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School of Psychology

Identifying the Role of Emotion Regulation Strategies in Predicting School Adjustment in Late Childhood and Adolescence

by

Rebecca Jane Murphy BSc, PGCE, MEd

Thesis for the degree of Doctor of Educational Psychology

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ABSTRACT

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Thesis for the degree of Doctor of Educational Psychology

IDENTIFYING THE ROLE OF EMOTION REGULATION STRATEGIES IN PREDICTING SCHOOL ADJUSTMENT IN LATE CHILDHOOD AND ADOLESCENCE

Rebecca Jane Murphy

Emotion regulation (ER) strategies, as conceptualised within the influential process model of ER (Gross, 1998), are found to be important predictors of psychological outcomes in adults. Less research has examined the use of ER strategies in late childhood and adolescence. However adolescence is a key period of pubertal and environmental changes leading to higher demands to regulate emotions. This thesis had two goals; to understand the origins of ER strategy use in late childhood and adolescence, and its associations for school adjustment; and to examine ER strategy use across the primary-secondary transition. The systematic literature review recognised important influences on the use of ER strategies including interpersonal (gender, age, culture, and temperament) and intrapersonal (parenting behaviour and attachment style) factors. In addition, significant correlates of ER strategies that impact on school adjustment, including internalising and externalising behaviour, self-concept and social competence, were identified. Two commonly used ER strategies of cognitive reappraisal (CR) and expressive suppression (ES) were reported to be associated with significant outcomes for school adjustment.

A longitudinal study examined the use of CR and ES in 68 10 – 11 year olds over the transition from primary to secondary school in the UK. It was expected that pre-transition ER strategy use would predict post-transition social, emotional, behavioural and academic outcomes. Contrary to predictions, regression analyses did not support a predictive association between pre-transition ER strategy use and post-transition outcomes at secondary school. However, post-transition ES was significantly negatively associated with concurrent educational progress and self-perceived global self-worth and positively associated with behavioural difficulties. Post-transition CR was also positively associated with concurrent self-perceived global self-worth. No significant gender differences or changes in strategy use over time were found. The findings contribute to our understanding of ER strategy use in early adolescence in primary and secondary school settings.

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DECLARATION OF AUTHORSHIP

I, **Rebecca Jane Murphy** declare that the thesis entitled:

Identifying the Role of Emotion Regulation Strategies in Predicting School Adjustment in Late Childhood and Adolescence

and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
- where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this work has been published before submission

Signed:

Date:

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ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
ASD	Autistic Spectrum Disorder
CR	Cognitive Reappraisal
ER	Emotion Regulation
ERQ	Emotion Regulation Questionnaire
ERQ-CA	Emotion Regulation Questionnaire for Children and Adolescents
ES	Expressive Suppression
IQ	Overall Intelligence Quotient
M	Sample mean
M*dn*	Median
n	Number of cases
ns	Not statistically significant
p	Probability
r	Estimate of the Pearson correlation coefficient
SD	Standard Deviation
SDQ	Strengths and Difficulties Questionnaire
SEN	Special Educational Needs
SES	Socio-Economic Status
SPPC	Self-Perception Profile for Children
t	The sample value of the t-test statistic

CHAPTER 1

Individual Differences in Emotion Regulation Strategy Use in Late childhood and Adolescence and Subsequent Associations with School Adjustment.

Adjustment to school has long term consequences for psychological well-being and attainment (West, Sweeting & Young, 2010). It comprises the "extent to which an individual is interested, engaged and successful within a school environment" (Betts, Rotenberg, Trueman, & Stiller, 2012, p.304). As the school environment is primarily a social context where a diverse range of emotions are experienced on a daily basis, socio-emotional competence is identified as a key determining factor for successful school adjustment (Pekrun, Goetz, Titz, & Perry, 2002). Furthermore, research has shown that emotion regulation (ER), as an integral component of socio-emotional competence, contributes significantly to appropriate social behaviour, academic achievement and consequently school adjustment (Lopes et al., 2012).

ER is a multifaceted and complex construct. Despite debate regarding its definition and conceptualisation (Cole, Martin, & Dennis, 2004), most researchers now recognise ER as a heterogeneous set of processes to manage emotional responses (Gullone, Hughes, King, & Tonge, 2010). Recently, in contrast to examining the extent to which individuals modulate the intensity and expression of emotions, research has investigated the specific processes involved in regulating the experience and expression of emotions (Brenner & Salovey, 1997). These processes are referred to as ER or coping strategies.

Primarily, research has focused on these ER strategies during the periods of infancy, early childhood, and adulthood with researchers recognising a dearth of studies involving school-age children and adolescents (Jaffe, Gullone & Hughes, 2010). However, in late childhood and adolescence, individuals experience important developmental and social changes associated with emotion that make this a key period to study individual differences in ER. These changes include various biological and cognitive developments as well as significant environmental aspects.

Firstly, adolescence is a key period for the maturation of the neural regions of the prefrontal cortex; the area of the brain primarily associated with emotion (McRae et al., 2012). Secondly, during childhood, thinking progresses from being concrete to being more abstract (Steinberg, 2005). Additionally, cognitions that were predominantly external in early childhood and managed by parents or carers become gradually more internalised (Kopp, 1989). Thus, during late childhood and adolescence, these cognitive developments mean that the range of available ER strategies broaden to include more sophisticated strategies significantly less reliant on caregivers and more under the control of the individual (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Finally, simultaneous with these developmental changes, there are significant contextual changes that take place including a transition to secondary school. This change is frequently emotionally demanding and associated with increased worries and concerns for early adolescents (Rice, Frederickson, & Seymour, 2011).

Previous literature reviews have recognised the importance of exploring ER in school-age children and adolescents (Bariola & Gullone, 2011; Morris et al., 2007; Zeman, 2006). Bariola and Gullone's (2011) and Morris et al.'s (2007) reviews highlighted the specific influence of parenting and family context on the development of children's and adolescents' ER. Zeman (2006) reviewed the development of ER from infancy through adolescence, including putative environmental and biological influences. Moreover, Zeman's review discussed relevant literature which addressed the link between children's and adolescents' ER with psychosocial functioning. These previous reviews define ER in line with Thompson's (1994) definition : " the extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (p.27-28). Consequently the reviews conceptualise ER in a broad, multifaceted way by examining all components of ER including internal and external processes; the modulation of the intensity and expression of emotion and ER strategies. In contrast to previous reviews, the current review conceptualises ER more narrowly as the use of ER strategies within the emotion generative process. In addition, because adolescents use more internal cognitions rather than rely on caregivers to manage emotional experiences, the current review focuses only on internal

processes. Furthermore, given the significance of ER strategy use for school adjustment factors (Lopes et al., 2012); the current review examines the potential moderating factors between specific ER strategy use in late childhood and adolescence and school adjustment.

The review begins with a discussion of the ER construct, its definition and its conceptualisation. Specifically, ER strategies are discussed in relation to the widely accepted process-orientated model of ER (Gross, 1998), and also in relation to emotion-regulation coping strategies. This discussion is followed by a systematic review of the literature examining ER strategy use in late childhood and adolescence. The current review focuses on two questions:

- What does the literature reveal about factors that impact on the development of individual differences in ER strategy use in late childhood and adolescence?
- What does the literature reveal about the factors that potentially moderate the associations between ER strategy use in late childhood and adolescence, and outcomes relevant for school adjustment?

The review includes a discussion of the limitations of the studies and this literature review. It concludes with a summary of the findings and recommendations for future research regarding ER strategy use and the factors that potentially moderate its associations with school adjustment in late childhood and adolescence.

Conceptualisation and Definition of ER

Contemporary researchers have proposed that emotions have a functional purpose to "ready necessary behavioural responses, tune decision making, enhance memory for important events and facilitate interpersonal interactions" (Gross, 2007, p.4). Although emotions stimulate specific responses to serve this purpose, it has long been recognised that the responses can be modulated and managed by individuals (James, 1884). This management is commonly construed as ER.

ER occurs within a range of internal, external, social, behavioural and cognitive systems and their interaction with the environment (Zeman, 2006). This makes ER a multi-faceted and complex construct and the subject of extensive debate regarding its conceptualisation, definition and measurement.

One of the primary long-standing debates in the ER literature concerns ER processes as comprising of a one or two factor model. Some researchers advocate a one factor model proposing that emotion and ER occur simultaneously; emotions regulate behaviour as emotions are regulated (Campos, Frankel, & Camras, 2004). They propose that a pure emotion cannot be identified independently of behaviour. Alternatively, a two-factor approach to ER has been described; stating that the recognition and regulation of emotions are related but separate processes (Cole et al., 2004; Gross, 1998). For example, a pupil may become frustrated with a piece of writing but then count to ten to calm down, separating the emotion (frustration) from the regulation (counting). This review adopts the latter approach as the most commonsensical, advocating that emotions have a different effect on behaviour depending on how they are regulated.

Further debates concern the involuntary versus voluntary and conscious versus unconscious nature of ER. Some researchers have argued that ER involves effortful responding, indicating that cognitions, attention or behaviour are voluntarily controlled (Eisenberg & Spinrad, 2004). In contrast, Gross and Thompson (2007) consider a continuum from conscious effortful ER to unconscious, automatic ER. In support of this, there are recent advances in research investigating non-conscious self-regulation (Bargh & Williams, 2007). Moreover, unlike effortful control which is often considered as the *restraint* of

emotional processes (Cole et al., 2004), this review considers ER as a broader concept involving the enhancement as well as the inhibition of emotions, dependent on social demands (Gross, 2007). For example, emotions would need to be enhanced if a pupil was feeling down but needed to show enthusiasm for a school P.E. subject so that they were selected for a team.

One of the main variations in the ER literature arises from the conceptualisation of ER as *coping* (Reijntjes, Stegge, Terwogt & Hurkens, 2007). Many studies conceptualise ER as an individual's style of responding to stressful events (e.g., Garnefski, Kraaij, & van Etten, 2005). Other studies adopt the approach of Gross and Thompson (2007) who determined that ER and coping (alongside mood regulation and defences) are related but separate components of affect regulation. In accordance, this review acknowledges that coping is distinguishable from ER. Firstly, coping is widely defined as managing "specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p.141). ER, in contrast, is often conceptualised as managing and modulating responses in all contexts, not just those perceived as stressful. Furthermore, in contrast to coping's predominant goal of decreasing negative affect, recent studies conceptualise ER as the enhancement and reduction of both positive as well as negative emotions (Gresham & Gullone, 2012; Hsieh & Stright, 2012). Despite these differences in the constructs of ER and coping, there are significant similarities in the operationalization of ER strategies and emotion-focused coping strategies, both of which are included in this review.

Different conceptualisations of ER have inevitably led to inconsistencies in the measurement of the construct. Some research has focused on the temporal features of ER, measuring its intensity, frequency and duration (Laible, Carlo, Panfile, Eye, & Parker, 2010). Rather than the regulation of emotions, other researchers have measured the *dysregulation* of emotion emphasising poor ER as limited emotional awareness, low emotional clarity, low impulse control and non-acceptance of emotional responses (Walton & Flouri, 2009). At variance again, and the subject of this review, some studies assess ER as the use of the various specific cognitive and behavioural strategies (Thompson, 1994).

ER Strategies

ER strategies can be defined as "the behavioural and cognitive processes used to modulate or change affective states" (Silk, Steinberg, & Morris, 2003, p.1870). It is recognised that there is a "potentially overwhelming number" (Gross, 1998, p.281) of ER strategies available to individuals. Despite this, ER strategies operationalized within the literature often overlap, with differences between them often founded in their underlying conceptualisation of ER. Accordingly, the ER strategy literature predominantly focuses on either *cognitive emotion regulation strategies* from coping research, or ER strategies based on Gross' (1998) process-orientated theoretical framework (see Figure 1).

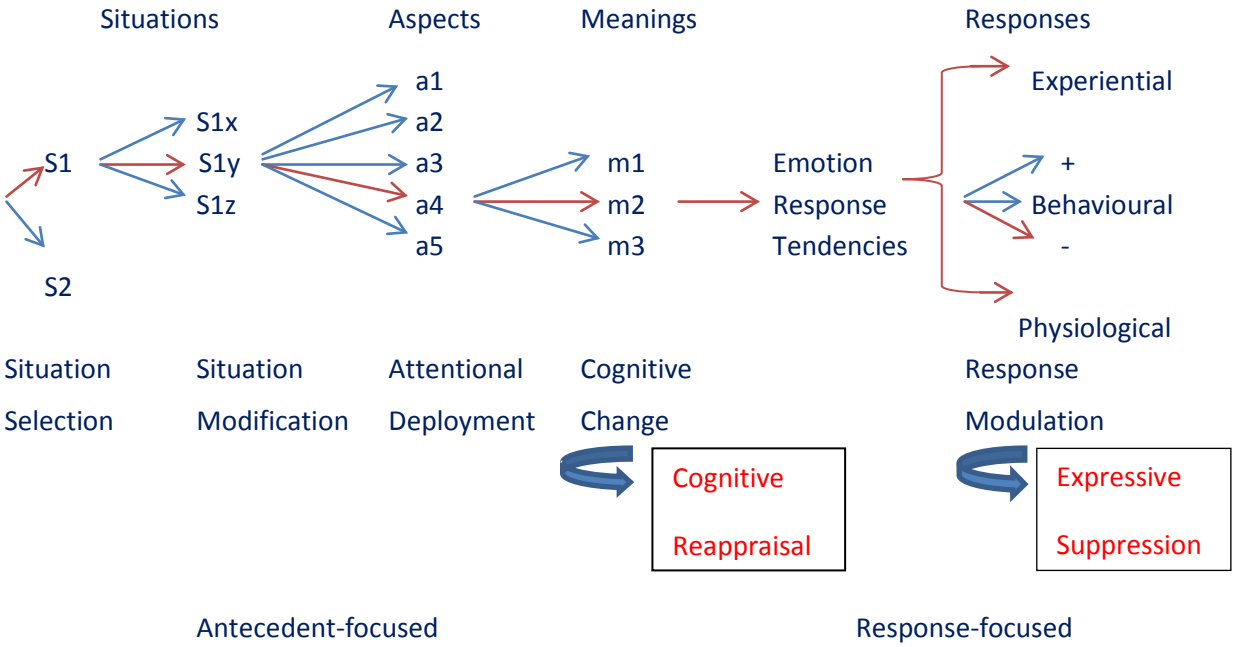

Figure 1. A process model of emotion regulation. *The number of response options at each of these five points in the illustration is arbitrary, and the red lines indicate a particular option that might be selected. Reproduced from "Emotion Regulation in adulthood: Timing is everything," by* J.J.Gross, 2001, *p.215.*

Within the process model of ER (Gross, 1998), ER can be applied before emotions have been generated. Specific ER strategies are therefore termed as either *antecedent-focused* or *response-focused* dependent on when they occur along the "timeline of the unfolding emotional response" (John & Gross, 2004, p.1302). Antecedent-focused strategies are adopted before the emotion response tendency has been activated whereas response-focused strategies are adopted after the emotion has been experienced. The process model includes stages of situation selection, situation modification, attentional deployment and cognitive change before the emotion response tendency is generated. After the emotional response has been generated, there is a stage of response modulation.

The two strategies from the process model most operationalized in ER literature are *expressive suppression* (ES) and *cognitive reappraisal* (CR; Gross & Thompson, 2009). These are well-documented strategies because they are used by the majority of people in everyday life (Gross & John, 2003). Furthermore, they can be measured reliably using a well-established questionnaire; the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), and the revised version for adolescents and children (ERQ-CA; Gullone & Taffe 2012). CR and ES also represent ER strategies at two different stages of the emotion process, before and after an emotion has been generated.

CR is an antecedent-focused strategy employed at the cognitive change stage of emotion generation. It involves reinterpreting a situation in order that its emotional impact is changed. For example, a student may reinterpret an assignment failure as useful constructive criticism and consequently alter the emotional impact from disappointment to optimism.

ES is a response-focused strategy used at the response modulation stage. It involves inhibiting the expression of emotions that have already been experienced. For example, a student may be feeling anxious about a test and consequently become quiet and withdrawn. It is similar to the ER strategy controlling the expressivity facet of ER called *inhibition* (Perry-Parrish & Zeman, 2009). *Concealing* is also a similar response-focused ER strategy but more socially driven (Lougheed & Hollenstein, 2012).

Coping Strategies

Within the coping literature, although many coping strategies are conceptually very similar to ER strategies (Zalewski, Lengua, Wilson, Trancik, & Bazinet, 2011), they are often categorised differentially from Gross' classification which is dependent on timing within the emotion process. In some literature, coping strategies are conceptualised within the primary and secondary control model (Band & Weisz, 1988). This model categorises individuals' coping strategies as; *primary control* strategies (e.g., *direct problem solving*) which directly alter the circumstances surrounding the stressful event to change the resulting emotion, and *secondary control* strategies (e.g., *positive reappraisal*) which control the psychological impact of the stressful event without altering the original situation (Silk et al., 2003).

In addition to the primary-secondary control differentiation, some researchers distinguish coping strategies using an engagement – disengagement dimension (e.g., Reijntjes et al., 2007). Engagement coping strategies include both behavioural (active improving of the negative event), and cognitive (adapting thoughts about the negative event) emotion coping strategies. Examples of engagement coping strategies within a school context would include studying harder for tests to avoid further upset (*problem-focused behaviour*) and rethinking the situation in a more positive way (*positive cognitive restructuring* ; Zalewski et al., 2011). Disengagement coping strategies involve altering the emotional impact of a negative event by adopting an indifferent attitude or engaging in unrelated thoughts. Examples include *cognitive disengagement*, *mental distraction* (Reijntjes et al., 2007), and *cognitive avoidance* (Zalewski et al., 2011).

The concept of using strategies to engage in positive actions to change the potential emotion response, or to withdraw to avoid an emotion response, are also termed two-dimensionally as *active* (or *approach*) and *avoidance* strategies in some literature (Ng, Ang, & Ho, 2012). In contrast, Garnefski et al., (2005) does not categorise the strategies in their study but proposes nine conceptually different coping strategies; *self-blame, other-blame, rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance,* and *planning*.

Adaptive/Maladaptive Nature of Strategies

ER and coping strategies that involve avoidance, or disengagement from the emotion are seen as maladaptive (Folkman & Moskowitz, 2004). Similarly, ES and inhibition of the expression of the emotion have been found to lead to negative affective, cognitive and social outcomes (Gross & John, 2003). As an exception, ES can be adaptive in some circumstances, for example, when the expression of anger within a classroom is not acceptable, suppressing emotion will lead to better short-term outcomes (Hsieh & Stright, 2012). However habitual use of ES is acknowledged across the literature as leading to negative outcomes (Gross & John, 2003). In contrast to avoidant strategies it is commonly accepted that active and engagement strategies are more adaptive (Compas, Connor-Smith, Saltzman, Thomson, & Wadsworth, 2001). CR particularly has been found to be associated with more healthy psychosocial outcomes for adolescents (d'Acremont & Van der Linden, 2007). It is proposed that this is because CR occurs early in the emotion generative process and therefore the experience of negative emotions will be reduced for the individual, diminishing any subsequent negative responses (Gross & John, 2003).

In summary, the literature presents with a diversity of ER conceptualisations but with an underlying acceptance that ER involves processes for managing emotions towards a goal accomplishment (Thompson, 1994). Recent ER literature has highlighted ER strategy use as significant for psychological and social outcomes, which in this review are related to school adjustment. The process model by Gross (1998) is the most extensively used theoretical framework, including ES and CR as the most widely cited and considered ER strategies. Furthermore, although categorised in different ways (primary-secondary control, engagement-disengagement, and avoidance-approach) coping strategies are similar to ER strategies with significant overlap in purpose and impact on adolescents' behaviour and experience in school. A review of the literature regarding the use of these strategies in late childhood and adolescence in relation to school adjustment will significantly enhance the understanding of ER at this particularly significant developmental period.

