression. Although children's coping

strategies have predicted adjustment in previous studies over a number of weeks (e.g., Abela et al., 2002), in other studies coping has not predicted adjustment over a number of months (e.g., Wright et al., 2010). The present results suggest that, over a period of a year at least, coping strategies appear to impact upon children's emotional adjustment, particularly symptoms of depression. Moreover, we continued to find evidence that individual differences in social anxiety and depression predict changes in the use of various coping strategies over the following year and that peer relations play a moderating role in these relationships. However, these associations between coping and adjustment do not appear to hold up over a two year period, implying that the social experiences over a 24 month period complicate the links between coping and adjustment.

Overall conclusions

Transactional models of coping with stress (e.g., Lazarus & Folkman, 1984; Roth & Cohen, 1986; Rothbaum et al., 1982) have provided an excellent framework within which to examine the use of different coping strategies to deal with specific stressful situations. These models, which define coping as process-oriented rather than trait-like, consider the specific demands of a given situation, the appraisals and goals one has regarding the situation, and the resources at one's disposal in order to attempt to cope successfully with stress (Lazarus & Folkman, 1984). The subsequent coping strategies adopted to manage stressful situations have been associated with children's adjustment outcomes (Fields & Prinz, 1997; Compas et al., 2001), and these links are both moderated and mediated by other factors including social relations and the cognitive assessment of each specific stressor. The present thesis has examined links between the strategies children choose to manage peer conflict and their emotional adjustment, within the framework of transactional models of coping.

While evidence has shown that children's choice of coping strategy can predict symptoms of social anxiety and depression in children over time (Arbela et al., 2002; Herman-Stahl et al., 1995), theories of social anxiety and depression (see reviews by Banerjee, 2008; Kyte & goodyer, 2008) provide an equally valid rationale as to why these conditions should act as antecedents of children's choice of coping in specific ways. There has also been good evidence to suggest that one's social relations, particularly the extent to which children are accepted or rejected by their peers, may moderate this relationship between coping and adjustment (Eckenrode, 1991). And at the same time - as proposed in transactional models - the way in which children appraise potentially

stressful encounters and the goals they have regarding the outcomes can mediate this link between coping and adjustment (Lazarus & Folkman, 1984; Rothbaum et al., 1982).

The main objective of this thesis was to examine the associations between primary school children's strategies for coping with peer conflict and symptoms of social anxiety and depression. Within this broader aim, several research objectives were pursued. An existing coping measure for children - the Self-Report Coping Scale (SRCS) - was adapted and extended, building on preliminary studies considering children's own perceptions of how they thought coping would affect their feelings. In the main analyses, differential links of coping with social anxiety and depression were examined. Children's peer acceptance and rejection were investigated as moderators in the link between coping and adjustment, and appraisals and goals were tested as mediators between coping and adjustment. Finally, the associations between children's coping and emotional functioning were examined longitudinally over one and two year periods.

1. Summary of results

In Paper 1, we considered if the core dimensions of the Self-Report Coping Scale (SRCS) (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002) could be used as a basis for coding children's open-ended coping responses to nine interpersonally stressful situations, and the way in which these strategies are related to children's feelings was investigated. We worked with a primary school sample to examine the extent to which children thought different strategies would change their feelings (study 1.1), and also assessed a mainstream school sample vs. a sample of pupils with emotional and behavioural difficulties at a Pupil Referral Unit to compare differences in the association

between reported use of coping and change in feelings and situational consequences (study 1.2). There were two key findings from study 1.1. First, the results supported the hypothesis that children's coping responses could be meaningfully coded as either problem-solving, social support seeking, internalising, externalising, distancing, distraction and positive restructuring, with an additional category necessary to cover responses of doing nothing to cope. Second, it was revealed that greater reported problem-solving and social support seeking across scenarios were significantly associated with a greater reported improvement in feelings, whereas greater externalising and doing nothing to cope were associated with less improvement (or feeling worse). Study 1.2 built on these links, and also showed that children attending the PRU reported feeling comparatively better than the mainstream sample after reporting greater use of externalising coping, while also expecting poorer situational outcomes following use of other strategies. The pupils in the PRU were also less likely than their mainstream counterparts to identify problem-solving as the most effective strategy and externalising as the least effective strategy.

Paper 2 sought to adapt the SRCS by including additional subscales of distraction and positive restructuring based on core categories identified in reviews of coping (Compas et al., 2001; Skinner et al., 2003) and which were useful for the coding of responses in Paper 1. It was also designed to examine differential associations between coping strategies and social anxiety and depression over 9 months with regard to a single peer conflict situation. In study 2.1, it was predicted that factor analyses would reveal the additional subscales, along with the original SRCS subscales of problem-solving, social support seeking, internalising, externalising and distancing, in a single measure. In study

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2.2 - based on theoretical and empirical evidence (e.g., Clark & Watson, 1991; Stice, Ragan & Randall; Rubin, Daniels-Beirness & Bream, 1984) - it was predicted that symptoms of social anxiety would be associated with the reported use of more problem-solving, social support seeking and internalising, whereas symptoms of depression would be associated with the reported use of less problem-solving, social support seeking and distraction, but more internalising and externalising.

In study 2.1, six internally consistent subscales were identified, including five of the seven hypothesised as well as a subscale labelled as 'trivialising' made up of a combination of conceptually similar distancing and positive restructuring items. These results further validated the use of these coping categories in Paper 1 to code children's open-ended responses. In study 2.2, the key hypotheses that social anxiety and depression would be differentially associated with coping strategies were largely supported. There were however a few divergences from the expected associations. Social anxiety did not predict more reported problem-solving, but did predict more distraction (when peer rejection was low) and less externalising, while depression did not predict more internalising. Also, although the expected negative association between depression and problem-solving was supported, this was only true when peer acceptance was low. However, while adjustment predicted subsequent changes in coping, there were no significant effects in the opposite direction. Trivialising was not associated with social anxiety or depression in any of the analyses.