Method

Literature Search

This review sought to identify studies that provided information on; the influences on adolescent ER strategy use that may explain variability in school adjustment, or any associated outcomes related to school functioning of ER strategy use. In order to select recent relevant literature, I searched using PsychInfo (APA database) and Web of Science (Thomson Reuters database). It was acknowledged that there were a plethora of terms associated with ER that could be used as search terms. The more common terms considered included, *self-regulation*, *affect regulation*, *mood regulation*, *emotionality and emotion control*. For the purposes of this review, self- and affect regulation were excluded as search terms. They were considered to be too broad and include inexpedient components such as behaviour regulation and defences. Moreover, mood regulation was excluded as it alters only an individual's experience rather than the experience and behaviour modulated by ER processes (Gross & Thompson, 2009). Furthermore, emotionality, defined as a dispositional trait characterised by the degree to which an individual is affected by emotions(Laible et al., 2010), was excluded as it was not considered to encompass specific ER strategy use. In contrast, the term emotional control was included as a search term, because it is used frequently as an alternative term for ER within the ER literature. Moreover, it was felt that this term encompassed the strategies used to control emotions. Consequently, the following specific key search terms were used: emotional regulation; emotion regulation; emotional control; emotion control; emotion-regulation strategies. From henceforth in the review, the terms emotion regulation (ER) and emotion regulation strategies (ER strategies) are used to represent these terms. In addition to these more general search terms, I searched using the specific strategy terms of cognitive reappraisal, suppression, rumination, acceptance, avoidance, and problem-solving. I also used the following specific search terms for the population: adolescence; adolescents; preadolescence; school age; middle childhood and late childhood.

Key search terms were used to search across fields (title, abstract, keywords) from PsychInfo and from Web of Science to obtain the most relevant

literature. In addition, I searched for authors who have published substantially in the topic of ER strategy use in adolescence and I also reviewed citations from the identified studies.

Inclusion and Exclusion Criteria

An initial screening of the studies located in the electronic search included:

- Studies published in English.
- Studies from February 2002 to February 2013 (to ensure inclusion of previous 10 years literature from the commencement of the review process).
- Peer-reviewed articles.

For Web of Science only, due to the excessive amount of articles within medical research fields, an additional filter of articles from research fields of psychology (clinical, social, developmental, applied and educational psychology) and education was added.

In addition, within the PsycInfo database, articles were screened for those with *emotional regulation*, *emotional control*, or *coping behavior* as a key heading (as identified by PsycInfo). Coping behavior was included as a key heading due to the overlap in conceptualisation of emotion coping strategies and ER strategies. Within Web of Science, due to no filter for key headings being available, articles were initially screened for those with *emotional regulation*, *emotion regulation strategies* or *coping strategies* as additional terms.

Inclusion criteria. Due to the quantity of studies fulfilling the initial screening criteria (n =1186), titles were screened and further inclusion and exclusion criteria were created. Specifically, a study was included if it reported information regarding influences on the individual differences in specific ER strategy use and/or the outcomes from specific ER strategy use by adolescents. This included studies that used and factored measures of specific strategies into broader categories (e.g. *adaptive* v *maladaptive* strategies). Due to the conceptual overlap with cognitive emotion coping strategies, studies examining specific coping strategies

were also included if they focused on emotional goals using behavioural or internal processes rather than external resources such as music or exercise.

Exclusion criteria. Several exclusion criteria were also applied. Firstly, studies were excluded if the primary results considered the extent to which participants engaged in adaptive or maladaptive ER per se rather than *how* emotion had been regulated. Secondly, studies were excluded if they assessed the following populations; special groups (e.g., young offenders, sexual minority groups, students with ADHD or ASD); participants diagnosed with medical conditions (e.g., diabetes) and clinical samples. This was in order to increase the representativeness of the review sample to a normative community school sample. Thirdly, studies were excluded if the sample included any participants under the age of 9 years and over the age of 18 years, to focus the review on a period when ER strategies are more internalised. Fourthly, previous literature reviews were excluded as it was not possible to guarantee that the included studies matched the current review's inclusion criteria. Fifthly, any studies investigating the effectiveness of ER interventions or validity of ER measures were excluded as they did not reveal any information about the influences on, or outcomes of adolescent ER strategy use. Finally, any studies that examined clinical outcomes associated with ER strategies, for example, self-injury behaviour or eating disorders, were excluded as these were considered beyond normative school adjustment factors.

Procedure. These criteria were applied to an abstract review followed by a full article review of the identified studies. Appendix A outlines the studies excluded at the full article review stage and the reasons why. The application of these criteria resulted in 33 studies being retained. A flowchart outlining the process for identifying relevant studies is shown in Figure 2 and basic details of the included studies can be seen in Table 1.

Following the identification of studies for inclusion, I completed data extraction forms for each study. The data extraction form proforma and an example of a completed form can be seen in Appendices B1 and B2 respectively. The identified studies were then synthesised and analysed.

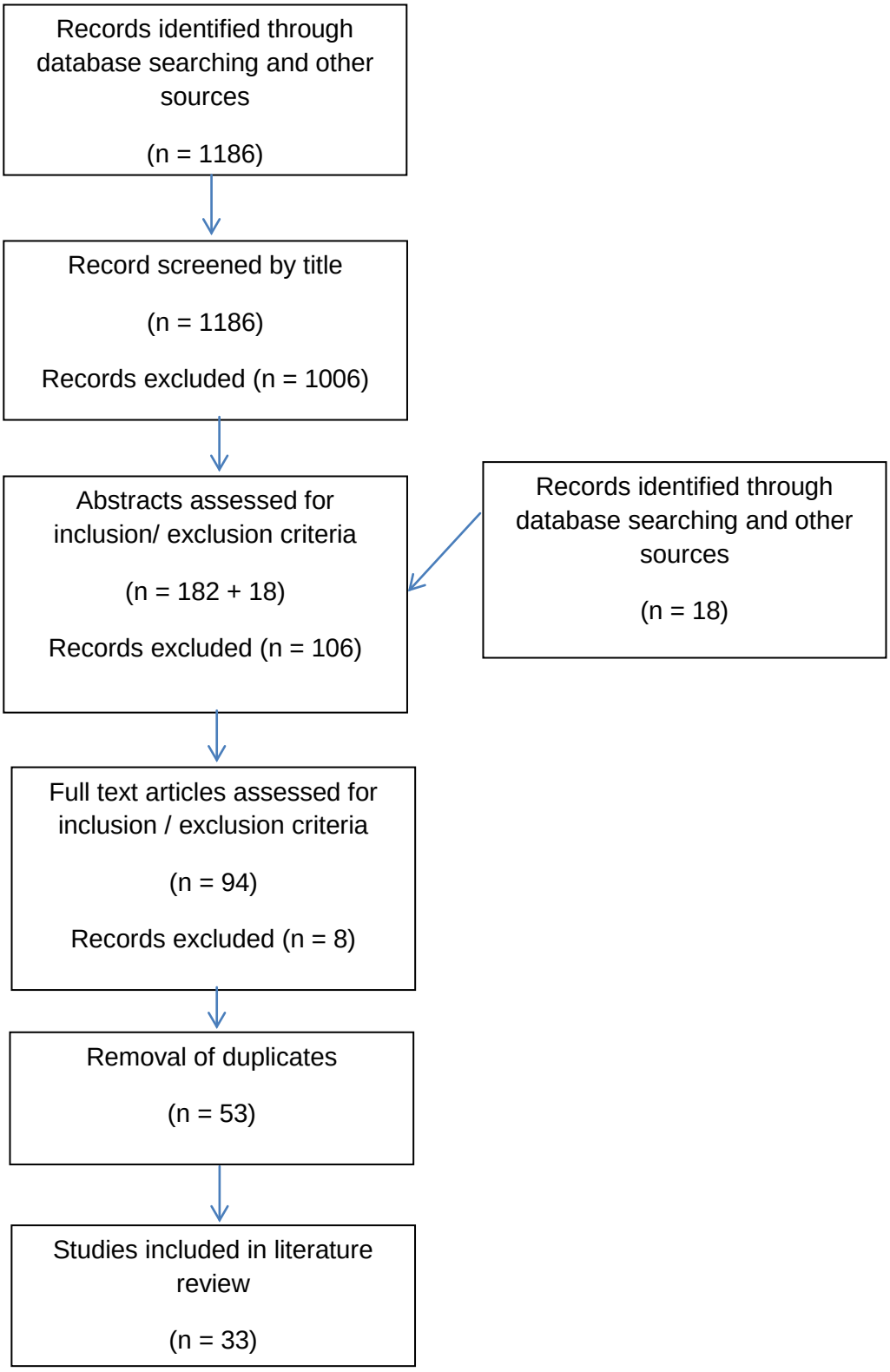

Figure 2. Flowchart of literature search

Table 1

Studies included in Systematic Literature Review

Authors	**Sample details (number, age and nationality)**	**Design**	**Emotion Regulation Strategy Measures**	**Other variables: instruments and measures**
Bariola et al. (2012)	379 aged 9 -19 years (Australian)	Cross-sectional	ERQ-CA: cognitive reappraisal , expressive suppression	ERQ : parental cognitive reappraisal and expressive suppression
Betts et al. (2009)	44 aged 12-16 years (Australian)	Cross-sectional	ERQ-CA: cognitive reappraisal , expressive suppression	RADS-2 : Depressive symptomology DOTS-R : temperament (approach-withdrawal, flexibility-rigidity, positive mood quality) PBI : parental behaviour (Care & Over-protection)
Brenning et al. (2012)	Study 1: 339 aged 12-14 years Study 2: 746 aged 8-14 years (Belgian)	Cross-sectional	ERI: (dysregulation and suppression subscales)	CDI: (Dutch translation) ; depressive symptomatology ECR-RC: attachment representations (attachment anxiety, avoidance) CRPBI: parental responsiveness and autonomy support

Broderick et al. (2004)	79 mean aged 10.1 years (American)	Longitudinal	RSQ: rumination	Children's Sex-Role test: gender role CDI: depressive symptoms
Brumariu et al. (2012)	87 aged 10 – 12 years (American)	Cross-sectional	CCSS: (completed by mothers) ; active coping (problem solving, positive restructuring), social support seeking (emotion support seeking, problem-focused support seeking), avoidant coping (avoidance)	Children's Negative Cognitive Error Questionnaire: interpretation of emotionally charged events EESC: (Lack of Emotional Awareness subscale) ; monitoring / awareness of emotion SCARED: anxiety symptomatology (panic disorder, Generalized Anxiety, Social Phobia, Separation Anxiety, School Phobia)
Burwell & Shirk (2007)	168 12 – 15 years (American)	Longitudinal	Ruminative response scale (part of RSQ); rumination Responses to stress questionnaire: coping strategies: primary control engagement (problem solving, emotion expression, emotion regulation); secondary control engagement (positive thinking, cognitive restructuring, acceptance, distraction) and voluntary disengagement (avoidance, denial, wishful thinking)	CDI: depressive symptomatology CDRS-R: depressive symptomatology Mood and conduct checklist

De Veld et al. (2012)	158 aged 9-11 (Dutch)	Cross-sectional	Adapted ERQ (Dutch translation): cognitive reappraisal , expressive suppression	Report of physical development using Tanner criteria ; pubertal stage Saliva samples ; physiological responses to stress (cortisol levels, saliva alpha-amylase concentrations) TSST-C: (adapted and extended) ; induce psychosocial stress
Garnefski et al. (2005)	271 aged 12-18 years (Dutch)	Cross-sectional	CERQ: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, blaming others	YSR: internalizing and externalizing problems
Gresham & Gullone (2012)	682 aged 10 -18 (Australian)	Cross-sectional	ERQ-CA: cognitive reappraisal , expressive suppression	BFQ-C : traits of Five-Factor Model of personality IPPA: attachment (degree of mutual trust, quality of communication, alienation)
Gullone et al. (2010)	1128 aged 9-15 years (Australian)	Longitudinal	ERQ-CA: cognitive reappraisal , expressive suppression	Gender and age

Hsieh & Stright (2012)	438 aged 13 – 15 years (Asian)	Cross-sectional	ERQ (translated into Chinese): cognitive reappraisal , expressive suppression	Self-concept questionnaire II ; general and school self-concept Social skills Improvement system – rating scales ; internalizing problems
Hughes et al. (2011)	340 aged 9-15 years (Australian)	Cross-sectional	ERQ-CA: cognitive reappraisal , expressive suppression	CDI: depressive symptomology TOSCA-A : Self-conscious emotions of shame and guilt IECA: empathy (emotional responsiveness of children and adolescents to perceived emotional experiences of others) ERICA: ER competencies (Emotional self-awareness, Emotional control, Situational Responsiveness)

Jaffe & Gullone (2010)	293 aged 9-12 (Australian)	Cross-sectional	ERQ-CA: cognitive reappraisal , expressive suppression	DOTS-R : temperament (approach-withdrawal, flexibility-rigidity, positive mood quality) PBI: parental behaviour (Care & Over-protection)
Jose & Schurer (2010)	566 aged 10 – 18 years (New Zealander)	Cross-sectional	CSS (modified): coping strategies (rumination, social support, externalization, problem solving)	PSS: psychomatic symptoms Children's Manifest Anxiety Scale: anxiety CDI: depressive symptomatology SPPC (general self-worth subscale): self-esteem
Larsen et al. (2012)	1465 mean aged 13.8 (Dutch)	Longitudinal	ERQ: Expressive suppression	CES-D: depressive symptoms RSI: parental support Olewus bully/victim questionnaire (1 item): peer victimization
Lougheed & Hollenstein (2012)	177 aged 12 – 16.9 years (Canadian)	Cross-sectional	ERQ: cognitive reappraisal , expressive suppression ASQ: concealing, adjusting DERS: difficulties in regulating negative emotions	BDI-II: depressive symptomology BAI: cognitive and somatic symptoms of anxiety SAS-A short form : social anxiety

Mi Sung et al. (2006)	72 from grades 9 – 11 (ages not given) (American)	Cross-sectional	CRI-Y: logical analysis, positive reappraisal, seeking guidance and support, problem-solving, cognitive avoidance, resignation / avoidance, seeking alternative rewards, emotional discharge	RSE: self-esteem SCARED: anxiety STAXI: anger Reynolds Adolescent Depression Scale; depressive symptomatology
Muris et al. (2004)	337 aged 12 -17 years (Dutch)	Cross-sectional	CRSS : rumination and distraction	PSWQ-C: engagement in excessive, generalized and uncontrollable worry CDI: depressive symptomatology SCARED: anxiety NAQ: negative attributions
Ng et al. (2012)	719 aged 14-15 years (Singaporean)	Cross-sectional	CRI: approach and avoidance	CD-RISC: resilience (positive thinking, tenacity, help seeking) STAI: anxiety TAXI: anger expression AQ-Short: aggression

Ongen (2010)	270 aged 15-18 years (Turkish)	Cross-sectional	CERQ (Turkish adaptation): self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, blaming others	BDI (Turkish version): depressive symptomology SAS (Turkish version): submissive behaviour
Papadakis et al. (2006)	223 11-18 years (American)	Cross-sectional	RSQ: Brooding and reflection	CDI: depressive symptomatology
Perry-Parrish & Zeman (2009)	155 mean age 13.87 years (American)	Cross-sectional	CSMS: sadness regulation (inhibition, emotion regulation coping, dysregulated expression)	Estimate rating of daily sadness experience: sadness frequency Peer nomination measure: sadness management nominations (sadness inhibition and sadness disinhibition) Peer sociometric rating measure : social acceptance CBCL: parent rated social functioning
Reijntjes et al. (2007)	244 aged 10-13 years (Dutch)	Cross-sectional	Vignette reaction measures (self-reported use of strategies): cognitive analysis, positive reappraisal, problem-focused behaviour, cognitive disengagement, goal displacement, mental distraction, passive behaviour	Vignette reaction measure (self-reported extent to which using each ER strategy would make participant feel better: mood enhancement effect of ER strategies Vignette reaction measure (self-reported) perceived self-efficacy to resolve problematic situation presented in vignette: perceived self-efficacy; CDI: depression

Roth et al. (2009)	Study 1: 169 mean age 14.7 years Study 2: 156 mean age 14.6 years (Israeli)	Cross-sectional	Dysregulation and suppressive regulation scale: expressive suppression	Perceptions of Parental Conditional positive Regard (PCPR)and Parental Conditional Negative Regard (PCNR)scales: parenting practice Introjected Regulation Scale: controlled motivation SDS: social desirability Teachers' reports of modes of academic engagement scales: academic engagement Perceptions of parental autonomy support for fear and anger regulation/ academic
Schwarz et al. (2012)	180 mean age 10.61 years (Swiss)	Longitudinal	FEEL-KJ: anger coping strategies (problem orientation, distraction, mood enhancement, acceptance, oblivion, cognitive problem-solving, revaluation)	CPIC (German adaptation) : perception of interparental conflict CRSI (German adaptation): conflict engagement and withdrawal subscales ; parents' negative conflict resolution Security Scale: attachment security

Silk et al. (2003)	152 aged 12-17 years (American)	Longitudinal	RSQ responses on an Experience Sampling Form: problem-solving, emotional expression, cognitive restructuring, acceptance, distraction, positive thinking, denial, avoidance, wishful thinking, escape, inaction, rumination, impulsive or involuntary action.	YSR (externalizing subscale): problem behaviour CDI: depressive symptomatology Responses on an Experience Sampling Form: emotional dynamics (ratings of anger, sadness and anxiety)
Tortella-feliu et al. (2010)	1441 aged 12-17 years (Spanish)	Cross-sectional	CERQ (Catalan version): self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, blaming others	SCAS: anxiety symptomatology CDI: depressive symptomatology SPSRQ-J: sensitivity to punishment and reward PANAS- CY: Positive and Negative Affect
Vulic-Prtoric & Macuka (2006)	331 aged 10 – 16 years (Croatian)	Cross-sectional	SUO: problem-solving, expressing feelings; avoidance; distraction; social support – friends, social support – family; cognitive restructuring	SKAD-62: anxiety and fear SDD: depressive symptomatology KOBI: children's perceptions of family climate

Yap et al. (2008)	200 11-13 year olds (Australian)	Cross-sectional	Child Affect Questionnaire – Child Strategies (negative responses scale): 9 strategies	PRCPS: parents' reaction to children's positive emotions
Yap et al. (2011)	198 aged 10-12 years (Australian)	Prospective	CSMS: (inhibition, emotion regulation coping, dysregulated expression)	EATQ-R: temperament dimensions of Negative Emotionality and Effortful Control) CES-D: depressive symptomatology Family observation using the LIFE coding system : aggressive behaviour, dysphoric behaviour
Zalewski et al. (2011)	196 aged 9-12 years (American)	Cross-sectional	Children's Coping Strategies Checklist: active coping (cognitive decision making, control, direct problem-solving, positive cognitive restructuring, optimism and seeking understanding, and avoidant coping (cognitive avoidance, avoidant actions)	Coding of intensity and frequency of physiological, observational and subjective report responses to emotion eliciting tasks; emotion regulation What I felt scale: appraisal style
Zeman et al. (2002)	227 aged 9 – 12 years 9 months (American)	Cross sectional	CSMS: sadness regulation (inhibition, emotion regulation coping, dysregulated expression) CAMS: anger regulation	EESC: poor awareness of emotion CDI: depressive symptomology STAIC (trait scale): anxiety Aggression behaviour rating scales : aggressive behaviour

Zhang et al. (2011)	927 10th and 11th graders 9ages not given) (Chinese)	Cross-sectional	CSSMSS: coping styles of Chinese adolescents (problem solving, help-seeking, avoidance, venting, fantasizing, acceptance)	MHI-A: general mental health