Paper 3 had two main aims. Firstly, we examined whether the differential associations between coping and adjustment - found in Paper 2 - would hold across several different peer conflict scenarios. Secondly, based on previous research (Hunter &

Boyle, 2004; Chung & Asher, 1996), we examined the extent to which children's appraisals and goals mediate these associations. Study 3.1 examined differential associations between the approach coping strategies of problem-solving and social support seeking, and social anxiety and depression in six different peer conflict situations. Study 3.2 - using a further modified measure of the SRCS - confirmed the associations between coping and adjustment found in Paper 2 across three peer conflict situations and examined the extent to which appraisals (controllable and uncontrollable) and goals (pro-social and escape) mediate these associations. As trivialising was not clearly associated with social anxiety and depression in Paper 2, it was omitted from the SRCS-R in this study. The results of study 3.1 extended the findings from Paper 2 by revealing that problem-solving and social support seeking were negatively associated with depression and positively associated with social anxiety across several peer conflict situations. Study 3.2 revealed that the relationships between coping and social anxiety and depression are to some extent mediated by children's appraisals of control in conflict situations, and by the goals they seek regarding the situations.

Paper 4 extended the findings of study 2.2 by examining the associations between coping and adjustment over longer periods of time. Using the SRCS-R, it firstly examined associations of coping with social anxiety and depression over one year, and then examined these associations over a two-year period. Results revealed unique associations between coping and adjustment over one year, but these associations all but disappeared over two years. In contrast to the findings in study 2.2, findings in paper 4 revealed that coping did predict emotional adjustment over one year, particularly with regard to depression. And although emotional adjustment also predicted coping over one

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year, this pattern was far weaker compared with study 2.2, and the only association between coping and adjustment over two years was the rather ambiguous finding that problem-solving predicted social anxiety.

Across seven studies, a picture emerges of the relationship between children's emotional adjustment and coping strategies with regard to peer conflict. Firstly, children's open-ended coping responses could be meaningfully mapped onto a number of lower order coping categories within the broadband approach vs. avoidance framework, and a modified version of the SRCS provided a measure with six internally consistent subscales of coping. Based on these subscales, children's reports reveal the differential impact of coping strategies on subsequent emotional adjustment, as well as differential consequences of social anxiety and depression for subsequent coping, with evidence that peer relations have a moderating role. Children's appraisals and goals of peer conflict situations, to an extent, mediated the links between coping and adjustment. And finally, associations between coping and adjustment were found to be robust at a single timepoint, moderately evident over 9 months and one year, but all but disappeared over a two-year period. The implications of these results regarding the theoretical conceptualisation of coping, social anxiety and depression will be discussed below, followed by a discussion of the practical implications of these data.

2. Theoretical implications

The associations between children's coping strategies and emotional adjustment presented in this thesis allow us to build on existing theories of social anxiety and

depression on the one hand, and transactional theories and empirical evidence concerning coping on the other. Furthermore, our results help us to map some of the mechanisms outlined in information-processing theories of anxiety and depression onto the processes outlined in transactional coping models, thereby helping us to bridge two important psychological literatures.

Transactional theories of coping (e.g., Lazarus & Folkman, 1984; Roth & Cohen, 1986) propose that specific coping strategies in themselves are not necessarily good or bad, but that it is the effectiveness of coping in a given situation, based on appraisals and goals that can be adaptive or maladaptive. And it is this coping effectiveness that, in the short term may influence subsequent emotions, but in the long-term, influence more general and lasting emotional adjustment (Lazarus & Folkman, 1984). Lazarus and Folkman propose that over time, psychological well-being depends on both the tendencies to appraise events as challenges or to appraise threats as manageable, and the need for coping to be effective across many different encounters. They argue that this profile of a 'competent coper' is likely to result in less stress or mitigate the stress when it does occur. In childhood, it has been shown that an inability to manage stress may ultimately result in conditions such as anxiety and depression in childhood (see review by Compas et al., 2001).

To gain an initial picture of how coping broadly relates to children's emotions, the first two studies asked children what effect they thought coping would have on their feelings. The findings from study 1.1 - that problem-solving and social support seeking were associated with children's improvement in feelings, and doing nothing and externalising were associated with a potential worsening of feelings - suggest that across

a range of interpersonally stressful scenarios, children believe that 'doing something directly' about a problem is the most effective way to manage their emotions. This supports previous research that young children use more direct coping (see Fields & Prinz, 1997), and more importantly shows that they believe this kind of coping is effective to deal with interpersonal stress. These results provide support for transactional models which propose that coping influences subsequent emotions (Lazarus & Folkman, 1984), at least from the point of view of children, and suggest that, over time, coping strategies may act as antecedents to emotional adjustment.

However, cognitive strategies (e.g., distraction and positive restructuring) which have been associated with emotional adjustment characteristics in previous studies (Morrow & Hoeksema, 1990; Garnefski et al., 2006) were generally not linked to an improvement in children's reported feelings in the present research. While theoretical ideas regarding young children's less well developed meta-cognitive abilities (see Compas, 1998; Losoya et al., 1998) appear to offer an explanation as to why these strategies may be ineffective, the study by Garnefski et al. (2006), which involved children around the same age (9-11-years), showed that similar strategies were linked to better outcomes. In their study however, and like most studies on children's coping and adjustment, children were not asked directly how they thought coping would effect their emotions. So, while research has shown that children's use of these more sophisticated cognitive strategies may be linked to better emotional adjustment, the present findings suggest that children themselves may not yet fully appreciate these effects, at least in terms how they think these strategies will influence their immediate emotions.

Interestingly, findings from study 1.2 - that along with problem-solving and social support seeking, secondary school children reported improved feelings after use of distraction and positive restructuring - support the idea that there is a developmental shift from primary to secondary school in children's appreciation of the emotional effects of cognitive strategies. They also reported that these same strategies would improve situations generally in these hypothetical conflict scenarios. This suggests that part of the developmental growth in children's coping comes not just with greater meta-cognitive ability, which has already been suggested, but also with a greater appreciation and understanding of the effectiveness these strategies have.

The findings in study 2.2 that children's coping strategies were differentially related to social anxiety and depression add to the findings regarding coping and its perceived effects on emotions from studies 1.1 and 1.2 by providing a picture of the links between coping and more durable patterns of emotional adjustment. This pattern of differential associations actually provides relatively little evidence for convergence in depressive and socially anxious symptoms with regard to children's choice of coping strategies for dealing with a specific peer conflict situation, but it does indicate clear divergence. For example, the way social support seeking, externalising and distraction were differentially predicted by social anxiety and depression suggest that compared with depressive children, social anxious children have an orientation towards a wider array of strategies with the potential to be more psychologically and behaviourally effective for dealing with peer conflict (see Fields & Prinz, 1997). This divergence - explained in study 2.2 within the tripartite model of anxiety and depression (Clark & Watson, 1991) - can also be explained by the characteristics of social anxiety and depression and within

theories of information-processing. For example, the different cognitive and affective characteristics of each disorder may feed into Crick and Dodge's (1994) model of social information-processing, leading to different interpretations, different goals, different response choices and ultimately different acts of coping. Both the components of the Tripartite model accounting for divergence between anxiety and depression (high physiological arousal and low positive affect, respectively), and the different foci associated with these conditions (focus on future threat and past failure, respectively) go some way to describing the cognitive and affective antecedents that trigger the information-processing mechanisms which result in specific acts of coping. This may explain, for example, why social anxiety and depression in study 3.1 were differentially associated with problem-solving.

The finding in study 2.2 that peer relations moderated some of the links between coping and adjustment can be understood in two different ways. Firstly, in considering other people as a potential coping resource (Lazarus & Folkman, 1984), part of the coping process will involve the appraisal of this 'human' or 'social' resource. Lazarus and Folkman state: 'we see…[these resources] as factors that precede and influence coping…'. With regard to children's appraisals and coping responses, if they reason that social resources are available to them (e.g., they are accepted by peers), they may then have a greater tendency to seek support or engage in social problem-solving. This can explain the differential associations between social support seeking, and social anxiety and depression seen in studies 2.2, 3.1 and 3.2. However, if they reason these resources are not available (e.g., they are rejected by peers), then there is a greater chance they will not opt for these ways of coping and instead may seek to avoid problems as a way of

coping. Therefore, the extent to which children are accepted or rejected by their peers - perceived or otherwise - is likely to impact upon the way a child's emotional adjustment is translated into coping responses. This idea that social resources can affect coping outcome can be understood within Crick and Dodge's (1994) social information-processing model if a child's knowledge of his or her social resources (e.g., level of acceptance or rejection) is considered part of their 'database' (see Figure 1, p. 31). This 'social knowledge' feeds back into the information processing system at each stage of the model, so for example, at the 'clarification of goals' stage, children reasoning that they have good social resources may seek more pro-social goals; at the 'response decision' stage they anticipate better social outcomes, and thus at the 'behavioural enactment' stage they choose more pro-social coping strategies.

Secondly, Coie, Dodge and Kupersmidt (1990) outline the key antecedents of peer status. Coie et al argue that cooperativeness and pro-social behaviour, for example, are linked to positive peer status, whereas aggressiveness and withdrawal are related to negative peer status. These behavioural characteristics may directly impact upon coping so that rejected children may cope aggressively or avoid problems, whereas more accepted children, may incorporate cooperativeness and pro-social behaviours into their ways of coping. These behavioural differences clearly can be expected to alter the relationship between coping and adjustment.

Studies 3.1 and 3.2 confirmed the differential links of social anxiety and depression with children's coping. Furthermore, they revealed that, at a single timepoint at least, this pattern holds up not just in an intense peer conflict situation, but across several conflict situations of varying intensity. This suggests that at primary school age,

different coping strategies may have unique associations with social anxiety and depression in the sphere of peer conflict in general, rather than in specific situations only - a state of affairs that might be expected based on transactional theory (Lazarus & Folkman, 1984). From a theoretical point of view, therefore, the links between coping and adjustment may be somewhat domain specific (e.g., similar patterns in peer conflict, but different from patterns found in medical settings), rather than specific to each individual situation; the degree and nature of this domain-specificity needs to be evaluated in future research.

The finding that children's appraisals and goals of stressful situations mediated links between coping and emotional adjustment can be explained and understood both within transactional models of coping (Lazarus & Folkman, 1984; Rothbaum, Snyder & Weisz, 1982), and also Crick and Dodge's (1994) model of social information-processing. Transactional theories of coping propose that choice of coping strategy is, in part at least, dependent upon the way in which situations are appraised and by the goals one has regarding desired outcomes of stressful situations. For example, appraising a situation as controllable may lead to a goal of wanting a stressor actively dealt with, hence the choice of coping may be problem-solving. Appraising a situation as uncontrollable, on the other hand, may lead to a goal of wanting to escape, hence the choice of coping may be avoidance of the stressor. In a similar way, within Crick and Dodge's (1994) model, negative emotions may lead to specific appraisals and goals which in turn result in more maladaptive forms of responses to social situations.

Social information-processing perspectives of anxiety and social phobia (Bell-Dolan & Wessler, 1994; Clark & McManus; Crick & Dodge, 1994; Daleiden & Vasey,

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1997; Rapee & Heimberg) provide convincing frameworks of cognitive and behavioural mechanisms through which to understand links between children's social anxiety and the use of different coping strategies in the face of interpersonal stress. The way in which socially anxious children encode and interpret cues, clarify and select goals, and retrieve and evaluate responses in peer conflict situations is likely to encourage or inhibit particular cognitive and behavioural coping efforts. By emphasising the role emotion plays in biasing these processes, Crick and Dodge's (1994) model provides an insight into how social anxiety may affect the coping process. The greater physiological arousal, fear, and worry associated with social anxiety may lead to more catastrophic interpretations of conflict situations, which in turn, give rise to particular goals. Consistent with our findings, this may result in social anxious children accessing an array of different coping responses, beyond their general tendency towards internalising coping.