Notes: ASQ: Affective Styles Questionnaire; AQ: Aggression Questionnaire; BAI: Beck Anxiety Inventory; BDI-II: Beck Depression Inventory – Second Edition; BFQ-C: Big Five Questionnaire for Children; CAMS: Children's Anger Management Scale; CBCL: Child Behavior Checklist; CCSS: Children's Coping Strategies Scale; CDI: Children's Depression Inventory; CD-RISC: Conner and Davidson Resilience Scale; CDRS-R: Children's Depression Rating Scales-Revised; CERQ: Cognitive Emotion Regulation Questionnaire; CES-D: Centre for Epidemiological Studies Depression Scale; CES-D-R: Centre for Epidemiological Studies Depression Scale Revised; CPIC: Children's Perception of Interparental Conflict; CRI: Coping Responses Inventory; CRI-Y: Coping Response Inventory-Youth; CRPBI: Child Report on Parenting Behavior Inventory; CRSI: Conflict Resolutions Style Inventory; CRSS: Children's Response Style Scale; CSMS: Children's Sadness Management Scale; CSS: Coping Strategies Scale; CSSMSS: Coping Style Scale of Middle School Students; DERS: Difficulties in Regulation Scale; DOTS-R: Revised Dimensions of Temperament Survey; EATQ-R: Early Adolescent Temperament Questionnaire- Revised; ECR-RC: Experiences in Close Relationships Scale – Revised, Child version; EESC: Emotion Expression Scales for Children; ERI: Emotion Regulation Inventory; ERICA: Emotion Regulation Index for Children and Adolescents; ERQ: Emotion Regulation Questionnaire; ERQ-CA: Emotion Regulation Questionnaire for Children and Adolescents; FEEL-KJ: Fragebogen zur Erhebung der Emotionsregulation bei Kinder und Jugendlichen; IPPA-R: Inventory of Parent and Peer Attachment-Revised; KOBI: Quality of Family Interactions; MHI-A: Mental Health Inventory for Adolescents; NAQ: Negative Attributions Questionnaire; PANAS-CY: Positive and Negative Affect Schedule for Children and Youth; PBI: Parental Bonding Instrument; PRCPS: Parents' Reaction to Children's Positive Emotions Scale; PSS: Psychosomatic Symptoms Scale: PSWQ-C: Penn State Worry Questionnaire for Children; RADS-2: Reynolds Adolescent Depression Scale – Second Edition; RSE: Rosenberg Self-Esteem Scale; RSI: Relational Support Inventory; RSQ: Response Style Questionnaire; SAS: Submissive Acts Scale; SAS-A: Social Anxiety Scale for Adolescents; SCARED: Screen for Anxiety Related Emotional Disorders; SCAS: Spence Children's Anxiety Scale; SDD: Depression Scale for Children and Adolescents; SKAD-62: Fear and Anxiety Scale for Children and Adolescents; SPPC: Self-Perception Profile for Children; STAI: State-Trait Anxiety Inventory; STAI: State-Trait Anxiety Inventory for Children; SPSRQ-J: Sensitivity to Punishment and Sensitivity to Reward Questionnaire-Junior; STAXI: State-Trait Anger Expression Inventory; SUO: Coping Strategies Inventory for Children and Adolescents; TOSCA-A: Test of Self-Conscious Affect – Adolescent; TSST-C: Trier Social Stress Test for Children; YSR: Youth Self-Report

Results and Discussion

Details relating to the identified studies' sample sizes and nationality, measures of specific ER strategies, and measures of other variables are included in Table 1. The studies were conducted in a wide range of countries with the majority in the USA (ten), Australia (eight), and The Netherlands (four). The remaining studies were conducted in Belgium, Taiwan, New Zealand, Canada, Singapore, Turkey, Israel, Switzerland, Spain, Croatia, and China. None of the identified studies were carried out in the U.K. Twelve studies took place with secondary school (or high school) students and ten studies with primary school (or elementary school) pupils. Seven studies were carried out with samples inclusive of primary and secondary school students (or the non-UK equivalents). Of the remaining studies; three included middle school pupils and one was conducted with students from a combined middle / high school.

Thirteen studies conceptualised ER as the cognitive and behavioural strategies used to modify response tendencies within the emotion generative process mostly based on the process model of ER by Gross (1998). A further fourteen studies conceptualised ER as the strategies used to cope specifically with the negative emotions invoked by stressful events. The remaining studies considered ER in various ways ranging from narrow to broad conceptualisations. Accordingly, four studies viewed ER as only the inhibition of the expression of sadness (Perry-Parrish & Zeman, 2009; Yap et al., 2011) or the adaptive strategies used to manage anger (Roth, Assor, Niemiec, Ryan, & Deci, 2009; Schwarz, Stutz, & Ledermann, 2012). In contrast, two studies conceptualised ER more broadly to include dimensions of emotional reactivity and effortful regulation (Yap, Allen, & Ladouceur, 2008) and expression management, emotional awareness and emotion coping (Zeman, Shipman, & Suveg, 2002). Despite these varying conceptualisations, all the studies measured specific ER strategies with the majority (thirty-one studies) using only self-report methodology. The exceptions were Perry-Parrish and Zeman (2009) who utilised self- and peer reports, and Brumariu, Kerns, and Seibert (2012) who measured the use of ER strategies using maternal report only.

Individual Differences in ER strategy use

Interpersonal factors. The reviewed studies identified age, gender, culture and temperament as the key interpersonal factors associated with ER strategy use in late childhood and adolescence.

Age. With reference to age differences in ER strategy use, the identified studies' findings, within the age range criteria of 9 – 18 years, were inconsistent. There was some indication that more effective ER strategies are used as individuals get older. For example, Jaffe et al. (2010) found that Australian students aged 11 – 12 years reported using significantly more CR than students aged 9 – 10 years, emphasising a potential difference in primary and secondary school students' ER strategy use. In accordance, Gullone et al. (2010) found less use of ES reported by older participants aged 15 years than the 9 year old participants. However, Gullone et al. also found less CR use by the older students. The authors suggested that rather than CR, older participants may have chosen to use alternative adaptive ER strategies, although no other adaptive strategies were measured in their study. Öngen (2010) also identified a significant age difference in the use of *acceptance*, defined as resigning yourself to having to accept the emotive event. Younger (9^{th} grade) pupils reported the use of acceptance significantly more than older (11^{th} grade) pupils. On the other hand, Öngen (2010) found no age differences in any other ER strategies. This was in accordance with Gresham & Gullone (2012) who found no significant age differences in the use of ES or CR in a large age range sample of 10 to 18 years. The differences in findings may be accounted for to a certain extent by the differences in sample age. Gresham and Gullone, and Öngen used slightly older samples suggesting that the established ER strategies of the older participants may have diluted any age effects from the younger participants.

In addition to differences between different aged students at a single time point, CR was found to be relatively stable for individuals over a two year period (Gullone et al., 2010). In contrast, for ES use, findings from identified studies indicated a decrease over time, with a smaller decrease for older compared to younger participants (Gullone et al., 2010; Larsen et al., 2012). This supported the idea that CR may become more trait-like earlier in development than ES, although

further longitudinal research is needed to establish different developmental trajectories for specific ER strategies.

In consequence of these results, it appears that findings mainly supported the idea that older secondary school students have an increased availability to more adaptive ER strategies and are less reliant on maladaptive strategies such as ES or acceptance.

***Gender*.** Gender was a common individual difference examined in studies as pertaining to ER strategy use. Findings were inconsistent. In some studies that examined a wide range of measured ER and coping strategies, no significant gender differences were found for any strategies (Reijntjes et al., 2007; Yap et al., 2008). Moreover, no significant gender differences were found by two studies that investigated the specific strategies of CR and ES (Hsieh & Stright, 2012; Jaffe et al., 2010). However, the significant gender differences found in other studies were relatively consistent in their nature. For example, several studies found that males reported using more ES or inhibition of feelings than females (Gresham and Gullone, 2012; Gullone et al., 2010; Larsen et al., 2012; Perry-Parrish & Zeman, 2009). This finding is in accordance with gender intensification theory (Hill & Lynch, 1983) which states that during puberty there is an increase in the significance of gender roles. During adolescence adopting a masculine identity may lead to less expression of feelings, due to increased pressure to conform to gender-specific social norms. An exception was a finding by Vulic-Prtoric and Macuka (2006) that Croatian males aged 10 to 16 years reported using significantly more overt expression of their emotions than females, as well as distraction, to cope with stressful situations. However, the measurement of ER in this study was based on regulating only anger.

The study by Vulic-Prtoric and Macuka (2006) also found that females used the coping strategies of seeking support from family and friends significantly more than males. This latter result was consistent across many of the identified studies; females were found to use more active primary control strategies to regulate their emotions such as problem solving (Silk et al., 2003) and venting (Zhang, Chang & Zhang, 2011) as well as seeking support from family and peers (Mi Sung, Puskar, & Sereika, 2006; Zhang et al., 2006).

Consistent with studies involving adult samples (Garnefski, Kraaij, Legesteree, & van der Kommer, 2004), females were also often identified in the literature as significantly more likely to use the coping strategy of rumination (Muris, Roelofs, Meesters, & Boomsma, 2004; Öngen, 2010). Rumination is defined as "behaviours and thoughts that passively focus one's attention on one's depressive thoughts and on the implications of these thoughts" (Nolen-Hoeksema, 1998, p.239). It is considered that female adolescents have lower self-esteem relating to body image and appearance (Morin, Maïano, Marsh, Janusz, & Nagengast, 2011) and so become inwardly focused and consequently ruminative. In contrast to many studies, and contrary to their hypothesis, Broderick and Korteland (2009) found no gender differences in the use of rumination by 79 U.S. students with an average age of 10.1 years. They concluded that the use of rumination was more closely determined by gender role (feminine-identified adolescents) than gender. Furthermore, Burwell and Shirk (2007) examined the differentiated subscales of rumination by U.S adolescents (mean age 13.58 years). They reported that a gender difference was only significant for the subscale strategy of *reflection* (actively attempting to gain insight into problems), which is a more active strategy. There was no gender difference for *brooding* (focusing on depressive symptoms) which is the passive subscale of rumination. The studies by Broderick and Korteland and by Burwell and Shirk involved young adolescent samples, suggesting that the maladaptive strategy of brooding (as a subscale of rumination) may develop later in adolescence.

Overall, despite some inconsistencies in evidence, it seems that male adolescents are more likely to suppress how they feel and that females will be more active in their ER approach. Females may use rumination to a greater extent but for younger adolescents, this may be based on a strategy of self-reflection rather than passive focus on their problems.

Ethnicity /culture. A less examined interpersonal factor was ethnicity and cultural environment. Overall only three studies addressed cultural context as a potential influence on ER strategy use in adolescence. Findings were mixed. Perry-Parrish and Zeman (2009) found no significant differences in ES or disinhibition used to manage sadness between 155 Black and White American adolescents. In contrast, Jose and Schurer (2010) investigated cultural

differences in the coping strategies of 566 adolescents in New Zealand. They found that Maori and Asian New Zealanders reported using significantly more rumination and problem-solving than European New Zealanders. The authors concluded (albeit they state 'tentatively') that people from collectivist societies are more likely to ruminate and actively problem-solve than people from individualist societies. Zhang et al. (2011) compared ER strategy use between urban and rural groups in China, introducing high or low socioeconomic status (SES) as an additional variable. Low SES rural adolescents were more likely to use more ineffective coping strategies such as venting and fantasizing than adolescents in high SES rural schools and urban schools. However, students from low SES rural areas were also more likely to seek help, potentially reflecting an active coping style.

Overall, although no differences were found in the management of sadness between Black and White adolescents in America (Perry-Parrish & Zeman, 2009), there was some indication that cultural belief systems may play a role in ER strategy use (e.g., Jose & Schurer, 2010). The finding that adolescents from more collectivist societies are more likely to ruminate would need further investigation but it is possible that this is due to the social expectations of the cultural group. Urban – rural and SES contextual differences also appear to be significant but this evidence is currently specific to the developing country of China. These studies highlight the importance of considering cultural variations in ER and coping strategies.

Temperament. There were more consistent findings from identified studies with regards to the association between students' temperament and ER strategy use. The temperamental factor of negative affectivity determined adolescents' use of negative cognitive ER strategies (self-blame, rumination, catastrophizing and blaming others) in a cross-sectional study by Tortella-Feliu et al. 2010. Furthermore, ES use was negatively correlated with the Approach and Positive Mood Quality dimensions of temperament (Jaffe et al., 2010). This was in accordance with adult literature which found an inverse association between extraversion and ES (Gross & John, 2003). ES was also positively correlated with neuroticism (Gresham & Gullone, 2012). On the other hand, the more adaptive ER strategy of CR was positively correlated with Approach, Positive Mood quality

and Flexibility (Jaffe et al., 2010) as well as extraversion and openness (Gresham & Gullone, 2012).

Regarding relationships with temperament it seems reasonable that adolescents with a temperament characterised by flexibility and openness are more likely to engage in a proactive ER strategy such as CR (Gross and John, 2003). In addition, adolescents with a propensity for low mood are more likely to use maladaptive strategies due to their inability to respond flexibly to an emotion-invoking event (Jaffe et al., 2010). Similarly, neurotic adolescents who may become overwhelmed by their negative emotions are likely to suppress the display of them to attempt to feel better (Gresham & Gullone, 2012). However, it should be considered that the studies were cross-sectional and also based on self-report, therefore potentially confounded by reporter bias. It is possible that adolescents with a negative temperament may respond in a negative manner to items included in self-report questionnaires.

Intrapersonal factors. In addition to internal influences, some studies addressed the importance of the social context as impacting on students' ER strategy use. Eight studies focused on the family context and particularly the extent to which parenting practices and the quality of attachments influenced the use of specific ER strategies.

Parenting practices. Studies have consistently shown that overprotective and restrictive (controlling) parenting practices are associated with the use of more maladaptive ER strategies by adolescents, including ES (Jaffe et al. 2010; Yap et al. 2011). In accordance with the association between controlling parenting style and maladaptive ER strategy use, Roth et al. (2009) investigated the consequences of parental conditional positive regard (PCPR) on adolescents' ER strategy use. They found that PCPR was associated with suppression of fear and anger as children felt internally compelled to suppress negative emotions.

Furthermore, studies found that if parents responded to adolescents' negative emotional displays of behaviour in an accepting, warm and supportive way, adolescents were more likely to adopt adaptive ER strategies (Jaffe et al., 2010; Larsen et al., 2012).

Relationships with parents. Consistently in the literature, closer parent-child relationships predicted more adaptive adolescent ER strategy use and more distant relationships predicted less adaptive adolescent ER strategy use (Brenning, Soenens, Braet, & Bosmans, 2012; Brumariu et al., 2012; Gresham & Gullone, 2012). Gresham and Gullone (2012) measured adolescents' perceived dimensions of relationships with their parents using the Inventory for Parent and Peer Attachment (IPPA; Armsden & Greenburg, 1987). They found that higher Communication predicted more CR and less ES use. In contrast, higher Alienation predicted less CR and more ES use. Similarly, Brenning et al. (2012) found that an avoidant attachment style, measured by the self-report Experiences in Close Relationships Scale-Revised (ECR-R; Fraley, Waller & Brennan, 2000), correlated positively with the use of ES. The finding of the association between attachment and ER is in accordance with the ER model of attachment (Shaver & Mikulincer, 2002) which supports the premise that avoidantly attached adolescents are more likely to suppress their emotions to avoid negative reactions from their caregiver. This model proposes that individuals adopt different ER strategies dependent on the quality of their attachment with their caregiver. For example, anxiously attached adolescents predominantly use strategies to bring them increased attention due to their fear of abandonment. However, avoidantly attached adolescents will use strategies such as ES to avoid increased attention and proximity as they have learned that becoming attached leads to rejection or anger (Shaver & Mikulincer, 2002).

In contrast, Brumariu et al. (2012) found no association between adolescents' secure, avoidant and ambivalent attachment patterns, (rated from story stem interviews), and adolescent coping strategies. However, Brumariu et al. did identify that a disorganized attachment style was significantly associated with less active coping strategies (positive restructuring and refocusing). The inconsistency in findings for an association between security of attachment and ER strategy may be explained by differences in methodology. Story stem interviews assess children's representations of attachment based on scenarios using dolls and props whereas self-report questionnaires assess self-perceptions of own attachments. It is possible therefore, that the studies measured different aspects of the attachment construct.

Parents' ER strategy use. In addition to adolescents' parental attachment style, it is likely that parents' own ER strategy use influences adolescents' strategy use through social learning theory (Bandura, 1977). In accordance, Bariola, Hughes, and Gullone (2012) found that maternal use of ES was associated with adolescents' use of ES. However, this was only true for mothers. This may be due to mothers being potentially more involved in emotional socialisation in adolescence than fathers (Klimes-Dougan et al., 2007). Furthermore, there was no association between parents and adolescents' use of CR. Although CR is not as readily observable as ES, this is contrary to the notion that parents verbally think aloud and scaffold ways to deal with emotional situations (Vygotsky, 1986).

Overall, it is likely that individuals are able to manage their emotions initially from caregivers' direct intervention and subsequently through learning adaptive coping strategies from emotion coaching by their parents (Eisenberg, Cumberland, & Spinrad, 1998). In support, the review findings indicated that being responsive and communicative with offspring was associated with adaptive ER strategy use in adolescence. Aside from parental interactions, there were no studies that investigated the impact of other social contexts on ER strategy use. As adolescence is marked by the increase in influence from peers and teachers, future research should consider other relationships as affecting how adolescents manage their emotions.

In summary, despite some inconsistencies, internal and external factors have been found to influence ER strategy use in late childhood and adolescence. In particular, attachment and temperament are consistently identified as significant factors influencing ER strategy use for this age group (e.g., Brenning et al., 2012; Gresham & Gullone, 2012). Thus education professionals should consider both internal factors and contextual influences as determining individual differences in students' vulnerability for maladaptive ER strategy use and any consequential outcomes.

Correlates with ER Strategy use

Specific ER strategies are considered adaptive or maladaptive dependent on their associations with different outcomes for individuals. Studies suggest that

approach and engagement strategies rather than avoidance strategies are associated with better adjustment (Compas et al., 2001). In accordance, although exceptions are acknowledged, CR is considered a more adaptive strategy than ES predicting better psychological outcomes (Gross & John, 2003) and therefore better school adjustment.

The review identified literature investigating ER strategy use as a predictor of a range of outcome factors that impact on school adjustment. The investigated correlates of ER strategy use by adolescents included internalising and externalising factors, social functioning and self-concept. However, more literature identified much stronger associations of ER strategy use with internalising difficulties such as depressive symptomatology and anxiety than other school adjustment factors.

Correlates to Internalizing Problems. Internalising problems have been consistently associated with negative school adjustment factors such as low academic performance and poor social functioning (Wood, 2006). With regards ER strategies, it has been proposed that avoiding the engagement with any stressors leads to dwelling on difficulties and does little to change the negative experience, maintaining or enhancing internalising problems (Gross & John, 2003). Moreover, the management of negative emotions by withholding negative feelings leads to an overwhelming emotional experience resulting in more severe internalising difficulties (Betts, Gullone, & Allen, 2009).

Most studies included in this review measured specific domains of internalising problems such as depressive symptomatology and/ or anxiety. An exception to this were the studies by Garnefski et al. (2005) and Zeman et al., (2002) which used composite index measures of internalising problems. The researchers identified a strong association between the use of maladaptive ER strategies to manage anger; the use of rumination and a lack of positive reappraisal, and concurrent self-reported internalising problems. These findings were relatively consistent with other studies measuring more specific internalising difficulties correlates.

Depressive symptomatology. Non-clinical depressive symptomatology was the most commonly investigated specific correlate of coping strategy use.

Primarily using the CDI (Kovacs, 1981) to measure depression, many studies found a significant correlation between emotion coping strategies and depressive symptomatology, both concurrently and over time. Moreover, there was considerable agreement regarding which type of coping strategy predicted this internalizing problem for adolescents. Rumination was identified as significantly associated with feelings of depression in six studies (Broderick & Korteland, 2004; Burwell & Shirk, 2007; Muris et al, 2004; Öngen, 2010; Papadakis, Prince, Jones, & Strauman, 2006; Silk et al., 2003). There was also suggestion of the rumination subtype of *brooding* as being a more significant predictor than *reflection* (Burwell & Shirk, 2007; Papadakis et al., 2006). With a sample size of 168 U.S. adolescents, Burwell and Shirk (2007) found that only brooding (not reflection) predicted depression over 16 months when controlling for depression at time one. This suggests that it is not the strategy of focussing on negative emotions per se that links to depression but whether this is done in a passive (brooding) rather than a more active (reflection or distraction) manner.