In a similar vein, the cognitive and behavioural mechanisms outlined in theories of depression (Beck, 1967, 1976; Dodge, 1993; Seligman, 1975) provide explanations regarding the associations between depressive symptoms in children and the specific coping strategies adopted in peer conflict situations. Beck's (1967) theory posits that depressive cognitive distortions - thought to form in childhood - of personal deficiency, self-blame, low self-regard, and negative expectations, result in negative schemas, which are in turn likely to lead to particular coping behaviours. Beck explains that these negative cognitions or schemas 'pervade' one's interpretation of immediate situations, and one's reflections and ruminations. In a similar way to social anxiety, one can thus

see how depressive symptoms may interfere with the social information-processing mechanisms outlined in Crick and Dodge's (1994) model.

Learned helplessness theory provides a related explanation of the links between depressive symptoms and coping. Seligman (1975) proposed that the general inability to control the outcomes of potentially stressful situations can lead to cognitive, emotional and motivational deficits associated with depression. These deficits are likely to result in faulty information-processing. For example, if a depressive child interprets a peer conflict situation as uncontrollable, they are less like to seek proactive goals and evaluate responses effectively. This, allied with low social motivation in general, may result in them being less likely to engage in appropriate or effective coping behaviours for a given situation.

Building on these theoretical viewpoints, the findings in the present research support the proposal that the specific combinations of information-processing characteristics associated with social anxiety and depression can bring about different profiles of coping choices. For example, Paper 2 and Paper 3 both showed that problem-solving, social support seeking, distraction, and externalising all had differential associations with social anxiety and depression. Some clarification of the cognitive and motivational processes underlying this pattern was then found in study 3.2, where social anxiety and depression were both negatively associated with control appraisals, but also were differentially linked to children's goals regarding the situation – and ultimately were differentially linked to problem-solving coping. In this case, it seems that despite socially anxious children's perceived lack of control regarding the situations, compared with

depressed children, they have at least some motivation to do something about it and hence show an orientation towards problem-solving.

Lastly, the findings in Paper 4 suggest that over the time period of a year, children's coping strategies, which remain relative stable, come to impact upon their emotional adjustment: internalising and externalising, as expected, predicted rising depressive symptoms, while distraction predicted declining depressive symptoms; internalising predicted increases in social anxiety; and, somewhat surprisingly, problem-solving predicted rising depressive symptoms as well. Also, some effects of adjustment on subsequent coping continue to be apparent over this period: externalising was negatively predicted by social anxiety while trivialising was positively predicted by depression. However, although coping and adjustment - with the exception of distraction - remained stable over two years, cross-lagged associations between the two were generally not evidenced over this time period. This suggests that for children of primary school age, developmental experiences in the intervening period may be too complex to allow for any long-term predictions of coping behaviours by emotional characteristics or vice versa. Overall, our findings support the view of transactional coping models (e.g., Lazarus & Folkman, 1984) that over time, coping comes to impact upon adjustment outcomes. However, the present findings suggest that for children, the influences coping strategies have on adjustment, even in specific stressful situations, may only endure relatively temporarily as the complexities of children's behaviours, emotions and cognitions continue to develop.

Practical implications

In the present research, we were able to establish that a modified version of the SRCS (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002) provided a valuable system of coping from which to categorise primary school children's self-generated responses to stressful situations. We believe this scale now provides a more comprehensive measure of children's coping in peer conflict situations by including a more precisely delineated range of avoidant and cognitive strategies, a deficit highlighted in previous measures.

The evidence presented in this thesis provides a contribution to our understanding of the relationships between the strategies children use to cope with peer conflict and their emotional adjustment. Coping strategies used to cope with stress are often a key component of intervention programmes designed to reduce symptoms of social and emotional problems (e.g., Horowitz & Garber, 2006; Kendall, 1993; Spence et al., 2002), with a focus on the use of strategies considered to be more adaptive (e.g., problem-solving and cognitive restructuring). While this would suggest that coping influences subsequent adjustment, the findings of the present thesis present a more complex picture where it seems that in the short to medium term, emotional adjustment may actually have a greater impact upon children's use of coping strategies. From a treatment point of view, this suggests there may need to be an initial focus on the processes behind social anxiety and depression (e.g., information-processing biases and cognitive distortions), which are also similar to features of the coping process. Preliminary experimental evidence of cognitive bias modification training has suggested that this focus may be effective in helping socially anxious children approach interpersonal stressors in a less

negative and more positive way (Vassilopoulos, Banerjee & Prantzalou, 2009). As coping then appears to influence emotional adjustment over a longer period of time, treatments should consider the use of specific coping strategies as longer-term measures which can act to regulate maladaptive thinking and behavioural patterns, or help prevent future emotional adjustment problems.

One of the key findings of this research, that coping strategies were differentially linked to social anxiety and depression, suggests that understanding the relationships between specific disorders and coping may be crucial for more effective and targeted treatment. In this case, a focus on the distinct coping characteristics related to social anxiety and depression may be most effective. That anxiety is theorised to precede depression in a temporal sequence (Zahn-Waxler et al., 2000), suggests that by treating these symptoms along with enhancing children's coping repertoire, we may have a greater chance of reducing later depression. The finding that coping went onto predict emotional adjustment illustrates the importance of this as it was largely depression, not social anxiety that was predicted by prior inadequate coping. It may be then that maladaptive coping is a key risk factor for depression, brought on by feelings of learned helplessness and a sense of hopelessness, following failures in responding to stress.