Despite the overall conclusion of rumination as associated with depressive symptomatology, there were some discrepancies in the influence of gender. Some studies identified no gender differences (Broderick & Korteland, 2004). In contrast, Öngen (2010) found rumination to only be a significant predictor of depressive symptomatology in males, and Burwell and Shirk (2007) only in females. Indeed, Papadakis et al. (2006) utilised a female only sample in their study, arguing that at about age 13 or 14 years, girls are twice as likely to suffer from depression and so merited more investigation than males. Discrepancies in the findings can be partly explained by the samples used. Öngen (2010) used a Turkish sample. He argued that for girls in Turkish culture, rumination was used to 'attain internal harmony' (p.1522) supporting the idea that in adolescents it is the rumination subscale of reflection rather than brooding that is associated with depressive symptomatology. Broderick and Korteland (2004) suggested that their sample included students with SEN adding additional emotional demands which diluted any gender differences in the association of rumination use and depressive symptomatology.

In addition to rumination, the identified studies found other coping and ER strategies to be significant predictors of depressive symptomatology.

These included self-blame, catastrophizing and blaming others (Öngen, 2010), inhibition (Yap, 2011), CR and ES (Betts et al., 2009) and avoidance (Vulic-Prtoric & Macuka, 2006). Yap et al. (2011) identified adolescents' use of inhibition as mediating the link between high negative emotionality and low emotional control, and depressive symptoms. Accordingly, studies found approach strategies (thinking of the problem in a different way) resulted in less reported depression symptoms (Lougheed & Hollenstein, 2012; Ng et al., 2012). Moreover, Ng et al. (2012) found that having resilience, conceptualised as positive thinking, tenacity and help seeking, mediated the link between approach coping strategy use and internalizing disorders, including depression. Dealing directly with stressful events using approach coping strategies meant that individuals went through a positive problem solving process reinforcing the individual's resilience and ensuring a readiness to learn in school (Ng et al., 2012).

With the exception of Yap et al. (2011), the studies identifying ER and coping strategies as predictors of depressive symptomatology were cross-sectional and therefore causality could not be established. Moreover, some studies argued that individuals with more depressive symptomatology were more prone to using less adaptive ER strategies such as ES, and less likely to use adaptive ER strategies like positive reappraisal (Hughes, Gullone, & Watson, 2011; Reijntjes et al., 2007). Furthermore, Larsen et al. (2012) conducted a 2-year longitudinal study and found a causal association between high depressive symptoms and ES use, with no evidence for a reversed link from ES to depressive symptomatology.

Anxiety. Similarly to the links with depression, rumination and avoidance were the key maladaptive coping strategies associated with anxiety (Mi Sung et al., 2006; Muris et al., 2004; Vulic-Prtoric & Macuka, 2006). Indeed, Muris et al. (2004) concluded that the association of rumination use with anxiety was stronger than the association with depression. This was in accordance with Vulic-Prtoric and Macuka, (2006) who also found that avoidance was a better predictor of anxiety than depression in adolescence. In contrast, Mi Sung et al. (2006) found the avoidance strategies of cognitive avoidance; acceptance and emotional discharge were less predictive of anxiety than depression although still statistically significant. Furthermore, Tortella-Feliu et al. (2012) identified the use of negative

ER strategies (self-blame, rumination, catastrophizing, and blaming others) as a mediator for the association between negative affect and anxiety.

Some studies reported that using active, approach coping strategies predicted less anxiety, although the findings are less consistent. Zalewski et al. (2011) examined the association of trait-like coping styles with responses to emotion eliciting events. The authors found that 9 to 12 year olds who used self-reported positive cognitive restructuring showed little emotional response, measured physiologically and behaviourally to an anxiety-eliciting task. Zalewski et al. concluded that this specific coping style aimed at a positive change in thinking, facilitated calmness. This was in contrast with de Veld, Riksen-Walraven and Weerth (2012). They found that CR was not related to any reductions in 10 year-olds' cortisol or alpha-amylase responses to a psychosocial stress task. Moreover, this study identified that the use of ES was related to a reduction in salivary alpha-amylase (sAA) responses suggesting that it was the use of ES, rather than CR, which led to low anxiety and calmness. However, it was noted that the identified variance in sAA responses was small.

In summary, in accordance with adult research (Nolen-Hoeksema, 1998), the results suggested that using disengagement or involuntary engagement strategies such as avoidance or rumination will maintain or enhance anxious and depressed states in students (Mi Sung et al., 2006). Consequently, students display limited attention focussing only on their negative feelings or potential threats, interfering with their academic performance and social functioning (Wood, 2006). Moreover, there is a suggestion that approach coping strategies may diminish anxiety and depression through the use of resilience (Ng et al., 2012). In contrast, some studies have argued that students with more depressive symptomatology are more prone to using more maladaptive strategies such as ES (e.g., Larsen et al., 2012).

Correlates with Externalizing Problems. Significantly fewer studies identified weaker associations of ER strategies with externalising problems than with internalising problems. In accordance, from multiple regression analyses, Garnefski et al. (2005) and Zeman, et al., (2002) found that adolescent ER strategy use explained almost 50% of the variance in internalising problems and

significantly less variance (21.7% and 15% respectively) of externalising problems. However, albeit less of a predictor, a significant link was found between ER strategies and externalising problems in five studies (Garnefski et al., 2005; Silk et al., 2003; Mi Sung et al., 2006; Ng et al., 2012; Zeman et al., 2002). It was consistently found that if adolescents used more avoidance ER strategies they were more likely to react angrily and with aggression to situations (Mi Sung et al., 2006; Ng et al., 2012). Accordingly, Silk et al. (2003) found that the use of disengagement strategies led to more self-reported outwardly directed negative behaviours. Seemingly, the use of disengagement does not adapt the situation that the adolescent is finding stressful and so high levels of negative emotion are maintained (Silk et al., 2003). In contrast, the use of a more constructive control strategy, such as problem solving (dealing directly with the stressful event) led to less aggression as rated by peers (Zeman et al., 2002).

Correlates with Social Functioning. A further correlate investigated to a much lesser extent in the literature was social functioning (Perry-Parrish & Zeman, 2009; Schwarz, Stutz, & Ledermann, 2012). Within schools, peer group functioning has been found to impact significantly on teacher-rated competence and learning (Chung-Hall & Chen, 2010). Moreover, social competence can be dependent on peers' judgements of others' management of emotions. Perry-Parrish and Zeman (2009) used measures from peer sociometric ratings and parent-rated social functioning in a study investigating correlates of grades 7 and 8 students' use of inhibition of sadness. They found that disinhibition of sadness predicted poor peer acceptance and parent-rated social problems. However, this was only true for male participants and when rated by male peers. In contrast to disinhibition, suppressing sadness had no influence on social acceptance. The results showed that managing sadness by overtly displaying the feeling led to less peer acceptance for boys. The authors concluded that this was due to male suppression of emotion being considered normative. Furthermore, Schwarz et al. (2012) found that the use of adaptive ER strategies (including cognitive problem solving, acceptance and distraction) was associated with a high friendship quality with a best same-sex friend.

Correlates with self-concept. A further factor considered important for school adjustment is self-concept. Theory suggests that individuals behave or

perform consistently with their self-image and therefore students with a high self-concept will achieve highly in school (Rosenberg, 1965). Only two studies (Hsieh & Stright, 2012; Mi Sung et al., 2006) were identified that investigated the link between ER strategy use and self-concept in this population. These studies reported contrasting results. In a large sample study in Taiwan, Hsieh and Stright (2012) found that ES was negatively associated with self-concept and CR was positively associated with self-concept of students aged 13-15 years. In contrast, in a smaller study with younger Chinese students aged 9 to 11 years, Mi Sung et al., (2006) found no significant associations between coping strategies and self-esteem.

The variance in findings may have been due to the use of different measurement tools. Mi Sung et al. (2006) used the Rosenberg Self-Esteem Scale (Rosenberg, 1965) to measure self-esteem whereas Hsieh and Stright (2012) measured general and school self-concept using a Chinese version of the Self-Description Questionnaire II (Marsh, Kong, & Hau, 2001). Moreover, the studies utilised different age samples with a younger age group completing the Rosenberg scale. It is suggested that older adolescents' use of adaptive strategies such as CR, because of its antecedent-focused characteristic, will reduce negative physiological, experiential and behavioural responses (Gross, 1998). Therefore, using this strategy frequently over time will enhance self-concept. In contrast, suppressing the expression of emotions reduces only the behavioural response and the individual still experiences negative emotion, reducing self-concept over time (Gross & John, 2003).

In summary, the literature review provided evidence that the use of ER strategies has important implications for individual factors associated with school adjustment. The most consistent findings related to adolescent use of rumination and avoidance coping strategies as predictors of depressive and anxiety symptomatology. The use of maladaptive ER strategies was also linked to externalising problems of anger and aggression, diminished social acceptance and a lower self-concept.

Limitations of studies. The limitations of the identified studies were examined. Firstly, with some exceptions, the studies primarily used cross-

sectional designs. Therefore, for many of the studies, the causality and direction of influence cannot be determined. Theoretically, there could be a circular causal relationship between the influencing factors, the use of the ER strategies and the factors applicable for school adjustment. For example, there is a possibility that a student with negative affectivity, prone to experiencing more negative states, is more likely to use negative cognitive ER leading to an increasingly anxious state. Longitudinal research is needed to build on existing longitudinal studies to ascertain more information regarding directions of causality. Secondly, despite the applied criteria, the conceptualisation of ER across the identified studies remained diverse. Several studies adopted a view of ER as coping strategies which assumed negative responses to stressful experiences only. Studies investigating ER strategies in line with the model by Gross (1998) adopted a broader operationalization, including positive and negative emotions. Thirdly, the vast majority of studies were based on self-report. Although ER strategies, particularly the ones involving internal cognitive mechanisms, are claimed to be best reported by the individuals themselves (Walden, Harris, & Catron, 2003), there remains a risk of reporter bias. ER strategy self-report also assumes a level of consciousness regarding the regulation of ones emotions, although it is recognised that some strategies may be employed non-consciously (Bargh & Williams, 2007). A fourth limitation concerned the participant sample. Despite a wide range of countries represented, the majority of participants in the studies were Caucasian and middle class. This restricted the generalizability of the synthesised results. In addition, due to the adopted exclusion criteria, the studies included only community samples and so the findings cannot be generalized to clinical groups.

Limitations of review. In addition to limitations within the identified studies, potential shortcomings in regard to the literature review itself must be considered. Firstly, this review only addressed a narrow aspect of ER and it is acknowledged that there is a wealth of literature addressing adolescents' general ER competence rather than specific ER strategy use. Secondly, the review focused on factors considered directly applicable to normative school adjustment but it is acknowledged that other correlates of ER strategy use within the literature will impact indirectly on school adjustment. For example, there are established

associations between ER strategy use in college students and eating disorders (McLean, Miller, & Hope, 2007). Thirdly, due to the range of conceptualisations of ER within the literature, the studies used a diverse range of measures of ER and coping strategies. This presents difficulties in the reliable comparison of the studies as some were within the coping literature whereas others were not restricted to managing only negative emotions. Finally, the review did not include a full meta-analysis due to the differing objectives of the included studies.

Conclusion and Future Research

The purpose of this systematic review was to describe factors that explain individual differences in ER strategy use in adolescence and late childhood, and the consequences of using these strategies on school adjustment factors. Within the 33 studies identified as meeting the criteria for review, this critical analysis of the literature specifies some key interpersonal and intrapersonal influences that may explain some variability in the ER strategy use by students in schools. In addition, the results indicate the importance of considering the association between the use of specific ER strategies and factors known to impact on school adjustment such as internalising and externalising behaviours, self-concept and social competence.

Notwithstanding the limitations, this literature review provides education professionals with information regarding which students are potentially vulnerable to the use of maladaptive ER strategies and therefore at risk of less successful adjustment in school. Furthermore, the strategies used to regulate emotions or manage emotions, invoked by perceived stressful situations, impact upon interpersonal aspects essential for successful school adjustment. For example, the review illustrates that students who use less active approach strategies are at risk of increased depressive symptomatology, higher levels of anxiety, lower self-concept and lower social competence (Mi Sung et al., 2006; Hsieh & Stright, 2012). These ultimately impact upon individuals' psychological well-being and success at school.

This review focuses specifically on *how* adolescents regulate their emotions, what influences individual differences in ER strategy use and the implications of using specific strategies. Despite a recent surge of interest in ER in adolescence, further research is needed to establish relations between specific ER strategy use and school adjustments factors. For example, future research should extend the findings of the influence of family context to include the importance of peers at this stage of development (Bariola et al., 2011). In addition, although it is acknowledged that coping research provides important information regarding responses in stressful situations; it is considered that the examination of ER strategies in response to positive and negative emotions more closely reflects

normative daily life (Gross & John, 2003). Thus future research should focus on understanding the implications of using strategies based on the widely accepted process model of ER (Gross, 1998) at specific times of increased emotion-invoking scenarios for adolescents. This should inform interventions for schools and families to promote the use of more adaptive ER strategies such as problem solving.

In response to some of the limitations of existing research and the implications for future research, the empirical study that follows this literature review investigates specific ER strategy use by U.K. students at the developmental stage of late childhood and early adolescence. Rather than using a cross-sectional design, the research uses a longitudinal design within the specific context of transition from primary to secondary school. This was considered as a key period of time for an increased number of emotion-invoking scenarios and increased demands on the needs for students to manage their emotions within a new social context. As there may be variation in students' perceptions of secondary school, specific *coping* strategies, which assume that individuals would find the transition stressful, are not used as a measure. Moreover, the ER strategies of CR and ES from the process model (Gross, 1998) are considered more appropriate as two ER strategies most often employed and known to be used in late childhood and early adolescence. Furthermore, these strategies apply to positive and negative emotions, and represent different times within the emotion generative process (Gross, 1998). In accordance with these considerations, the research intends to investigate whether ES and CR use has implications for factors associated with school adjustment for U.K. students across primary-secondary transition.

CHAPTER 2

Emotion Regulation Strategy Use in Late Childhood and Early Adolescence: Implications for Successful Transition to Secondary School

The majority of pupils within the U.K. education system make a transition at age 11 years from the child-centred learning environment of a primary school to a larger, subject-orientated secondary school. This primary-secondary transition is viewed as "a particularly significant and sometimes stressful social event in the changing lives of early adolescents" (Fenzel, 1989, p. 13). Specifically, primary-secondary transition presents a challenge to many students due to pubertal developmental demands, a novel environment, increased pressure on academic achievements and significant social changes (Anderson, Jacobs, Schramm, & Splittgerber, 2000). Despite these challenges, research has found that most students settle into their new school after a term (Galton, Morrison, & Bell, 2000). However, research has also highlighted that unsuccessful transition can lead to disengagement with school (Eccles et al., 1993) and a negative impact on pupils' emotional and psychological well-being for extended periods of time (West et al., 2010). Consequently, it is important to identify the risk and protective factors for school adjustment at this time of significant changes.

The simultaneous changes during primary-secondary transition involve experiences of a vast range of emotions (Pekrun et al., 2002). Developmentally, this is a time of significant pubertal changes reflecting increased emotional demands (Steinberg, 2005). Furthermore, secondary school presents students with numerous emotion-invoking events linked to novel social situations and increased academic demands. Being able to identify, understand and manage the emotions associated with these changes presents a task highly relevant for secondary school adjustment. Thus, there is significant value in examining variations in students' emotion regulation (ER) over this adjustment period.

Conceptualisation of ER

Recently, there has been an increased focus by researchers on the concept of ER. Despite this, there remains considerable debate surrounding its specific definition and conceptualisation (Cole et al., 2004). Some researchers have

suggested that ER involves changes in the intensity and frequency of emotional reactions separate from the activation of the emotion (Cole et al., 2004). In contrast, other theorists have conceptualised ER as the interdependent processes of the generation, expression and regulation of emotions (Campos et al., 2004). Notwithstanding the debate surrounding the concept, most contemporary research adopts the functionalist perspective that emotions serve a communicative purpose for an individual. In accordance with this perspective, a widely accepted definition is that ER comprises "the extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (Thompson, 1994, p.27-28). This definition suggests that individuals have the capacity to exert control over these responses using ER strategies.

Process Model of ER

In accordance with this functionalist perspective, the process model of ER by Gross (1998; see Figure 1, Chapter 1), has been particularly influential. It highlights ER as the strategies used to modify response tendencies in order to respond appropriately to environmental demands. The process model includes five stages within the emotion process triggered by an individual's evaluation of internal or external cues. The first stage is *situation selection* when individuals can choose situations that will make it more or less likely that an emotion will be invoked. Next is *situation modification* when the individual can change the situation to alter its emotional impact. The third strategy set along the emotion time line is *attentional deployment* when the individual can redirect their attention away from (distraction), or towards (concentration) a specific situation that will influence resulting emotions. This is followed by *cognitive change* whereby the individual thinks differently about the situation to change the emotion that is generated. Finally, after the emotion response (experiential, behavioural or physiological) has been generated, there is a *response modulation* stage when the emotion response itself can be modified.

Literature has identified a vast variety of ER strategies that can be used at any of these stages of the emotion process (Lougheed & Hollenstein, 2012). Moreover, it is widely acknowledged that these ER strategies can be automatic or

controlled; conscious or unconscious; and involve both positive and negative emotions (Gross, 1998). However, the two ER strategies most researched are *cognitive reappraisal* (CR) and *expressive suppression* (ES). Gross and John (2003) claimed that these are the strategies most commonly used in everyday life. Moreover, they represent two differential stages of the emotion time-line emphasised in the model as shown in figure 1; before the emotion response is activated (antecedent-focused strategies) and after the response has been generated (response-focused strategies).

CR and ES

CR is an antecedent-focused ER strategy which involves altering a situation's meaning so that its emotional impact is changed. The strategy involves working memory and attention to keep the goal of reappraisal in mind as well as representing the mental states of self and others to consider the consequences of reappraising (Ochsner & Gross, 2009). Generally, CR is considered to be an adaptive ER strategy, associated with the experience and expression of greater positive emotions and fewer negative emotions (Gross & John, 2003).

In contrast, ES is a response-focused strategy; employed after the emotional reaction has been activated. ES involves inhibiting or hiding the external expression of emotion from others (Gross, 1998). Primarily, using this strategy modifies the behavioural aspect of the response tendencies, for example, trying to look calm when you are feeling angry inside. It is acknowledged that the ability to hide feelings can be adaptive in some situations; for example, not laughing at others' misfortune (Hsieh & Stright, 2012). Nevertheless, frequent and habitual use of ES is generally considered maladaptive as, although ES inhibits the expression of negative and positive emotions, the experience of negative emotion remains unchanged or even increases (Gross & John, 2003).

Age and gender differences in the use of ES and CR have been examined in adults and more recently in children. Males have been found to suppress to a greater extent than females in both adults (Flynn, Hollenstein, & Mackey, 2010) and adolescents (Gullone et al., 2010). Gross and John (2003) proposed that this is explained by Western norms suggesting that the expression of emotion is not *manly*. Accordingly, Underwood, Coie, and Herbsman (1992) found that boys in

the U.S. reported more expectations by parents to hide their emotions than girls. In contrast to ES, few gender differences have been found in the use of CR (Gross & John, 2003; Gullone et al., 2010). Moreover, some studies have found no gender differences in the use of either ER strategy in late childhood and adolescence (Jaffe et al., 2010).

Regarding age differences, findings indicate that the use of CR increases across life spans (Gross & John, 2003). However, Gullone et al. (2010) found less use of CR by older compared to younger adolescents, although CR use was fairly stable across the 2 year period of their longitudinal study. In contrast, ES has been found to gradually decrease over time from middle childhood to adolescence (Gullone et al., 2010) and from early to middle adulthood (John & Gross, 2004). Therefore, it is suggested that over the course of development, adolescents may use more adaptive ER strategies. This may be particularly important during significant periods of adolescents' lives, including transitions between schools.

Transition to Secondary School

Transition occurs at a time of major developmental changes in neural systems involving more sophisticated cognitive functioning and cognitive ER (Paus, Keshaven, & Giedd, 2008). In addition to coping with these pubertal changes, the transition to secondary school requires simultaneous adaptations to a new organisational structure, changes in social interactions and different teaching methods, making transition a particularly challenging time for adolescents (Ward, 2000; West et al., 2010). Meta-analyses have identified post-transition problems of a decrease in educational grades, poor attendance and behavioural problems (Anderson et al., 2000; Galton et al., 2008). West et al. (2008) also found post-transition difficulties of depressive symptomatology and lower academic attainment. Moreover, studies have found a decrease in self-esteem following transition (Wigfield et al., 1991; Anderson et al., 2000). This is in accordance with developmental research that suggests that self-esteem is elevated in childhood but lowers during early adolescence (Trzesniewski, Donellan, & Robins, 2003).

Many of the negative outcomes following transition are short-term and decline over the first term (Galton et al., 2008). For example, consistent findings

refer to the “temporary dip” in academic attainment following transition (Galton et al., 2008). Nevertheless, for some students the impact of poor transition is more significant. Anderson et al. (2000) reported that following an unsuccessful transition students can be left feeling marginalised and with a lack of sense of belonging. Furthermore, a longitudinal study of over 2000 Scottish students by West et al. (2010) found that the experience of a poor transition at age 11 years predicted higher depression and lower academic attainment at age 15 years. Moreover, for some individuals these negative outcomes lasted for an extended period of time beyond the end of the school years (West et al., 2010).

Despite these findings of negative outcomes following poor transition, Rice et al. (2011) concluded that in the U.K., “it is still unclear which pupils are most likely to experience problems with transition” (p.246). Research is limited and inconsistent. Among sociodemographic characteristics, younger age has been highlighted as a risk factor (Anderson et al., 2000). In contrast, West et al. (2010) found that younger students were not disadvantaged. Findings regarding gender have also been inconsistent. In a meta-analysis, Anderson et al. (2000) proposed that, due to the emphasis females place on social relationships, girls were more vulnerable. However West et al. (2010) found no gender differences in vulnerability to poorer transition in a Scottish sample. Socio-economic status (SES) was also identified as an important predictor by the Effective Preschool Primary and Secondary Education 3 -14 project (EPPSE; Evangelou et al., 2008). This study of transitions within six local authorities in the U.K. found that 72% of low SES students were less likely to cope with new school routines.

More consistency has been identified regarding personal characteristics. Less cognitively able pupils have been found to report more anxiety regarding an upcoming transition than higher ability pupils (Chedzoy & Burden, 2005). Similarly, West et al. (2010) found that the retrospective reports of transition were more negative for lower achieving students. A further risk factor consistently identified is self-esteem (West et al., 2010; Sirsch, 2003). Sirsch (2003) found that primary students with low global self-worth perceived a high level of threat associated with academic and social aspects of secondary school. Pupils with externalising behaviour problems (antisocial behaviour and aggression) have also been reported as engaging in more confrontational behaviour post-transition and

perceived their new school less favourably (Anderson, 2000; Berndt & Mekos, 1995). Therefore, the inability to manage negative emotions in school does appear to impact on transition success. This suggests that variations in ER may underpin risk and protection factors for successful transition.

ER and School Adjustment

Although the role of ER strategy use in school transition has not been examined directly, variations in ER strategy use have been found to relate to factors that would impact on school adjustment. Frequent use of CR means individuals reframe and consequently think more positively, leading to higher social competence and self-esteem (Hsieh & Stright, 2012). Accordingly, CR has been associated with fewer internalising difficulties of anxiety and depression than ES in adults and adolescents (Garnefski & Kraaji, 2006; Lougheed & Hollenstein, 2012). Additionally, CR was associated with higher self-concept in U.S. adults (Gross & John, 2003) and higher academic self-concept in Asian adolescents (Hsieh & Stright, 2012).

With regards ES, it is proposed that habitually withholding negative emotions becomes overwhelming, resulting in enhanced internalising problems. Accordingly, Hughes (2010) found that a sample of 21 school refusers diagnosed with anxiety disorder reported a significantly greater use of ES than a nonclinical control sample (Cohen's d = 0.82). Similarly, Zeman et al. (2002) found that the suppression of anger predicted internalising problems of depressive symptomatology and anxiety in students aged 9 to 12 years. Furthermore, frequent use of ES leads to an increased awareness of a discrepancy between experienced emotions and the emotions outwardly displayed (Gross & John, 2003). This results in negative feelings about the self and consequently low self-esteem. Accordingly, Hsieh and Stright, (2012) found that ES was negatively associated with Asian adolescents' perceptions of themselves for academic work. Moreover, Richards and Gross (2000) suggested that ES uses up cognitive resources to manage the inhibition of emotion. They found that the experimental manipulation of ES use in adults led to impaired memory for social information. Furthermore, the expression of emotions serves a communicative purpose and aids social interactions (Butler et al., 2003). Accordingly, ES has been associated

with disrupted communication, reduced rapport and inhibited relationship formation between previously unacquainted pairs of women (Butler et al., 2003).

With a few exceptions, studies identifying consequences of CR or ES use have been mostly with adults and measured non-spontaneous ER strategy use in a controlled laboratory situation. Although these findings have value, there is a recognised need to investigate ER strategies used habitually and in meaningful real-life contexts (Srivastava, Tamir, McGonigal, John, & Gross, 2009). If it is considered that school adjustment involves self-concept, academic achievement and low levels of internalising and externalising problems (Anderson et al., 2000); the consequences of CR and ES use can be justifiably applied to school transition.

ER and Transition

There is a dearth of research that examines ER strategies as predictors of successful school transition although the way adolescents cope with the emotional demands of transition has been recognised as important.

Vanlede, Little, and Card (2006) found that the use of antisocial coping strategies by 368 10-12 year old U.S. students predicted greater depression after transition to High school. The authors argued that by using antisocial actions such as avoiding addressing the source of stress directly, the students did not seek social support leading to internalising problems in High school. The findings suggested that ES use may prevent social support seeking leading to negative outcomes for transition. Similarly, Qualter, Whiteley, Hutchinson, and Pope (2007) explored longitudinally whether U.K. pupils with high emotional intelligence (EI), measured using the BarOn EQ-i: YV (Bar-On & Parker, 2000), coped better with secondary transition. Findings showed that students with pre-transition high or average EI skills displayed fewer behaviour problems, higher educational attainment, and fewer late registrations post-transition. The study also identified that a pre-transition intervention (EI awareness training) significantly increased post-transition scores on the subscales of scholastic and social competence from the self-perception profile for children (SPPC; Harter, 1985). A limitation of this study was the use of the controversial construct of EI rather than basing the research on a well-established ER model such as that of Gross (1998).

Using the process model of ER (Gross, 1998), Srivastava et al. (2009) examined how the use of ES affected the social functioning of 278 American students across the transition from home to college. Using the ERQ (Gross & John, 2003), the researchers examined the changes in ES and social experiences across the first term of college. Furthermore, they investigated the association between ES and self- and peer-reported social functioning at the end of the first term. The findings showed an increase in the use of ES from school to college. In addition, ES predicted lower social support, less closeness to others, and lower social satisfaction post-transition.

In summary, the research suggested that the risk factors for less successful primary-secondary transition included personal attributes such as low cognitive ability, externalising and internalising behavioural difficulties, and self-esteem . Despite a lack of research examining the role of ER strategies in transition, these factors may be underpinned by individual differences in the use of CR and ES. Furthermore, although research based on the process model of ER (Gross, 1989) in early adolescence is still in its infancy, research has identified associations between CR and ES and outcomes relevant for school adjustment (externalising and internalising difficulties, cognitive ability, absenteeism, and self-concept). The current research extended findings of the consequences of CR and ES use from college transition (Srivastava et al., 2009) to the primary-secondary transition.

Current Study

The overall aim of the current investigation was to explore the use of CR and ES in early adolescence across transition from primary to secondary school. Specifically, the present study addressed the following research questions:

1 Are any individual differences in ES and CR use associated with variations in secondary school adjustment?
2 Are there any significant gender differences in the use of ES and CR in early adolescence?
3 Are there any significant changes in early adolescents' use of ES and CR, as they make the transition to secondary school?

Secondary school adjustment was operationalized from previous literature focusing on the outcomes which have been used as markers of secondary school adjustment (e.g., West et al., 2010). These included post-transition measures of absenteeism, educational achievement, self-concept, and internalising and externalising behaviours.

On the basis of previous research findings concerning CR and ES obtained from adult samples and / or in non-specific or meaningful situations (e.g., Gross & John, 2003), it was expected that ER strategy use would impact significantly on students' absenteeism, educational progress, behaviour difficulties and self-concept once at secondary school. It was proposed that this impact would be in addition to significant impacts of pre-transition IQ, self-concept, and behaviour difficulties on these key post-transition outcomes, identified in previous research as important factors impacting on transition success (West et al., 2010). Specifically, higher scores on pre-transition ES would be associated with post-transition negative outcomes as measured by higher absenteeism, lower levels of educational progress, lower self-concept and higher levels of behavioural difficulties. In contrast, higher pre-transition CR was predicted to be associated with post-transition positive outcomes, measured by higher scores in social competence and self-concept, and lower scores in absenteeism, educational progress, and behavioural difficulties. It was also predicted that CR and ES use would be associated with these factors on a concurrent basis pre- and post-transition.

It was predicted that males would use ES more than females. This was based on previous research (Gullone et al., 2010) and in line with Western cultural expectations of males to withhold overt displays of emotion (Gross & John, 2003). Furthermore, in line with Gullone et al. (2010), it was predicted that there would be no significant gender differences in the use of CR.

It was predicted that ES would decrease over transition. Although Srivastava et al. (2009) found an increase in ES use, contrary to a transition to college; the primary-secondary transition is usually made with a familiar peer group leading to potentially fewer demands for ES. In addition, research has suggested that ES use gradually decreases from middle childhood to early

adolescence (Gullone et al., 2010). In accordance with Greham & Gullone, (2012), it was predicted that the use of CR would remain stable over the transition period.

Method

Participants

Seventy-six year 6 pupils who were currently attending one of two primary schools and had accepted a place at a participating secondary school in Hampshire were approached for participation in the study. Both primary schools included pupils aged 4 to 11 years with a large majority of pupils of White British ethnicity. Twenty-two pupils (50% male, *M* age = 11.33 years, SD = 4.02) were from one class in school 1 (180 pupils on roll) with 24% of pupils eligible for free school meals and 46% of pupils with SEN. Fifty-four pupils (65% male, *M* age = 11.35 years, SD = 3.03) were from three classes in school 2 (615 pupils on roll) with 1.8% of pupils eligible for free school meals and 10.2% of pupils with SEN.

For analysis purposes, four pupils who were included in a specific secondary school transition programme (additional to any whole class transition preparation) were excluded from the study and four pupils were withdrawn by parents. Thus, for pre- and post-transition, the final sample comprised 68 children (60% male) with no attrition. The participants' mean age was 11.34 years, SD = 3.35. Power was calculated using G* power version 3 (Faul, Erdfelder, Lang & Buchner, 2007). For representation, a power analysis for ES was calculated. Assuming that the study would achieve an effect size at least as great as those of Jaffe et al. (2010), for the correlation between ES and adjustment (measured by flexibility of response to new environments) (r = .31), at least 63 participants were needed to test the hypothesis that suppression will impact negatively on successful transition, with 80% power and 5% significance level.

Procedure

Ethical approval and Research Governance was obtained from the University of Southampton Psychology research ethics committee (see Appendix C).

A target secondary school was identified from previous interest shown in transition research by Hampshire Educational Psychology service and the head teacher agreed to participate. Following this, two feeder primary schools were identified on the basis of nearest location to the secondary school, and

participation agreed. Consent was obtained from the primary school head teachers to use parental opt-out for participation in the study and for access to school records. In addition, parental opt-out consent relating to participation in the study was sent to all the eligible year 6 pupils who had accepted a place at the participating secondary school (n = 76), via the pupils pre-transition (see Appendix D1). Additionally, a letter reminding parents of the study (see Appendix D2) was sent via a parent email system at the end of the autumn term in year 7 at secondary school (post-transition). Informed written assent for participation in the study was requested individually from the pupils pre-transition (see Appendix D3) and post-transition (see Appendix D4). No pupils declined to participate at either time.

The study employed a longitudinal design with assessments taking place at two time points (pre- and post-transition to secondary school). Measures taken at pre-transition were used as predictor variables in analyses. Measures taken at post-transition were used as independent, or outcome variables, in analyses.

Pre-transition, the cognitive ability test was administered to each student individually in a distraction-free quiet room lasting approximately 20 minutes per student. ER strategy use and self-perception data were collected through self-report questionnaires, administered to the students as a group in their classrooms. The items on the questionnaires were read aloud by the researcher. Strength and difficulties questionnaires (SDQs) were given out to class teachers for completion and sent to parents using first class post. Absence data was obtained from school records.

Post-transition; self-perception and ER data were collected again by self-report questionnaire administered to the participants in classrooms, in three groups of 28, 32, and a group of eight on the following day. The items were read aloud by the researchers. The SDQs were given to the tutors (six in total) of each participant for completion and also sent out to parents for completion via the school's parent email system.

After self-report questionnaires had been completed pre- and post-transition, the students completed a mood enhancement activity. This involved

describing with a peer, a dream holiday pre-transition and a perfect present post-transition.

Figure 3 shows a flowchart of the procedure of the study.

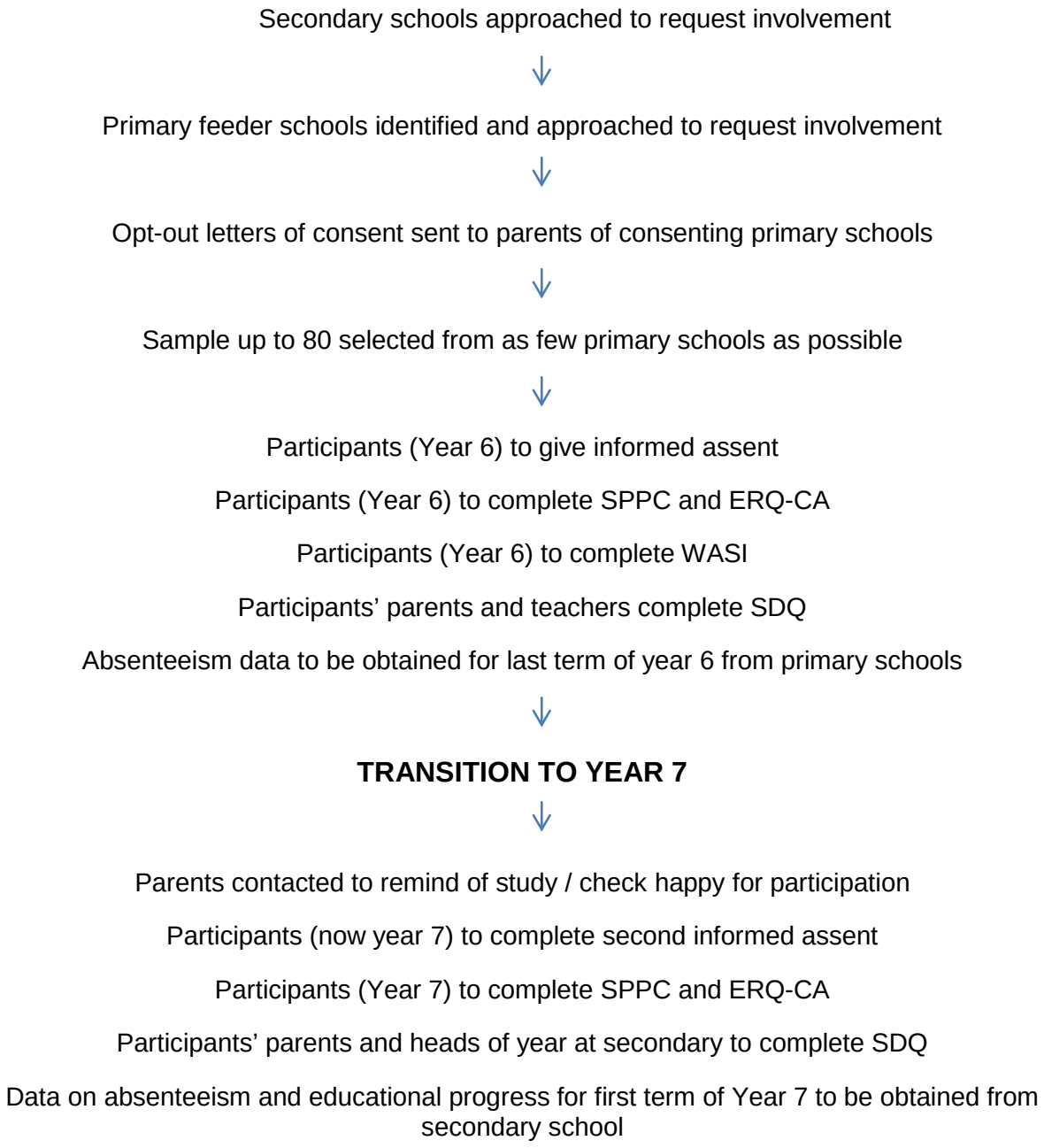

Figure 3. Flow chart to show procedure for data collection.

Measures

Emotion Regulation Questionnaire - Children and Adolescents (ERQ-CA; Gullone & Taffe, 2012). The participants' use of ER strategies was measured using the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA; Gullone & Taffe 2012; see Appendix E1). The ERQ-CA is a revised version of the extensively used Emotion Regulation Questionnaire (ERQ; Gross and John, 2003) previously used with adults. Revisions included the simplification of item language (e.g., the word *emotion* was replaced with *feelings*) and a reduced response scale from 7 point to 5 point. The ERQ-CA was used because of its previous use with samples of the same age as the current sample (Jaffe et al., 2010). It comprises 10 items assessing the ER strategies of CR (six items) and ES (four items). ES items include "I control my feelings by not showing them" and "when I am feeling happy, I am careful not to show it". CR items include "when I am worried about something, I make myself think about it in a way that helps me feel better" and "I control my feelings about things by changing the way I think about them". Respondents were requested to rate their responses along a 5 point likert-type response scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *half and half*, 4 = *agree,* 5 = *strongly agree*). The range of scores was 6 to 30 for CR and 4 to 20 for ES. Higher scores indicated a greater use of the corresponding ER strategy.

The ERQ possesses adequate internal consistency. Gross and John (2003) reported a range of alpha coefficients of between .75 and .82 for the CR scale and between .68 and .76 for the ES scale for adults. With a sample of 10 to 12 year olds, the ERQ-CA has reported comparable values of .82 for the CR scale and .69 for the ES scale (Gullone & Taffe, 2012). The lower coefficients for ES than for CR are expected due to the fewer number of items. In the current study, at pre-transition, the alpha coefficients were .73 for CR and .37 for ES. The alpha for pre-transition ES was below an acceptable level of .70 (Field, 2009). Post-transition, the alpha coefficients increased to .85 for CR and .79 for ES.