As part of the coping process, children's appraisals of stressful situations and the subsequent goals they seek or desire are also important to understand in terms of treating potentially maladaptive adjustment outcomes. Helping children to appraise stressful encounters appropriately (e.g., not overestimating or catastrophising the level of threat), may be crucial in addressing what appears to be a link between information-processing biases and both symptoms of social anxiety and depression, and coping. Similarly, by

understanding and helping children to set appropriate goals regarding stressful encounters, we can encourage them to cope in ways that match these goals and, hence prove more adaptive for the given situation. Finally, the evidence that peer relations play a role in moderating the link between coping and adjustment highlights the importance of children's interaction with their social environment. By helping to foster children's pro-social behaviours and positive peer relationships, such as through school-based interventions (e.g., Fraser et al., 2005), we may strengthen their coping resources, and their confidence that coping efforts to manage conflict are worthwhile.

Limitations and future direction

This programme of empirical work has a number of important limitations. First, in the present thesis, with the exception of peer status nominations, all significant data gathering relied upon children's self-report measures. Although in one study (2.2) we used measures of teacher-rated social competence to provide some validation of the more observable coping behaviours, in future research observer reports of coping and adjustment should be obtained. Regarding the measurement of coping, the present research relied heavily on one measure of coping that had not been extensively used in previous research. The use of other child coping measures in future studies may provide dimensions of coping not captured by the SRCS, and/or more fine-grained breakdowns of the coping dimensions discussed here (e.g., different kinds of externalising responses). Also, one specific problem with the coping measure used in this study was that items on the internalising subscale inevitably overlapped with the measurement of social anxiety symptoms.

Second, future studies could extend the findings of the present research by gathering data from clinical populations. While it is valuable to understand how sub-clinical levels of social anxiety and depression relate to coping, similar research with clinical samples will be crucial to confirm whether these relationships exist in populations in more serious need of treatment. Future research would be valuable if it could target the behaviour of clinical groups either in real-life coping situations or in structured situations with experimental manipulations. This would give us a better idea of how children *actually* cope in stressful situations rather than how they report they would cope, or imagine they would cope. Such work raises the possibility of intervention studies where adjustment and coping are measured at timepoints before and after appropriate coping 'training'. This would allow us to examine any actual effects of coping on adjustment, not just associations between the two.

Third, in terms of childhood stressors, the main focus of the present research was to examine how children cope with peer conflict, which researchers have suggested almost all children experience on a regular basis (Fields & Prinz, 1997). To examine the links between children's coping and emotional adjustment, a range of hypothetical peer conflict stressors were employed in this program of research, but a greater understanding is needed regarding these links in a wider range of situations (e.g., family context, medical settings). Only one preliminary study in the present research (1.1) included stressors other than peer conflict situations – verifying that the coping categories used in the present research were broadly applicable to social situations – but even in this study, links between coping and adjustment were not examined. Also, only one intense peer conflict situation was used in the two longitudinal studies in the present research (2.2 and

paper 4), so future research could seek to confirm these links between coping and adjustment in a range of peer conflict scenarios, as well as other kinds of stressful scenarios. For example, it is known that coping affects adaptational outcomes in areas such as parental divorce (Amato, 2004; Lengua & Sandler, 1997), illness and medical procedures (Fields & Prinz, 1997; Ryan-Wenger, 2007), and marital conflict (O'Brien, Bahadur, Gee, Balto & Erber, 1997), so future studies examining the differential links between coping and adjustment found in the present research in these areas would be valuable.

Lastly, future research is needed examining the links between coping and adjustment that explores differences by age, gender, and culture. Although the present body of research examined links between coping and adjustment in primary school between the ages of 8-11-years longitudinally, research is warranted that examines these links in adolescence and into adulthood. Also, the present research did not explore gender differences regarding links between coping and adjustment. However, evidence has suggested that girls may have a greater focus on alleviating negative emotions, whereas boys may have a greater focus on instrumental, problem-solving behaviour (Banerjee, Rieffe, Meerum Tergwogt, Gerlein & Voutsina, 2006). Future research looking at the effects of these and other coping differences on adjustment, with attention to gender socialisation patterns, is therefore warranted. Finally, although the same categories of coping were identified in Dutch and British samples in the present research, links between coping and adjustment should be examined among different cultural samples. Differences in the expression of emotions, for example, have been found among different cultures (Novin, Banerjee, Dadkhah & Rieffe, 2009), suggesting that links between

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coping and adjustment might depend on different cultural norms of family and peer values, and individualistic versus collective orientations.

Conclusions

The central aims of the present programme of research were to examine associations between primary school children's coping and emotional adjustment (specifically social anxiety and depression), examine the extent to which peer relations and children's appraisals and goals play a role in these links, and to see how these associations develop over time with respect to peer conflict. Preliminary studies showed that coping strategies could be reliably categorised within an existing taxonomy (Causey & Dubow, 1992; Kochenderfer-Ladd & Skinner, 2002), and distinct links between these strategies and children's feelings were found to be present. Subsequent studies showed that social anxiety and depression were differentially associated with coping. Furthermore, children's peer relations were found to play a moderating role in some of the observed links, and the appraisals and goals children have regarding peer conflict situations were found to mediate these associations. Over 9 months (within a school year), children's social anxiety and depression differentially predicted subsequent coping, but over the course of a whole year, some aspects of coping also came to predict adjustment. However, cross-lagged analyses showed that pathways in either direction all but disappeared over a two year period. Finally, some of the results imply that potentially positive coping strategies may not always be adaptive, and that the characteristics of the individual, as well as *when* and *how* they use the coping strategies, play a role in their potential effectiveness.

The research presented in this thesis indicates that the relationships between primary school children's coping and emotional adjustment are complex, with patterns of both stability and change over time. The nature of these relationships informs us that in order to maximise the effectiveness in treating conditions such as social anxiety and depression, we need to target specific aspects of the disorder related to coping (e.g., the different information-processing biases and cognitive distortions), as well as consider the role played by children's social experiences. In the longer term, appropriate coping training programs need to incorporate these perspectives in order to reduce emotional maladjustment.

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Appendices

Appendix 1: Coping interview vingnettes

Peer overt aggression - You are in the playground minding your own business. Then an older child from another class, who you never play with, goes up to you and starts calling you names and then hits and pushes you.

Peer social exclusion - You've just had your lunch and you've gone into the playground. Some of the other children from your class are playing a really fun game and you want to join in. But when you walk over, they look round, laugh at you, and carry on. One of them then tells you that you can't join in.

Peer unreasonable behaviour - You are with some other children taking turns playing a really good computer game. You're really excited because it's your turn next. But one of the other children, who has already had a go, just jumps in and starts playing the game.

Teacher not giving recognition - Everyone in your class has been asked to come up with a new logo for the school. Only one of them will be chosen, and you really want your design to be picked. You work really hard on it, and everyone says yours is the best. But then the teacher picks someone else's design which really isn't as good.

Teacher giving unfair punishment - You are walking along the corridor during playtime and you come across a broken window with a ball next to it on the floor. You pick up the ball and at that moment a teacher walks around the corner and sees you. The teacher doesn't believe you when you say you didn't do it, and makes you miss the rest of playtime.

Teacher giving undesirable instruction - You've just finished your lunch and you're looking forward to the project you're going to be doing in class. You're excited about working with your friends on the project, but then your teacher makes you sit with other children who you really don't get on with.

Losing favourite possession - Once you met your favourite pop star/footballer and you got a photograph taken of you with him/her. You really like looking at the photograph and showing it to people, but one day you realise it's missing. You search everywhere but you can't find it. You know it would be almost impossible to replace it.

Separation from friend - You find out that your best friend, who lives near to you, is moving somewhere far away. You see you best friend all the time and really enjoy playing together. Now, you may never see them or play together again.

Parent getting cross - You're in the kitchen at home when you drop a plate by accident and it smashes. You didn't mean to do it and you were actually trying to be helpful. But your Mum/Dad gets really cross with you and sends you to your room.

How do you think you would feel after doing this?
(Put number next to this question on the other sheet)
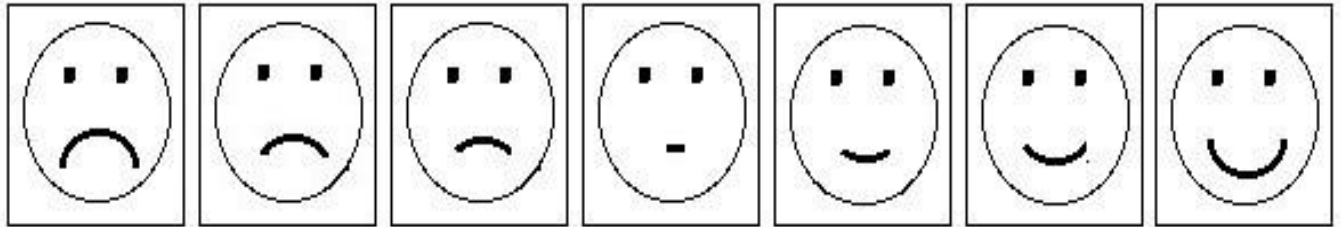
Very upset	Quite upset	A little upset	Just OK	A little happy	Quite happy	Very happy
1	2	3	4	5	6	7

How much do you think this would make the situation better or worse? (Put number next question on the other sheet)

1	2	3	4	5	6	7
Much worse	A lot worse	A little worse	About the same	A little better	A lot better	Much better

Appendix 3: Single item coping measure

Scenario 1

How would you feel after this had happened? __

After being in this situation, there are many different things you could do to deal with it. Now imagine if you did the things below…

a) *You try and talk to the other child to sort out the problem*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
b) *You pretend nothing happened and try to forget the whole thing*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
c) *You think about the situation over and over in your head and about how it might happen again*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
d) *You start shouting at the other child and hitting and banging thing*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
e) *You do something else that you like or think about something else to take your mind off the situation*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
f) *You go and find someone else to talk to about what happened*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __
g) *You tell yourself it's not that bad and it's not worth getting upset about*   How do you think you would *feel* after doing this? __   How much do you think this would make the situation better or worse? __

Best strategy __   Worst strategy __   Strategy you are most likely to use __

Appendix 4: The Self-Report Coping Scale - Revised (SRCS-R) 1

My code

I am a: boy   girl

My class

My school

Imagine that a pupil at school was being mean to you by calling you bad names or hitting and pushing you. What would you do? There are all kinds of things that pupils could do if they were being picked on. Put a circle around the number that shows HOW MUCH YOU WOULD DO each of the following things if you were being picked on.

1 = Not at all   2 = Hardly ever   3 = Sometimes   4 = Most of the time   5 = All the time

If someone picks on me...	Not at all	Hardly ever	Some-times	Most of the time	All the time
1. I try to think of different ways to solve the problem.	1	2	3	4	5
2. I tell a friend or family member what happened.	1	2	3	4	5
3. I yell or shout to let off steam.	1	2	3	4	5
4. I worry about it.	1	2	3	4	5
5. I think that it is not such a big problem.	1	2	3	4	5
6. I change something so things will work out.	1	2	3	4	5
7. I talk to somebody about how it made me feel.	1	2	3	4	5
8. I forget the whole thing.	1	2	3	4	5
9. I swear (use bad words) out loud.	1	2	3	4	5
10. I do something else to help me forget about it.	1	2	3	4	5
11. I do something to make up for it.	1	2	3	4	5
12. I tell myself it doesn't matter.	1	2	3	4	5
13. I get angry and throw or hit something.	1	2	3	4	5
14. I worry that others will think badly of me.	1	2	3	4	5
15. I watch TV or read a book so I can think about something else.	1	2	3	4	5
16. I go over in my mind what to do or say.	1	2	3	4	5
17. I ask someone in my family for advice.	1	2	3	4	5
18. I keep myself busy with other things so I don't worry about the problem.	1	2	3	4	5
19. I tell myself that the problem is not very important.	1	2	3	4	5
20. I do something to change the situation.	1	2	3	4	5
21. I get help from someone in my family.	1	2	3	4	5
22. I stamp my feet and slam or bang doors.	1	2	3	4	5
23. I keep feeling afraid it will happen again.	1	2	3	4	5
24. I find lots of other things to think about.	1	2	3	4	5
25. I will think it is no big deal.	1	2	3	4	5
26. I make a plan of what I am going to do.	1	2	3	4	5
27. I ignore the problem.	1	2	3	4	5
28. I think about it so much that I can't sleep.	1	2	3	4	5
29. I find a way to solve the problem.	1	2	3	4	5

Appendix 5: The Children Depression Inventory-Short form (CDI-S)

My code   I am a: boy   girl   My class   My school

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For each question, read the three sentences and show which is MOST TRUE FOR YOU by putting a circle around A, B or C.