Self-Perception Profile for Children (SPPC; Harter, 1985). Participants' self-perceptions were assessed using the child report version of the Self-Perception Profile for Children (SPPC; Harter, 1985; see Appendix E2). The

SPPC is designed to measure the self-perceptions of children aged 8 - 12 years and was chosen because it is one of the most widely used questionnaires for assessing self-esteem. The measure comprises 36 items measuring the specific domains of scholastic competence, social competence, athletic competence, physical appearance, and behaviour competence (six items per domain). It also includes a subscale for global self-worth (six items). The global self-worth subscale only was used in analysis. During the administration of the SPPC, the word *kids* was replaced with the word *students*. Each item consists of two opposite descriptions. Participants were first asked to choose the description that best fitted them and then indicate whether the description was *somewhat true* or *very true* for them. Accordingly, each item was scored on a 4-point scale. The range of scores used for analysis was the mean global self-worth score ranging from 1 to 4. Higher scores indicated greater self-perceived self-worth.

The use of the SPPC has previously been well supported by internal consistency of the subscales with a range of alpha coefficients between .75 and .84 for pupils aged 11 to 13 years (Harter, 1985). In the current study pre-transition, internal consistency was good with a range of coefficients for the six subscales between .75 and .87. Post-transition, the alpha coefficients ranged from .79 to .92 for the 6 subscales.

Strengths and Difficulties Questionnaire (SDQ) – Parent and teacher versions (Goodman, 1997). The Strengths and Difficulties Questionnaire – parent and teacher version (SDQ; Goodman, 1997) was used to assess the internalising and externalising difficulties and pro-social ability of the participants (see Appendix E3). It is an extensively used measure, designed for children and adolescents aged 4 -16 years. The 25 items questionnaire assesses five behavioural traits, four of these relate to problem behaviours (conduct problems, emotional problems, hyperactivity-inattention and peer problems) and one relates to a strength behaviour (pro-social behaviour). Each subscale consists five items. Parents and teachers were asked to indicate if each item on the questionnaire is *not true*, *somewhat true* or *certainly true* for a participant. For the purpose of analysis, a total behavioural difficulties score was calculated using the total of the four problem behaviours subscales. The range of total behavioural difficulties

scores available was from 0 to 8. Higher scores indicated greater behavioural difficulties.

The SDQ is extensively supported by good validity and internal consistency of .73 and test-retest reliability of .62 (Goodman, 2001).

Weschler Abbreviated Scale of Intelligence- First edition (WASI-I; Weschler, 1999). The cognitive ability of the participants was measured using the WASI-I (Weschler, 1999) due to its extensive use as an efficient measure of cognitive ability. Based closely on the Weschler Intelligence Scale for Children – fourth edition (WISC-IV), the measure is designed for individuals aged 6 - 89 years and consists of four subtests: matrix reasoning, block design, vocabulary, and similarities. The scores from the subtests were totalled to create a score for verbal intelligence (VIQ; vocabulary and similarities); performance intelligence (PIQ; block design and matrix reasoning) and full scale overall intelligence (OIQ; all four subtests scores). The range of scores for each subscale was from 70 to 140. For the purposes of analysis, only the OIQ score was used and is referred to as IQ from henceforth. Higher scores indicated higher cognitive ability.

The use of the WASI is supported by internal reliability .98; test-re-test reliability of .92; and inter-rater reliability of .98 for vocabulary and .99 for similarities (Weschler, 1999).

School record of absenteeism. Participants' levels of school attendance were measured using primary and secondary school records. Data were collated on the number of late registrations and half day sessions of unauthorised absences or authorised absences (illness and holidays) from school during the final term of year 6 at primary school and the first term of Year 7 at secondary school. For pre- and post-transition, attendance was measured over the last 12 weeks of the term which amounted to a possible maximum attendance of 116 half day sessions (with half term, bank holidays and INSET days excluded). The number of unauthorised absences and late registrations were added and used for the analysis.

School record of educational achievement. The educational progress of each participant was measured using data from the secondary school on National

Curriculum sublevels in English, reported at the end of year 6 and at the end of the first term in year 7. The numbers of sublevels of progress were calculated and change scores were given a numerical value in a range from 1 to 7 to enable statistical analysis. English was selected as literacy skills are considered central to most academic subjects (Wilson & Trainin, 2007).

Data analysis. SPSS (version 20.0) was used for data analysis. This consisted of a preliminary analysis of the data using t-tests, and Pearson correlation analysis. Mann-Whitney tests were used to analyse differences between variables for the categorical measure of unauthorised absenteeism . The main analysis comprised regression analyses to investigate whether participants' success at making a transition to secondary school, measured by their overall global self-worth, educational progress, unauthorised absenteeism and behavioural difficulties, could be predicted from pre-transition ER strategy use, IQ, behavioural difficulties, and self-perceived global self-worth.

Results

Data Screening

There was no attrition for student responses between pre- and post-transition. The numbers of parent responses were low (42 % pre-transition; 29 % post-transition; 25% both pre-and post-transition). Therefore data from parents were omitted from analysis. Teacher responses were obtained for all participants both pre- and post-transition. There was one omitted response for student pre-transition CR and one student completed the post-transition SPPC incorrectly by indicating several responses for each item instead of one. These scores (0.12% of total measures for all participants) were coded as missing responses. Prior to analysis the data were screened for outliers (standardised *z*-scores ± 3.29). All identified outliers (0.42% of all measures for all participants) were replaced with the mean + 1 x SD (Field, 2009).

Initial exploration of the data used *z*-scores of skewness and kurtosis of above 1.96 ($p < .05$), to indicate non-normal distribution (Field, 2009). Pre-transition CR, unauthorised absences and self-perceived global self-worth were significantly positively skewed. Pre-transition IQ was significantly negatively skewed. Exploration of the data indicated significant kurtosis for pre-transition behavioural problems and unauthorised absences. The skew and kurtosis for pre- and post-transition unauthorised absenteeism were extreme (pre-transition, skewness $z = 12.34$, kurtosis $z = 21.08$; post-transition, skewness $z = 13.54$, kurtosis $z = 30.00$) and therefore absenteeism was transformed into categorical variables using criteria of no absences or one or more absences. Due to the non-normal distribution of the other measures, both parametric and non-parametric analyses were conducted on all data for these measures. The results yielded similar correlation coefficients from both parametric and non-parametric tests for the variables. In addition, as parametric tests are argued to be robust, despite violating distribution assumptions (Howell, 2007), parametric tests were used for all variables except absenteeism. Non-parametric tests were used for data analysis involving pre- and post-transition absenteeism.

Descriptive Statistics

The means, standard deviations (SDs) and ranges (maximum and minimum) for all pre- and post-transition measures (except absenteeism) are presented in Table 2. All descriptive statistics are reported for the entire sample, and by gender. Contingency table for pre- and post-transition unauthorised absenteeism for entire sample, males, and females are included in Table 3. Medians for all pre- and post-transition measures for the overall sample, unauthorised absence group and no unauthorised absences can be seen in Appendix F.

Gender differences. There were no significant gender differences for pre-transition ES, t (66) = .562, p = .576, or for post-transition ES, t (66) = .268, p = .789. There were also no significant gender differences for pre-transition CR, t (64.29) = -.258, p = .797, or for post-transition CR, t (66) = -.217, p = .829. In addition, there were no significant gender differences for any other measures.

Pre- and post-transition differences. There were no significant differences between pre-and post-transition ES, t (67) = .53, p = .597. The difference between pre- and post-transition CR was approaching significance, t (66) = 1.81, p = .075. There was a significant difference between pre- and post-transition behavioural difficulties, t (67) = -3.33, p = .001.

Table 2

Means, Standard Deviations and Ranges for Pre-Transition IQ, Pre- and Post-Transition Expressive Suppression, Cognitive Reappraisal, Global Self-Worth, and Behavioural Difficulties, and Post-Transition Educational Progress

	Pre-Transition M (SD) Min-Max			Post-Transition M (SD) Min-Max		
	Overall (*n* = 68)	Males (*n* = 41)	Females (*n* = 27)	Overall (n = 68)	Males (n = 41)	Females (n = 27)
ES	11.53 (2.32) 7-19	11.66 (2.17) 7-19	11.33 (2.56) 7-17	11.31 (3.06) 8-27	11.39 (2.94) 6-20	11.19 (3.29) 6-18
CR	20.28 (3.52) 9-26	20.20 (3.52) 9-26	20.41 (2.47) 15-24	19.43 (3.96) 6-20	19.34 (3.96) 10-27	19.56 (4.10) 8-27
IQ	101.41 (12.00) 73-122	102.93 (12.34) 73-122	99.11 (11.27) 76-113	-	-	-
GSW	3.26 (0.56)* 1.5-4	3.34 (0.52)# 2-4	3.12 (0.60) 1.5-4	3.37 (0.54) 2.17-4	3.46 (0.52)# 2.17-4	3.24 (0.56) 2.17-4
BD	2.68 (3.23) 0-14	2.54 (2.56) 0-9	2.89 (4.10) 0-14	4.41 (4.56) 0-21	4.22 (5.54) 0-20	4.54 (3.85) 0-21
Ed. Progress	-	-	-	4.80 (1.33) 1-7	4.90 (1.28) 1-7	4.63 (1.42) 1-6

Note. ES = Expressive suppression; CR = Cognitive Reappraisal; IQ = Intelligence quotient; GSW = Global self-worth; BD = Behavioural difficulties; Ed. Progress = Educational Progress ; IQ only measured pre-transition; Educational Progress only measured Post-Transition

**n* = 67 #*n* = 40

Table 3

Numbers of Pre-and Post-transition Totals of Unauthorised Half-Day Absences and Late Registrations

	Pre-Transition			Post-Transition		
Absence group	Male (*n* = 41)	Female (*n* = 27)	Total (*n* = 68)	Male (*n* = 41)	Female (*n* = 27)	Total (*n* = 68)
No absences	11 (26.8%)	9 (33.3%)	20 (29.4%)	23 (56%)	16 (59%)	39 (57.4%)
Absences	30 (73.2%)	18 (67.7%)	48 (70.6%)	18 (44%)	11 (41%)	29 (42.6%)

Associations between measures pre- and post-transition.

Pre-transition, CR was significantly positively correlated with IQ, r = .32, p<.001. Pre-transition global self-worth and pre-transition behavioural difficulties were also significantly positively correlated with pre-transition IQ, *r* = .24 and *r* = .25 respectively (both p<.05). As seen in Table 4, for all other pre-transition inter-correlations, *r* < .24, p > .05.

As shown in Table 4, post-transition, ES was significantly negatively correlated with global self-worth and significantly positively correlated with behavioural difficulties. Post-transition CR was significantly positively correlated with post-transition global self-worth. For all other post-transition inter-correlations, *r* < .25, p> .05. In addition to these correlations shown in Table 4, post-transition ES was significantly negatively correlated with post-transition educational progress, *r* = -.27, p < .05.

Across the transition times, CR, global self-worth and behaviour difficulties remained stable, (*r* > .43, p < .001). ES was less stable across the transition but approached significance *(r* = .21, p = .080). In addition, pre- transition behavioural difficulties significantly positively correlated with post-transition use of ES by students and significantly negatively correlated with post-transition CR use, and educational progress to a lesser extent. Pre-transition self-perceived global self-worth was significantly negatively correlated with post-transition ES use, and post-transition behavioural difficulties. In addition to these correlations shown in Table 4, pre-transition IQ significantly negatively correlated with the behavioural difficulties rated by tutors after transition (*r* = -.41, p = .000) . Pre-transition behavioural difficulties significantly negatively correlated with post-transition educational progress (*r* = -.26, p = .035).

Appendix F shows the median values for pre- and post-transition absenteeism groups for all variables. Mann-Whitney analyses conducted to investigate associations between absenteeism and other measures found that pre-transition unauthorised absence groups (1 or more half day absences compared to no absences) did not differ significantly (for all cases, p>.05) in pre-transition measures of CR, ES, IQ, behavioural difficulties, or self-perceived global self-worth. Similarly, post-transition unauthorised absences group did not differ

significantly (for all cases, $p>.05$) from the post-transition no unauthorised absences group for any variable.

Table 4

Pearson Correlation Coefficients (r) between Pre- and Post-Transition Predictor Variables and Pre- and Post-Transition Outcome Variables

	1	2	3	4	5	6	7	8
1. Pre ES	-	-	-	-	-	-	-	-
2. Pre CR	.06	-	-	-	-	-	-	-
3. Pre GSW	-.05	.13	-	-	-	-	-	-
4. Pre BD	.06	.09	-.22	-	-	-	-	-
5. Post ES	.21	.03	-.29*	.33**	-	-	-	-
6. Post CR	-.18	.50***	-.04	-.28*	.12	-	-	-
7. Post GSW #	-.01	-.01	.45***	.10	-.29*	.25*	-	-
8.Post BD	.08	.08	-.25*	.43***	.26*	.19	-.02	-

Note. Pre ES = pre-transition expressive suppression; pre CR = pre-transition cognitive reappraisal; pre GSW = pre-transition global self-worth; pre BD = pre-transition behavioural difficulties; post ES = post-transition expressive suppression; post CR = post-transition cognitive reappraisal; post GSW = post-transition global self-worth; post BD = post-transition behavioural difficulties

n = 68 except # *n* = 67

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

Hierarchical Multiple Regression analyses

Regression analyses were performed to investigate whether participants' success at making a transition to secondary school, measured by their self-perceived global self-worth, educational progress, unauthorised absenteeism and behavioural difficulties, could be predicted from ER strategy use, behavioural difficulties, global self-worth and IQ measured pre-transition. ES was not included as a predictor variable as the measure was found to be unreliable due to the low cronbach's alpha co-efficient (.37) measured pre-transition. Because there were no gender differences for any measure, gender was also not included as an independent variable in any analysis. Entries of predictor variables were hierarchical in accordance with theoretical assumptions regarding which variables would be stronger predictors of the outcome variables.

Educational progress.

An initial regression analysis examined the prediction of participants' educational progress over the transition period from behavioural difficulties, IQ, self-perceived global self-worth and CR measured pre-transition. As can be seen in Table 5, pre-transition behavioural difficulties were found to be the only unique significant predictor of post-transition educational progress, $F (1, 64) = 4.57, p = .036$, accounting for 6.7% of the total variance in educational progress measured at secondary school. The negative significant beta weight for behavioural difficulties indicates that less educational progress was made during the first term at secondary school by those rated as having behavioural difficulties pre-transition.

Behavioural difficulties.

The second regression analysis investigated whether participants' behavioural difficulties at secondary school as rated by their tutors could be predicted from pre-transition CR, IQ, and self-perceived global self-worth. As shown in Table 6, pre-transition behavioural difficulties entered at step one produced a significant regression equation, $F (1, 65) = 15.18$, $p = .000$, accounting for 18.9% of the total variance in post-transition behavioural difficulties. The positive significant beta weight indicates that post-transition behavioural difficulties are predicted by behavioural difficulties experienced pre-transition. Pre-transition CR entered at step two accounted for only a further 0.2% of the variance in post-transition behavioural difficulties. IQ was entered at step three. This produced a

significant regression equation, F (3, 63) = 8.72, p = .000, explaining a further 10.2% of the total variance in post-transition behavioural difficulties. The negative significant beta weight indicates that higher IQ (measured pre-transition) predicts lower post-transition behavioural difficulties. Self-perceived global self-worth entered at the final step accounted for only a further 1.2% of the total variance in post-transition behavioural difficulties.

Global self –worth.

A third regression analysis investigated whether participants' self-perceived global self-worth after a term at secondary school could be predicted from CR, IQ, and behavioural difficulties measured at primary school. As shown in Table 7, the only significant unique predictor of post-transition self-perceived global self-worth was pre-transition global self-worth, F(1, 64) = 15.01, p = .000, accounting for 19% of variance in post-transition self-perceived global self-worth. The positive beta weight shows that increased global self-worth after transitioning to secondary school can be predicted by global self-worth at primary school. Entered at step two, CR accounted for only a further 0.5% of the total variance in post-transition self-perceived global self-worth.

Unauthorised absenteeism.

The fourth regression analysis examined the prediction of participants' post-transition unauthorised absenteeism levels from pre-transition absenteeism, CR, behavioural difficulties and self-perceived global self-worth measured at primary school. The results of the logistic regression are shown in Table 8. The only unique significant predictor of post-transition unauthorised absenteeism group (none or >1 half day's absence) was pre-transition unauthorised absence group, accounting for 15% of the variance of post-transition unauthorised absences. The beta weights for pre-transition absenteeism were positive, indicating that higher levels of absenteeism at primary school predicted higher levels of absenteeism after transition to secondary school.

Table 5

Summary of hierarchical regression analysis for pre-transition variables used to predict post-transition educational progress (n =67)

Variable	*B*	*SE B*	*β*
Step 1			
Constant	5.07	0.21	
BD	-0.11	0.05	-.26*
Step 2			
Constant	6.36	1.50	
BD	-0.12	0.05	-.28*
IQ	-0.01	0.01	-.11
Step 3			
Constant	7.04	1.63	
BD	-0.13	0.05	-.31*
IQ	-0.01	0.02	-.07
GSW	-0.33	0.31	-.14
Step 4			
Constant	6.41	1.67	
BD	-0.14	0.05	-0.35**
IQ	-0.02	0.02	-0.13
GSW	-0.39	0.31	-0.16
CR	-0.08	0.05	0.19

Note. IQ = Intelligence quotient; BD = Behavioural difficulties; GSW = Global self-worth; CR = Cognitive reappraisal.

$R^{2\,=}$ .067 for step 1, ΔR^2 = .011 for step 2, ΔR^2 = .016 for step 3, ΔR^2 = .033 for step 4

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

Table 6

Summary of hierarchical regression analysis for pre-transition variables used to predict post-transition behavioural difficulties (n =67)

Variable	*B*	*SE B*	*β*
Step 1			
Constant	2.80	0.66	
BD	0.61	0.16	.44***
Step 2			
Constant	3.94	3.02	
BD	0.62	0.16	.44***
CR	-0.06	0.15	-.04
Step 3			
Constant	14.69	4.56	
BD	0.48	0.16	.34**
CR	0.10	0.15	.08
IQ	-0.14	0.05	-.35**
Step 4			
Constant	16.76	5.00	
BD	0.45	0.16	.32**
CR	0.12	0.15	.09
IQ	-0.13	0.05	-.33**
GSW	-0.94	0.92	-.11

Note. BD = Behavioural difficulties; CR = Cognitive reappraisal; IQ = Intelligence quotient; GSW = Global self-worth.

R^2 = .189 at step 1, ΔR^2 = .002 at step 2, ΔR^2 = .102 at step 3 (p = .000), ΔR^2 = .012 at step 4

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

Table 7

Summary of hierarchical regression analysis for pre-transition variables used to predict post-transition self-perceived global self-worth (n =67)

Variable	*B*	*SE B*	*β*
Step 1			
Constant	1.98	0.37	
GSW	0.40	0.11	.44***
Step 2			
Constant	2.18	0.48	
GSW	0.44	0.11	.44***
CR	-0.01	0.02	-.07
Step 3			
Constant	2.00	0.48	
GSW	0.49	0.11	.50***
CR	-0.02	0.02	-.10
BD	0.04	0.02	.22
Step 4			
Constant	2.17	0.62	
GSW	0.50	0.12	.51***
CR	-0.01	0.02	-.08
BD	0.04	0.02	.21
IQ	0.00	0.01	-.06

Note. GSW = Global self-worth; CR = Cognitive reappraisal; BD = Behavioural difficulties; IQ = Intelligence quotient.

R^2 = .19 at step 1, ΔR^2 = .005 at step2, ΔR^2 = .047 at step 3, ΔR^2 = .002 at step 4

***p<.01

Table 8

Summary of logistic regression analysis for pre-transition variables used to predict post-transition unauthorised absenteeism (n =68)

Variable	*B(SE)*	*95% CI for Odds ratio* *Lower*	*Odds Ratio*	*Upper*
Block 1				
Constant	1.39 (0.65)			
Abs	-2.11** (0.71)	.03	.12	.49
Block 2				
Constant	1.07 (0.70)			
Abs	-2.03** (0.72)	0.03	0.13	0.53
BD	0.10 (0.08)	0.94	1.10	1.30
Block 3				
Constant	2.65 (1.71)			
Abs	-2.02** (0.72)	0.03	0.13	0.54
BD	0.10 (0.08)	0.94	1.11	1.31
CR	-0.08 (0.08)	0.79	0.92	1.08
Block 4				
Constant	4.29 (2.40)			
Abs	-2.05** (0.09)	0.03	0.13	0.54
BD	0.08 (0.09)	0.92	1.09	1.29
CR	0.07 (0.08)	0.80	0.93	1.09
GSW	-0.54 (0.53)	0.21	0.59	1.65

Note. Abs = unauthorised absence group (none or >1); BD = Behavioural difficulties; CR = Cognitive reappraisal; GSW = Global self-worth.