EX. **A** I often read books
 B I read books once in a while.
 C I never read books.

1. **A** I am sad once in a while.
 B I am sad many times.
 C I am sad all the time.

2. **A** I do not like painting.
 B I like painting a bit.
 C I like painting a lot.

3. **A** Nothing will ever work out for me.
 B I am not sure if things will ever work out.
 C Things will work out for me OK.

4. **A** I listen to music many times.
 B I listen to music once in a while.
 C I never listen to music.

5. **A** I do most things OK.
 B I do many things wrong.
 C I do everything wrong.

6. **A** I do not like football.
 B I like football a bit.
 C I like football a lot.

7. **A** I do not like myself at all.
 B I do not like myself.
 C I like myself.

8. **A** I cycle a lot.
 B I cycle a bit.
 C I never cycle.

9. **A** I feel like crying every day.
 B I feel like crying many days.
 C I feel like crying once in a while.

10. **A** I never play computer games.
 B I play computer games once in while.
 C I play computer games many times.

11. **A** Things bother me all the time.
 B Things bother me many times.
 C Things bother me once in a while.

12. **A** I do not like swimming.
 B I like swimming a bit.
 C I like swimming a lot.

13. **A** I look OK.
 B There are some bad things about my looks.
 C I do not like the way I look at all.

14. **A** I listen to the radio many times.
 B I listen to the radio once in a while.
 C I never listen to the radio.

15. **A** I do not feel alone.
 B I feel alone many times.
 C I feel alone all the time.

16. **A** I like chocolate a lot.
 B I like chocolate a bit.
 C I do not like chocolate.

17. **A** I have plenty of friends.
 B I have some friends but I wish I had more.
 C I do not have any friends.

18. **A** I run a lot.
 B I run a bit.
 C I never run.

19. **A** Nobody really loves me.
 B I am not sure if anybody loves me.
 C I am sure that somebody loves me.

20. **A** I watch TV many times.
 B I watch TV once in a while.
 C I never watch TV.

Appendix 6: The Social Anxiety Scale for Children - Revised (SASC-R)

My code [ ][ ] I am a: boy girl   **My class** [ ][ ] **My school** [ ][ ]

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Put a circle around the number that shows HOW MUCH YOU FEEL something is true for you:

1 = *Not at all*   **2** = *Hardly ever*   **3** = *Sometimes*   **4** = *Most of the time*   **5** = *All the time*

	Not at all	Hardly ever	Some-times	Most of the time	All the time
EX. I like to eat chocolate.	1	2	3	4	5
1. I worry about doing something new in front of other children.	1	2	3	4	5
2. I like to play with other children.	1	2	3	4	5
3. I worry about being teased.	1	2	3	4	5
4. I feel shy around children I don't know.	1	2	3	4	5
5. I only talk to children that I know really well.	1	2	3	4	5
6. I feel that other children talk about me behind my back.	1	2	3	4	5
7. I like to read.	1	2	3	4	5
8. I worry about what other children think of me.	1	2	3	4	5
9. I'm afraid that others will not like me.	1	2	3	4	5
10. I get nervous when I talk to children I don't know very well.	1	2	3	4	5
11. I like to play sports.	1	2	3	4	5
12. I worry about what others say about me.	1	2	3	4	5
13. I get nervous when I meet new children.	1	2	3	4	5
14. I worry that other children don't like me.	1	2	3	4	5
15. I'm quiet when I'm with a group of children.	1	2	3	4	5
16. I like to do things by myself.	1	2	3	4	5
17. I feel that other children make fun of me.	1	2	3	4	5
18. If I get into an argument with another child, I worry that he or she will not like me.	1	2	3	4	5
19. I'm afraid to invite other children to do things with me because they might say no.	1	2	3	4	5
20. I feel nervous when I'm around certain children.	1	2	3	4	5
21. I feel shy even with children I know well.	1	2	3	4	5
22. It's hard for me to ask other children to do things with me.	1	2	3	4	5

Appendix 7: Walker-McConnell social competence scale

Child's code ☐☐   Class ☐☐   School ☐☐

20652

Child is a: boy   girl

Put a circle around the number that shows HOW FREQUENTLY the child displays each skill or competency.

	Never		Sometimes		Frequently
1. Other children seek child out to involve her/him in activities.	1	2	3	4	5
2. Happy to change activities in order to continue interaction with peers.	1	2	3	4	5
3. Shares laughter with peers.	1	2	3	4	5
4. Shows sympathy for others.	1	2	3	4	5
5. Makes friends easily with children.	1	2	3	4	5
6. Asks questions to request information about someone or something.	1	2	3	4	5
7. Compromises with peers when situation calls for it.	1	2	3	4	5
8. Responds to teasing or name calling by ignoring, changing the subject, or some other constructive means.	1	2	3	4	5
9. Spends play time and free time interacting with peers.	1	2	3	4	5
10. Accepts constructive criticism from peers without becoming angry.	1	2	3	4	5
11. Plays or talks with peers for extended periods of time.	1	2	3	4	5
12. Voluntarily provides help to peers who require it.	1	2	3	4	5
13. Assumes leadership role in peer activities.	1	2	3	4	5
14. Is sensitive to the needs of others.	1	2	3	4	5
15. Initiates conversations with peers in informal situations.	1	2	3	4	5
16. Expresses anger appropriately (e.g., reacts to situation without becoming violent or destructive)	1	2	3	4	5
17. Appropriately copes with aggression from others (e.g., tries to avoid a fight, walks away, seeks help, defends self)	1	2	3	4	5
18. Cooperates with peers in group activities or situations.	1	2	3	4	5
19. Interacts with a number of different peers.	1	2	3	4	5
20. Uses physical contact with peers appropriately.	1	2	3	4	5
21. Listens while others are speaking (e.g., in circle time).	1	2	3	4	5
22. Controls temper.	1	2	3	4	5
23. Compliments others regarding personal attributes (e.g., appearance, special skills etc.).	1	2	3	4	5
24. Can accept not getting her/his own way.	1	2	3	4	5
25. Is socially perceptive (e.g., "reads" social situations accurately).	1	2	3	4	5
26. Plays games and activities at play time skilfully.	1	2	3	4	5
27. Keeps conversation with peers going.	1	2	3	4	5
28. Finds another way to play when requests to join others are refused.	1	2	3	4	5
29. Is considerate of the feelings of others.	1	2	3	4	5
30. Maintains eye contact when speaking or being spoken to.	1	2	3	4	5
31. Gains peers' attention in an appropriate manner.	1	2	3	4	5
32. Accepts suggestions and help from peers.	1	2	3	4	5
33. Invites peers to play or share activities.	1	2	3	4	5

Appendix 8: Study 3.1 vignettes and approach coping scale (problem-solving and social support seeking)

Peer overt aggression - You are in the playground minding your own business. Then an older child from another class, who you never play with, goes up to you and starts calling you names and then hits and pushes you.

Peer social exclusion - You go out at playtime and you really want to join a game that some other children are playing, but when you ask them to play, they say that you can't because they have enough people for the game already and there's no room for any more.

Peer rejection - There's a popular child in your year who you really want to be friends with. You keep trying to play with this child, and you always try to sit near the child in the classroom so you can work together. But no matter what you do, he or she just doesn't want to be your friend.

Peer disagreement – It's the last day of school and you are allowed some free time. The teacher tells you that you can watch a DVD on the TV. You invite another child over to watch the TV with you, but the other child says they don't want to watch the programme that you really wanted to watch.

Peer disagreement - The teacher pairs up everyone in the class for a project on animals. You and your partner, who you normally like to work with, disagree about the topic for the project. You really want to do the project on monkeys, but you partner wants to it on pandas. You can only choose one animal for your project.

Peer unreasonable behaviour - You are with some other children taking turns playing a really good computer game. You're really excited because it's your turn next. But one of the other children, who had already had a go, just jumps in and starts playing the game.

My code   Name   boy   girl   My class

44107

1 = Not at all   2 = Hardly ever   3 = Sometimes   4 = Most of the time   5 = All of the time

In this situation I would...

Scenario 1	Not at all	Hardly ever	Some-times	Most of the time	All the time
Talk to the other child to try and change the situation.	1	2	3	4	5
Talk to a teacher about what happened and how it made me feel.	1	2	3	4	5
Work out a way of behaving to make the situation better for me.	1	2	3	4	5
Talk to my parents about what happened and how it made me feel.	1	2	3	4	5
Look for a way to take control of the situation myself.	1	2	3	4	5
Talk to a friend about what happened and how it made me feel.	1	2	3	4	5

Appendix 9: Study 3.2 vignettes and Self-Report Coping Scale - Revised (SRCS-R) 2

- including appraisals and goals

Being picked on - Imagine that you were on your way back to class, minding your own business when another kid at school started being mean to you and calling you nasty names. Everyone then goes into class and sits down.

Social exclusion - Imagine that you were on your way back to class when you see some other kids you know joking about something. You really want to join in, but when you walk over, they look round, laugh and tell you that you can't. Everyone then goes into class and sits down.

Peer disagreement - Imagine that you have some free time at school and your teacher lets you watch a DVD that you really wanted to watch. While you are watching it, another kid comes over. S/he changes the channel without asking you and then sits down and starts watching the TV.

My code   Name   My class

boy   girl

1 = Disagree a lot   **2** = Disagree a little   **3** = Agree a little   **4** = Agree a lot

In this situation...

	Disagree a lot	Disagree a little	Agree a little	Agree a lot
1. There is very little that I could do about it.	1	2	3	4
2. I would want to get on with the other child/children.	1	2	3	4
3. I would know how to deal with this.	1	2	3	4
4. I would want to get out of the situation.	1	2	3	4

Imagine that you were in this situation. How much would you do each of the following things?

1 = Not at all   **2** = Hardly ever   **3** = Sometimes   **4** = Most of the time   **5** = All of the time

<u>Scenario 3</u>	Not at all	Hardly ever	Some-times	Most of the time	All the time
1. Change something so things will work out	1	2	3	4	5
2. Talk to somebody about how it made me feel.	1	2	3	4	5
3. Worry about it.	1	2	3	4	5
4. Yell or shout to let off steam.	1	2	3	4	5
5. Do something else to help me forget about it.	1	2	3	4	5
6. Find a way to solve the problem.	1	2	3	4	5
7. Ask someone else for advice.	1	2	3	4	5
8. Keep feeling afraid it will happen again.	1	2	3	4	5
9. Swear (use bad words) out loud.	1	2	3	4	5
10. Keep myself busy with other things so I don't worry about it.	1	2	3	4	5
11. Do something to change the situation.	1	2	3	4	5
12. Get help from someone else.	1	2	3	4	5
13. Think about it so much I can't sleep.	1	2	3	4	5
14. Get angry and throw or hit something.	1	2	3	4	5
15. Find lots of other things to think about.	1	2	3	4	5