R^2 = .15 (Cox & Snell) at block 1 Model X^2= 10.93, p< .001; ΔR^2 = .01 (Cox & Snell) at block 2 Model X^2= 1.34, p> .01; ΔR^2 = .01 (Cox & Snell) at block 3; Model X^2= 1.07, p> .01; ΔR^2 = .01 (Cox & Snell) at block 4 Model X^2= 1.05, p> .01

**p<.005

Discussion

Effective management of emotions is important for successful transition to secondary school (Lopes et al., 2012). However, to the best of my knowledge, no study has investigated the implications of specific ER strategy use for transition to secondary school. Consequently, the primary aim of this study was to investigate whether the self-reported use of commonly used ER strategies of ES and CR at primary school predicted the success of transition to secondary school. In addition, the study aimed to investigate gender differences and any changes across the primary-secondary transition in ES and CR use.

Based on the influential process model of ER (Gross, 1998), this longitudinal study employed a robust measure of CR and ES (ERQ-CA; Gullone & Taffe, 2012), used previously with this age group (e.g., Jaffe et al., 2010). In addition, a set of behavioural and psychological indices which were identified in previous research as important for positive adjustment to secondary school were used (e.g., Anderson et al., 2000; West et al., 2010). These included measures of unauthorised absenteeism, global self-worth, academic achievement and internalising and externalising behaviours. Overall, although predictions were made on the basis of previous research and theory, (e.g., Gross & John, 2003; Gullone et al., 2010), the present study did not find that ER strategy use was a significant predictor of successful transition to secondary school . Moreover, the present study did not find significant gender differences, nor significant change in ER strategy use over time. However, the results highlighted some important conclusions regarding concurrent ER strategy use in primary and secondary school and raised some questions regarding the measurement of ER strategy use within late childhood and early adolescence.

The absence of a significant association between primary school ER strategy use and secondary school adjustment was surprising. There are several possible explanations for this finding.

First, it is possible that ER strategies alone do not predict adjustment but that the frequency and intensity of ER (Silk et al., 2003) as well as specific strategy use would constitute better predictors. Furthermore, recent research has suggested that positive psychological outcomes are not necessarily due to the use

individual adaptive strategies but more to do with the use of a repertoire of strategies (Lougheed & Hollenstein, 2012). Lougheed & Hollenstein (2012) identified that adolescents using a higher range of ER strategies including adjusting, reappraising and emotional engagement, reported lower internalising problems. Thus, the findings across transition may have been restricted by the measurement of only two ER strategies.

Another possibility is that this sample of adolescents was not able to accurately reflect on their ER strategy use. Although it has been found that children are more accurate reporters of their internal experiences than third party observers (Walden et al., 2003), the awareness of using ES and CR requires metacognition. As Weil et al. (2013) identified metacognitive ability significantly increases over adolescence from the age of 11 years; the participants in the current study may not have developed an adequate level of metacognition.

Furthermore, although ERQ-CA use has been well documented (e.g., Gullone et al., 2010), the items comprise hypothetical situations. Thus, items such as “I control my feelings by not showing them”, require the respondent to apply recent experiences of CR and ES use to the item. It is possible that year 6 pupils, in familiar surroundings with established peer groups, had fewer experiences than in the first term of secondary school. This discrepancy may explain the lack of expected findings for ER strategy use.

In contrast to ER strategy use, current findings showed that other pre-transition measures were predictive of secondary school outcomes. In accordance with the identification of cognitive ability as a significant risk factor for unsuccessful transition (Anderson et al., 2000), IQ measured at primary school was associated with post-transition behavioural difficulties.. Furthermore, findings suggested that year 6 pupils with more behavioural difficulties were vulnerable to transition difficulties including continued behavioural difficulties, lower self-perceived global self-worth and lower educational progress over the first term at secondary school. Correlational findings also indicated that year 6 pupils with lower global self-worth experienced more behavioural difficulties after transition. Interestingly, pre-transition behavioural difficulties and self-perceived global self-worth predicted post-transition ER strategy use. This finding is in accordance with

studies identifying adolescents' internalising problems as predictive of ES (Larsen et al., 2012).

Although the predicted association between pre-transition CR and ES and post-transition adjustment was not found, findings showed concurrent associations between measures. Pre-transition, CR was moderately correlated with IQ. This may reflect the cognitive demands of CR using working memory, and attention processes (Ochsner & Gross, 2009). In addition, post-transition, associations between ES and indices of lower psychosocial well-being were in line with previous findings (e.g., Hughes et al., 2010). The finding of a negative association between ES and education progress may be due to students who suppress their feelings, having less capacity to learn as efforts are spent focusing on their internal emotions (Richards & Gross, 2000). Furthermore, students using more ES are aware of experiencing negative emotion but not expressing it, leading to a lower feeling of self-worth (Gross & John, 2003). In accordance with Hsieh and Stright (2012), the use of CR at secondary school was associated with higher self-perceived global self-worth. These concurrent findings supported the proposal that CR is more adaptive and ES more maladaptive leading to less healthy psychosocial outcomes (John & Gross, 2004).

The second aim of the study involved investigation of gender differences in ES and CR use. The prediction that males would use significantly more ES than females was not supported by pre- or post-transition measures. This is in contrast with the findings of Gullone et al.'s (2010) longitudinal study of normative development of strategy use. However, the finding is in accordance with a cross-sectional study by Jaffe et al. (2012), investigating the roles of temperamental dispositions and perceived parenting behaviours in the use of ER strategies. The age range of the sample from the current study was similar to that of Jaffe et al. (9 to 12 years) whereas Gullone et al. examined ER strategy use in a slightly older sample (9 to 15 years).

The gender intensification hypothesis (Hill & Lynch, 1983) posits that individuals face increased pressure beginning in adolescence to conform to culturally sanctioned gender roles. A possible explanation for the current study's lack of findings of gender differences in ES is that the participants were at the

onset of puberty and therefore potentially too young to experience the pressure to conform to stereotypical gender roles. As expected, and in accordance with previous studies (Gullone et al., 2010), there were no significant gender differences in the use of CR.

The third aim of this study was to investigate the changes in ES and CR use across transition. Neither CR nor ES use changed significantly. The lack of significant change in CR is in support of the study's hypothesis and findings by Gresham and Gullone (2012). However, this is in contrast with the theoretical proposal that the use of more adaptive ER strategies increases as individuals become more experienced in managing emotion (John & Gross, 2004). It is possible that, instead of CR, the students may have relied on alternative adaptive strategies, such as adjusting (ability to balance day to day emotional demands; Lougheed & Hollenstein, 2012) which were not measured in this study. In addition, it is possible that post-transition, the students were not as consciously aware of their CR strategy. In support, research has identified that the use of reappraisal is often nonconscious when individuals are using social comparisons (Bargh & Williams, 2009).

In contrast to expectations and despite a slight decrease, there was no significant difference between pre-transition and post-transition ES use. It is proposed that the expected decreases in ES use across the primary-secondary transition were potentially too subtle to detect within the 6 month gap between measurements. In support of this, the significant decrease over time in ES use found by Gullone et al. (2010) was over a period of two years.

Strengths and Limitations of Current Study

There are several strengths to this study. Firstly, it employed a longitudinal design which allowed inferences to be made about causality and the direction of effects. This strengthened the conclusions of ER strategy use as a non-predictive factor of secondary school adjustment. Secondly, the study based the research questions on the widely accepted theoretical process model of ER (Gross, 1998). The findings of no correlation between ES and CR supported the concept of different strategies used at different times along the emotion timeline. Thirdly, the study included measures of cognitive ability which are not incorporated in the

majority of ER strategy research, probably due to the time requirements to administer individual cognitive assessments. However, by including this measure, important associations between CR and IQ were found. Finally, the study used an extensive range of measures to operationalize school adjustment.

Despite its strengths, the study's limitations must be considered. Firstly, the study included the measurement and consideration of only two ER strategies; CR and ES. They were selected as representative of the two different types of strategies within the ER process (antecedent-focused and response-focused), and because they are the strategies most commonly used in everyday life (John & Gross, 2004). However, it is acknowledged that there are a 'potentially overwhelming number of ER strategies' (Gross, 1998, p.281) and the measurement of more ER strategies would have contributed to a more comprehensive understanding of ER used across the primary-secondary transition .

Secondly, the internal reliability score of .37 for pre-transition ES was below the traditional cut off of .70 (Field, 2009). Exploration revealed that there were no specific items that individually impacted on the ES score reliability coefficient. Furthermore, the procedure followed for administrating the questionnaire at pre- and post-transition was identical except for the location. As discussed earlier, the hypothetical nature of the items may have resulted in primary pupils responding inconsistently, and the scale only has four items. However, previous studies have demonstrated good reliability for this age sample (e.g., Jaffe et al., 2010), thus it can be treated as an anomaly. Nevertheless, the interpretation of the pre-transition ES descriptive statistics should be considered with caution.

A third limitation involved the self-report nature of the ERQ-CA. A multi-method approach may have enhanced measurements of any ER strategies that are non-conscious and more habitual. Future research should include observations of emotional responses as well as self-reported ER strategy use.

Finally, this study's sample was non-clinical and primarily Caucasian. A more heterogeneous sample would have allowed the findings to be more generalizable.

Implications

The current findings indicated that the use of ES and CR may not accurately predict success of secondary transition. Moreover, cognitive ability, behavioural difficulties may be better predictors. Nevertheless, the concurrent findings that ER strategy use is associated with self-concept, behavioural, and academic outcomes, particularly at secondary school, enhances our understanding of ER strategy use in late childhood and adolescence. Secondary students with low global self-worth may benefit from interventions teaching them how to cognitively reappraise emotive situations. An example is the 'Conscious Coping' intervention based on reappraisal skills from cognitive behavioural therapy (Tharaldsen, 2012). In addition, students should be taught to express their emotions in an appropriate way to circumvent the associated negative outcomes of ES strategy use. In support, research has identified positive behaviour outcomes following the implementation of a school-based expressive writing intervention, designed to replace ES by adolescents (Horn, Pőssel, & Hautzinger, 2011).

Future Research and Conclusions

Future research should add to the knowledge of ES and CR by investigating further ER strategies (including repertoires) by adolescents within a clear theoretical model such as that of Gross (1998). . As previous research acknowledged that there are still no clear criteria for those at risk of poor transition (Rice et al., 2011), future investigation into ER as a predictor for successful transition should consider a broader conceptualisation of ER including awareness, frequency and intensity of emotions (Laible et al., 2010). Moreover, the findings of the current study indicated value in examining cognitive ability, and behavioural difficulties as predictive factors of transition success. It is also important to take these other factors into account as impacting on the development of ER strategies and further research should examine a potential reciprocal relationship.

Overall the current findings contributed to a greater understanding of ER strategy use in late childhood and adolescence. Specifically, findings suggested that the use of ES and CR does not predict the success of transition from primary to secondary school. However, the concurrent use of these strategies, particularly

at secondary school, impacted on several aspects of functioning important for school adjustment including behaviour competence, global self-worth and educational progress. Therefore, although ER strategy use appeared to not be a significant risk or protective factor for primary-secondary transition success, ER strategy use in early adolescence remains an important aspect of psychosocial functioning.

Footnotes

[1] Degrees of freedom with values of 2 decimal places reflect the use of t-tests with equality of variance was not assumed.

Appendices

Appendix A - Excluded studies

Appendix B – Data Extraction Forms

B1 Proforma of Data Extraction Form

B2 Example of Completed Data Extraction Form

Appendix C Research Governance and Ethics Consent Letter from University of Southampton

Appendix D Consent / Assent Letters

D1 Parents' consent letter pre-transition

D2 Parents' letter post-transition

D3 Students' Assent Letter Pre-Transition

D4 Students' Assent Letter Post-Transition

Appendix E Measures

E1 ERC-QA

E2 SPPC

E3 SDQ

Appendix F Medians of Predictor and Outcome Measures for Pre- and Post-Transition Unauthorised Absence

Appendix G - Medians of Predictor and Outcome Measures for Pre- and Post-Transition Unauthorised Absence Groups

Appendix A

Studies for Literature Review Excluded after Full Text Assessment

Author (s)	Reason for exclusion
McLaughlin, K.A., Hatzenbuehler, M. L., Mennin, D. S., & Nolen-Hoeksema, S. (2011). Emotion dysregulation and adolescent psychopathology: A prospective study. *Behaviour Research and Therapy, 49, (9*), 544-554. doi: 10.1016/j.brat.2011.06.003	This study examined the relationship between emotion dysregulation and psychopathology. The study found associations between emotion dysregulation and anxiety, aggressive behaviour, and eating pathology, but not depression. However, although rumination was measured, it contributed to a dysregulation index comprising rumination (CRSQ), the dysregulation subscales of the CAMS and CSMS and emotional understanding. This led to a consideration of adolescents' ability to regulate or not rather than how they regulate using strategies.
McLaughlin, K. A., Hatzenbuehler, M. L. , Hilt, L. M. (2009). Emotion dysregulation as a mechanism linking peer victimization to internalizing symptoms in adolescents *Journal of Consulting and Clinical Psychology, 77, (5),* 894-904. doi: 10.1037/a0015760	This study examined whether ER is a mechanism linking peer stress to internalizing behaviour in adolescents. The study found that peer victimization was linked with increased emotion dysregulation and also that emotion dysregulation mediated the relationship between relational and reputational victimization, and changes in internalizing behaviour. However, although rumination was measured, it contributed to a dysregulation index comprising rumination (CRSQ), the dysregulation subscales of the CAMS and CSMS and emotional understanding. This led to a consideration of adolescents' of ability to regulate or not rather than how they regulate using strategies.

Feng, X. K., Hipwell, K., Henneberger, A.E., Rischall,A.K., Butch, M.S., Coyne, J., Boeldt, C., Hinze, D., Babinski, A.K., Dara E. (2009). Longitudinal associations between emotion regulation and depression in preadolescent girls: Moderation by the caregiving environment. *Developmental Psychology, 45, (3),* 798-808. doi: 10.1037/a0014617	This study examined the prospective association of ER and parenting style with depressive symptomatology. It found that low levels of sadness regulation were predictive of high depressive symptoms when there had been low to medium parental acceptance. However, ER was measured using maternal report on the coping subscales of the CAMS and CSMS. This subscale measures the ability to effectively cope and manage the emotions of anger and sadness rather than the specific strategies that are used to measure the emotion regulation. Therefore, the study was excluded because it gave no information regarding how adolescents regulate emotion.
Pitskel, N. B., Bolling, D. Z., Kaiser, M. D., Crowley, M. J., Pelphrey, K., A. (2011). How grossed out are you? The neural bases of emotion regulation from childhood to adolescence. *Developmental Cognitive Neuroscience, 1, (3),* 324-337. doi: 10.1016/j.dcn.2011.03.004	This was an fMRI study of up and down regulation of response to disgusting images. It was determined that the emotion of disgust is non-normative in a school setting and therefore not relevant to the focus of the review.
Herts, K. L., McLaughlin, K. A., Hatzenbuehler, M. L. (2012). Emotion dysregulation as a mechanism linking stress exposure to adolescent aggressive behaviour. *Journal of Abnormal Child Psychology, 40, (7),* 1111-1122. doi: 10.1007/s10802-012-9629-4	This study examined emotion dysregulation as a mechanism linking stressful experiences to aggressive behaviour over time. It found that stressful life events and peer victimization predicted increases in emotion dysregulation and these were linked to increases in aggression. However, although rumination was measured, it contributed to a dysregulation index comprising rumination (CRSQ) and the dysregulation subscales of the CAMS and CSMS. This led to a consideration of adolescents' of ability to regulate or not rather than how they regulate using strategies.

Bender, P. K. , Reinholdt-Dunne, M. L. , Esbjørn, B. H. , Pons, F. Emotion dysregulation and anxiety in children and adolescents: Gender differences. *Personality and Individual Differences, 53(3),* 284-288. doi: 10.1016/j.paid.2012.03.027	This study examined gender differences in the association between emotion dysregulation and anxiety. The study found the dysregulation is more predictive of anxiety in girls. However, ER was measured using a single index of difficulties in ER comprised of six subscales of the DERS, of which limited access to ER strategies was only one. Therefore, no information was gained on specific ER strategy use and so the study was excluded.
Laible, D., Carlo, G., Panfile, T., Eye, J., & Parker, J. (2010). Negative emotionality and emotion regulation: A person-centered approach to predicting socioemotional adjustment in young adolescents. *Journal of Research in Personality, 44, (5),* 621 – 629. doi: 10.1016/j.jrp.2010.08.003	This study used a person-centred approach to examine the relations between negative emotionality, emotion regulation and socio-emotional behaviour. The study found four differing profiles of adolescents which differed along two dimensions of socioemotional behaviour. However, ER was measured using the emotion coping scales on CEMS. This gave information on whether the adolescents rated themselves as good or poor regulators rather than offer information on how they regulate their emotions using specific strategies.
Walton, A., & Fouri, E. (2009). Contextual risk, maternal parenting and adolescent externalising behaviour problems: the role of emotion regulation. *Child Care, Health and Development, 36, (2),* 275-284. doi: 10.1111/j.1365-2214.2009.01065.x	This study investigated whether ER mediated the association between mothers' parenting and adolescents' externalising behaviours. They found that warmth predicted ER which was negatively associated with externalizing behaviour problems. However, ER was measured using a single index of difficulties in ER comprised of six subscales of the DERS, of which limited access to ER strategies was only one. Therefore, no information was gained on specific ER strategy use and so the study was excluded.

Appendix B1

Proforma of Data Extraction Form for Journal Articles

Title of Review		
Publication Details Author (s) Year Title of Article Title of Journal Volume	Issue	Pages
Study details Study design Main Study Aim Any further Research questions addressed Country in which study was done Setting and context Target population Sampling / how recruited Characteristics of participants		
Nature of the study Study duration Methods of data collection and who collected by Any research tools used Analysis used		
Theory / conceptual models used for ER		
Results Details of findings Strengths of study Limitations of study		
Author's conclusions		
Reviewer's notes		

Appendix B2

Example Data Extraction Form for Journal Articles

Title of Review ***Emotion Regulation Strategy Use and School Adjustment for Adolescents***
Publication Details **Author (s)** *Jaffe et al.* **Year** *2010* **Title of Article** *The roles of temperamental dispositions and perceived parenting behaviours in the use of two emotion regulation strategies in late childhood* **Title of Journal** *Journal of Applied Developmental Psychology* **Volume** *31* **Issue** 1 **Pages** *47 - 59*
Study details **Study design** *cross-sectional* **Main Study Aim** *to assess the independent and interactive roles of temperament dimensions and parenting behaviours in the use of ER strategies.* **Any further Research questions addressed** *none* **Country in which study was done** *Australia* **Setting and context** *metropolitan Melbourne* **Sampling / how recruited** *mainly through primary schools (91.1%) and others through university bulletin or via families with older sibling who had participated in longitudinal study* **Characteristics of participants** *293 (153 female) born in Australia (72.7%)*
Nature of the study **Study duration** *over one time* **Methods of data collection and who collected by** *questionnaires (ERQ-CA, DOTS-R, PBI) at school* **Any research tools used** *none* **Analysis used** *correlations and MANOVA and hierarchical multiple regression*
Theory / conceptual models used for ER *Gross process-orientated model of ER*
Results **Details of findings** *significant main effect for ER strategies and age – CR differed by age gp, 11-12 more likely to report using CR than 9 -10. CR positively correlated with approach, mood quality, care and negatively with overprotection. ES correlated negatively with approach, flexibility, positive mood quality and care and correlated positively with overprotection. Not significant correlation between CR and ES. For ES, sex but not age predictor, temperament explained 12.2% variance, parenting further 2.6% variance. Flexibility explained most variance for ES. For CR, age but not sex significant predictor. Temperament explained 12.6% variability in CR and parenting further 2.2% variance. Approach and care were significant unique variance. Parenting behaviours only partially moderated the relationship between temperament and ER strategies.* **Strengths of study** *looked at temperament and parenting, clear theoretical model* **Limitations of study** *cross-sectional, explained variance low, limited temperament dimensions , self-report*
Author's conclusions *lower levels of ES more likely to experience lower levels of psychological well-being.Inverse relationship between flexibility and suppression means unable to respond flexibly so adopt strategy of ES. Lower levels of parenting care associated with ES. Care can act as a buffer against ES.*
Reviewer's notes *difference in gp recruitment overprotection(only 8 participants). CR and ES not correlated. Clear correlations with temperament and parenting.*

Appendix C

Letter of Research Governance and Email of Ethical Consent from University of Southampton

UNIVERSITY OF Southampton

Mrs Rebecca Murphy
School of Psychology
University of Southampton
University Road
Highfield
Southampton
SO17 1BJ

RGO Ref: 8577

10 May 2012

Dear Mrs Murphy

Project Title Emotion Regulation in Early Adolescence: Implications for Transition to Secondary School

This is to confirm the University of Southampton is prepared to act as Research Sponsor for this study, and the work detailed in the protocol/study outline will be covered by the University of Southampton insurance programme.

As the sponsor's representative for the University this office is tasked with:

1. Ensuring the researcher has obtained the necessary approvals for the study
2. Monitoring the conduct of the study
3. Registering and resolving any complaints arising from the study

As the researcher you are responsible for the conduct of the study and you are expected to:

1. Ensure the study is conducted as described in the protocol/study outline approved by this office
2. Advise this office of any change to the protocol, methodology, study documents, research team, participant numbers or start/end date of the study
3. Report to this office as soon as possible any concern, complaint or adverse event arising from the study

Failure to do any of the above may invalidate the insurance agreement and/or affect sponsorship of your study i.e. suspension or even withdrawal.

On receipt of this letter you may commence your research but please be aware other approvals may be required by the host organisation If your research takes place outside the University. It is your responsibility to check with the host organisation and obtain the appropriate approvals before recruitment is underway in that location.

May I take this opportunity to wish you every success for your research.

Yours sincerely

Dr Martina Prude
Head of Research Governance

Tel: 023 8059 5058
email: rgoinfo@soton.ac.uk

Corporate Services, University of Southampton, Highfield Campus, Southampton SO17 1BJ United Kingdom
Tel: +44 (0) 23 8059 4684 Fax: +44 (0) 23 8059 5781 www.southampton.ac.uk

Your Ethics Amendment (Ethics ID:4260) has been reviewed and approved

ERGO [ergo@soton.ac.uk]

Actions
To:
M
Murphy R.J.
Ethics
31 October 2012 07:38

Submission Number 4260:
This email is to confirm that the amendment request to your ethics form (Emotion Regulation in Early Adolescence: Implications for Transition to Secondary School (Amendment 1))has been approved by the Ethics Committee.

Please note that you cannot begin your research before you have had positive approval from the University of Southampton Research Governance Office (RGO) and Insurance Services. You should receive this via email within two working weeks. If there is a delay please email rgoinfo@soton.ac.uk.

Comments
None
Click here to view your submission

ERGO : Ethics and Research Governance Online
http://www.ergo.soton.ac.uk

Appendix D1

Consent Letter to Parents Pre-transition

version 1/ April 2012

School name and address
Date

Dear Parent/Guardian,

My name is Rebecca Murphy and I am a trainee Educational Psychologist completing a doctorate in Educational Psychology at the University of Southampton. As part of my doctorate I am asked to complete a research thesis project. My project considers emotion regulation and transition to secondary school. Specifically, I would like to look at whether a year 6's ability to regulate their emotion will impact on the success of their transition to secondary school. I am also considering other factors that might impact on transition including problem-solving skills, behaviour, self-esteem and absences. This information might help schools to understand what they can do to help students make a successful transition to secondary school. I am writing to the parents/guardians of all year 6 pupils transferring to (*name of secondary*) whose primary school has agreed to take part in the project. I will randomly select 70 year 6 pupils to take part whose parents have given permission.

The project will take place over two time points: firstly in year 6 summer term at primary school and then in the beginning of the spring term in year 7 at secondary school.

Firstly, I will ask the Year 6 students to complete two short questionnaires which look at self-perceptions of themselves and emotion regulation ability. I anticipate that the questionnaires should take no longer than 20 minutes to complete. I will also be asking students to complete some problem-solving activities which will take approximately 30 minutes. All students who take part will be told the aims of the project. Students will also be asked if they are happy to complete the questionnaires and activities, and will be made aware that they are free to stop at any time.

I will also be asking the year 6 class teacher and yourselves as parents/guardians to complete a short questionnaire on behaviour, which will only take approximately 5 minutes. I will also ask for school data on absences.

Next, in year 7, after one term, I will contact you again to check that you are still happy for your son/daughter to participate in the study. I will ask the students to complete just one short questionnaire looking at self-perceptions again. I will ask parents/guardians and form tutors to complete the questionnaire on behaviour once more and ask the school for data on absences.

In accordance with the University of Southampton's policy, all the information gathered will be strictly confidential and no names will be mentioned in the write up and any possible publication of this research. Any identifying information will be stored separately from the data collected for assessment. The paper data will be stored in a locked file and kept for ten years. Any electronic data will be stored on a password protected memory stick for ten years. It will not be made available for any other purposes.

A copy of the questionnaires will be available in the primary school office should you wish to see them. A summary of the results of this research will also be sent to the primary and secondary schools once it is complete and will be available for you to view if you wish.

I hope that you will be happy for your son/daughter to assist me in this project. If you have any questions that are not answered in this letter please do not hesitate to contact me by email: rjm1g10@soton.ac.uk

If you are happy for your son/daughter to take part in this research, and are happy to be contacted again after they have been in year 7 for one term you do not need to do anything. If you do not wish your son/daughter to take part in this research please return the slip below to the School Office on or before (*1 week after given out*). I hope to start meeting with the selected students from 26/06/12.

Yours faithfully,

Rebecca Murphy
Trainee Educational Psychologist

PARENT CONSENT FORM (Version 1/ April 2012)

Study title: Emotion Regulation in Early Adolescence: Implications for Transition to Secondary School

Researcher's name: Rebecca Murphy

Study reference:

Ethics reference:

Please sign and return this form only if you **DO NOT** wish your son/daughter to participate in the study.

I do not give consent for my son/daughter to take part in this research project.

Name of parent/guardian (print)……

Your child's name and date of birth ……

Your child's current primary school ……..

Signature of parent/guardian……Date……

If you have questions about your child's rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ.
Phone: (023) 8059 5578.

Appendix D2

Parents Letter Post-Transition

School name and address
Date

Dear Parent/Guardian,

You may recall that your son/daughter kindly took part in my thesis research project which considers emotion regulation and transition to secondary school. Specifically, I am looking at whether a year 6's ability to regulate their emotion will impact on the success of their transition to secondary school. I am also considering other factors that might impact on transition including problem-solving skills, behaviour, self-esteem and absenteeism.

As your son/daughter has now been at XXX school for nearly one term, I will be asking them to complete two questionnaires based on their self-perceptions and their use of emotion regulation strategies. This will be completed in a group and should take approximately twenty minutes. I will also be asking form tutors to complete a questionnaire regarding the individual pupils. I will also request information on pupils' educational progress and absence data.

As part of this second part of the research, I would be extremely grateful if, as a parent, you would also complete the attached strengths and difficulties questionnaire and return it to me via the school office. The results will hopefully help schools to understand what they can do to help students make a successful transition to secondary school from primary school.

I would like to remind you that, in accordance with the University of Southampton's policy, all the information gathered will be strictly confidential. I will not be showing any individual's responses to anyone unless I am concerned that responses to the self-perception questionnaire indicate a significantly low self-worth. In this instance, I would speak to Mrs Langley (transition coordinator for year 7) and she would contact you.

No names will be mentioned in the write up of this research. The data will be stored in a locked file and kept for ten years. It will not be made available for any other purposes. I would also like to remind you that participants are able to withdraw from the study at any time without prejudice.

If you have questions about your child's rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics

Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Telephone: (023) 8059 4663, email: slb1n10@soton.ac.uk.

I would like to thank you again for your son's/daughter's assistance in this important project. I look forward to receiving your completed strengths and difficulties questionnaire via the school office. If you have any questions that are not answered in this letter please do not hesitate to contact me by email: rjm1g10@soton.ac.uk

Yours faithfully,

R J Murphy

(Trainee Educational Psychologist)

Appendix D3

Student Assent Letter Pre-Transition

My name is Rebecca and I am a trainee Educational Psychologist completing a doctorate in Educational Psychology at the University of Southampton. As part of my course I am asked to complete a research project. For my project, I am trying to understand what it is about year 6 students that makes moving to year 7 in secondary school a good experience. I am looking at whether year 6 students' ability to manage how they feel means that they are more successful at transition. Finding this out might help schools to understand what they can do to help students make a successful transition to secondary school.

I would like you to complete two questionnaires which measure how you manage how you feel and also how you see yourself. You will fill out the questionnaires individually. It should take about 20 minutes.
I would also like you to complete some problem-solving activities with me. These are done individually and will take about 30 minutes.

After you have moved to your secondary school, I will come and visit you and ask you to complete one questionnaire. That will take about 10 minutes.

These are not tests. There are no right or wrong answers.

I will not show the answers that you give me to anybody else, unless I am really worried. You will be given a code to use instead of your name so your answers will remain confidential.

You do not have to take part in this research and I would understand if you do not want to. If you do not want to carry on at any time, just tell me and you can stop.

Do you have any questions?

If you are happy to help me, then answer the questions below and sign your name

Please circle the answer you agree with:

Has somebody explained this project to you?	Yes	No
Do you understand what this project is about?	Yes	No
Have you asked all the questions you want?	Yes	No
Have someone answered your questions in a way you understand?	Yes	No
Do you understand it is okay to stop taking part at any time?	Yes	No

If you have answered yes to all above questions,
Please sign your name to show you are happy to take part

Signature ……Date……

Appendix D4

Student Assent Letter Post-transition

I am Rebecca Murphy, a trainee educational psychologist. You may recall that when you were in year 6, you kindly agreed to complete some questionnaires and activities for my research project. To remind you, I am trying to understand what it is about year 6 students that makes moving to year 7 in secondary school a good experience. I am looking at whether year 6 students' ability to manage how they feel means that they are more successful at transition. Finding this out might help schools to understand what they can do to help students make a successful transition to secondary school.

Now you have spent almost a term in year 7 at secondary school, I would like you to complete the questionnaires again, which measures how you see yourself and the ways you manage emotion. You will fill out the questionnaires individually. It should take about twenty minutes. This is not a test and there are no right or wrong answers.

To remind you, your completed questionnaire will be given the same code as before instead of your name so your answers will remain confidential. I will not show the answers that you give to anybody else, unless I am really worried that your responses to the questionnaire indicate a significantly low self-worth. If this is the case, I would speak to Mrs XXX, (transition coordinator for year 7).

Also to remind you, you do not have to take part in this research and I would understand if you do not want to. If you do not want to carry on at any time, just tell me and you can stop.

If you are still happy to help me, then answer the questions on the attached sheet and sign your name. Thank you.

R J Murphy
Trainee Educational Psychologist

Student assent at time 2 (Version 02/April 2012)

Please circle the answer you agree with:

Has somebody explained this project to you?	Yes	No
Do you understand what this project is about?	Yes	No
Have you asked all the questions you want?	Yes	No
Have someone answered your questions in a way you understand?	Yes	No
Do you understand it is okay to stop taking part at any time?	Yes	No

If you have answered yes to all above questions,
Please sign your name to show you are happy to continue to take part

Signature ……Date……

THANK-YOU VERY MUCH!

Appendix E1

ERQ-CA

ERQ-CA

Below are a number of statements. Please read each statement, and then circle the choice that seems most true for you. Some of the statements may seem the same but they are different in important ways, so be sure to read carefully.

1. When I want to feel happier, I think about something different.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
2. I keep my feelings to myself	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
3. When I want to feel less bad (e.g., sad, angry or worried), I think about something different.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
4. When I am feeling happy, I am careful not to show it.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
5. When I'm worried about something, I make myself think about it in a way that helps me feel better.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
6. I control my feelings by not showing them	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
7. When I want to feel happier about something, I change the way I'm thinking about it.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
8. I control my feelings about things by changing the way I think about them.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
9. When I'm feeling bad (e.g., sad, angry, or worried), I'm careful not to show it.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree
10. When I want to feel less bad (e.g., sad, angry, or worried) about something, I change the way I'm thinking about it.	Strongly Disagree	Disagree	Half and half	Agree	Strongly Agree

Appendix E2

SPPC

What I Am Like

SCORING KEY

SELF-PERCEPTION PROFILE FOR CHILDREN
(Revision of the Perceived Competence Scale for Children)

Susan Harter, Ph.D., University of Denver, 1985

1.	4	3	Some kids feel that they are very *good* at their school work	BUT	Other kids *worry* about whether they can do the school work assigned to them.	2	1
2.	1	2	Some kids find it *hard* to make friends	BUT	Other kids find it's pretty easy to make friends.	3	4
3.	4	3	Some kids do very *well* at all kinds of sports	BUT	Other kids *don't* feel that they are very good when it comes to sports.	2	1
4.	4	3	Some kids are *happy* with the way they look	BUT	Other kids are *not* happy with the way they look.	2	1
5.	1	2	Some kids often do *not* like the way they *behave*	BUT	Other kids usually *like* the way they behave.	3	4
6.	1	2	Some kids are often *unhappy* with themselves	BUT	Other kids are pretty *pleased* with themselves.	3	4
7.	4	3	Some kids feel like they are *just as smart* as as other kids their age	BUT	Other kids aren't so sure and *wonder* if they are as smart.	2	1
8.	4	3	Some kids have a lot of friends	BUT	Other kids *don't* have very many friends.	2	1

1

SPPC

Really True for me	Sort of True for me				Sort of True for me	Really True for me
1	2	Some kids wish they could be alot better at sports	BUT	Other kids feel they are good enough at sports.	3	4
4	3	Some kids are *happy* with their height and weight	BUT	Other kids wish their height or weight were *different*.	2	1
4	3	Some kids usually do the *right* thing	BUT	Other kids often *don't* do the right thing.	2	1
1	2	Some kids *don't* like the way they are leading their life	BUT	Other kids *do* like the way they are leading their life.	3	4
1	2	Some kids are pretty *slow* in finishing their school work	BUT	Other kids can do their school work *quickly*.	3	4
1	2	Some kids would like to have alot more friends	BUT	Other kids have as many friends as they want.	3	4
4	3	Some kids think they could do well at just about any new sports activity they haven't tried before	BUT	Other kids are afraid they might *not* do well at sports they haven't ever tried.	2	1
1	2	Some kids wish their body was *different*	BUT	Other kids *like* their body the way it is.	3	4
4	3	Some kids usually *act* the way they know they *are supposed to*	BUT	Other kids often *don't* act the way they are supposed to.	2	1
4	3	Some kids are *happy* with themselves as a person	BUT	Other kids are often *not* happy with themselves.	2	1
1	2	Some kids often *forget* what they learn	BUT	Other kids can remember things *easily*.	3	4
4	3	Some kids are always doing things with *alot* of kids	BUT	Other kids usually do things *by themselves*.	2	1

2

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
21.	4	3	Some kids feel that they are *better* than others their age at sports	BUT	Other kids *don't* feel they can play as well.	2	1
22.	1	2	Some kids wish their physical appearance (how they look) was *different*	BUT	Other kids *like* their physical appearance the way it is.	3	4
23.	1	2	Some kids usually get in *trouble* because of things they do	BUT	Other kids usually *don't* do things that get them in trouble.	3	4
24.	4	3	Some kids *like* the kind of *person* they are	BUT	Other kids often wish they were someone else.	2	1
25.	4	3	Some kids do *very well* at their classwork	BUT	Other kids *don't* do very well at their classwork.	2	1
26.	1	2	Some kids wish that more people their age liked them	BUT	Other kids feel that most people their age *do* like them.	3	4
27.	1	2	In games and sports some kids usually *watch* instead of *play*	BUT	Other kids usually *play* rather than just watch.	3	4
28.	1	2	Some kids wish something about their face or hair looked *different*	BUT	Other kids *like* their face and hair the way they are.	3	4
29.	1	2	Some kids do things they know they *shouldn't* do	BUT	Other kids *hardly ever* do things they know they shouldn't do.	3	4
30.	4	3	Some kids are very *happy* being the way they are	BUT	Other kids wish they were *different*.	2	1
31.	1	2	Some kids have *trouble* figuring out the answers in school	BUT	Other kids almost *always* can figure out the answers.	3	4
32.	4	3	Some kids are *popular* with others their age	BUT	Other kids are *not* very popular.	2	1

3

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
33.	1	2	Some kids don't do well at new outdoor games	BUT	Other kids are good at new games right away.	3	4
34.	4	3	Some kids think that they are good looking	BUT	Other kids think that they are not very good looking.	2	1
35.	4	3	Some kids behave themselves very well	BUT	Other kids often find it hard to behave themselves.	2	1
36.	1	2	Some kids *are* not very happy with the way they do alot of things	BUT	Other kids think the way they do things is *fine*.	3	4

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4

Appendix E3

SDQ

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name ..... Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Signature ..... Date .....

Parent/Teacher/Other (please specify:)

Thank you very much for your help

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Appendix F

Table F1 *Medians of Predictor and Outcome Measures for Pre- and Post-Transition Unauthorised Absence*

Measure	Overall Median (SD) (n = 68)	Pre-Transition Unauthorised absence group		Post-Transition Unauthorised absence group	
		No absences Median (SD) (n = 53)	>1 half-day absence Median (SD) (n = 15)	No absences Median (SD) (n = 39)	>1 half-day absence Median (SD) (n = 29)
Pre ES	12 (2.32)	11 (2.32)	12 (2.40)	11 (2.54)	12 (1.95)
Pre CR	20 (3.52) #	20.5 (3.56) *	20 (3.46)	21 (3.29)	20 (3.80)
IQ	104.5 (12.00)	104 (12.09)	106 (12.01)	104 (11.64)	106 (12.60)
Pre GSW	3.33 (.56)	3.33 (.56)	3.17 (.59)	3.5 (.56)	3.17 (.56)
Pre BD	2 (3.23)	1 (3.20)	3 (3.31)	1 (2.60)	2 (3.87)
Post ES	11 (3.06)	11 (3.07)	12 (2.89)	11 (3.07)	11 (3.02)
Post CR	19 (3.96)	19 (4.14)	20 (3.46)	20 (3.70)	19 (4.35)
Post GSW	3.5 (.54) #	3.5 (.53) *	3.33 (5.67)	3.5 (.53)	3.42 (.56) ^
Post BD	3 (4.56)	3 (3.57)	5 (6.60)	3 (2.83)	3 (6.00)
Ed Progress	5 (1.33) #	5 (1.26) *	5 (1.60)	5 (1.38)	5 (1.28) ^

SD = Standard deviation; Pre ES = Expressive suppression; pre CR = pre-transition cognitive reappraisal; IQ = intelligence quotient; pre GSW = pre-transition global self-worth; pre BD = pre-transition behavioural difficulties; post ES = post-transition expressive suppression; post CR = post-transition cognitive reappraisal; post GSW = post-transition global self-worth; post BD = post-transition behavioural difficulties; Ed Progress = post-transition educational progress

n = 67, **n* = 52, ^ *n* = 28

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