

Adolescent Representations of Emotion and Emotion Regulation

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Abstract

Emotion regulation (ER) is an established factor in well-being and psychopathology across the life span. The way children learn to regulate emotion is associated with the way parents act as agents of emotion socialisation. Theory suggests that children internalise an understanding about emotion, based on this socialisation, which in turn drives how they regulate it. There is little evidence examining this relationship in adolescents, and less that examines whether internalised beliefs and understanding (representations of emotion) mediate this relationship.

The aim of the current study was to examine the relationships between adolescent perceptions of maternal socialisation of emotion, representations of emotion and ER. In particular the current study aimed to assess whether adolescents' beliefs about the value of emotion, and their ability to distinguish between emotions, mediated the relationship between perceived maternal socialisation and their use of the ER strategies.

Using a cross sectional design, 12-18 year olds ($N=123$) completed self-report questionnaires on their beliefs about and awareness of emotion (representations of emotion) and emotion regulation (cognitive reappraisal and expressive suppression). For emotion socialisation adolescents reported on whether their mothers responded to their displays of negative emotion in emotionally validating or invalidating ways.

Findings from multiple regression and mediation analyses showed that when adolescents experienced their mothers as validating negative emotions, adolescents valued emotion more and were better able to distinguish between emotions. These

representations of emotion mediated the relationship between perceived socialisation and the use of the ER strategy expressive suppression. Perceptions of emotionally validating responses were better predictors of emotion representations and of ER, than were perceptions of invalidating responses. Increased use of cognitive reappraisal was associated with greater perceptions of validating emotion socialisation but was not related to any other representations of emotion or invalidating socialisation.

The findings highlight the potential role of targeting beliefs about the value of emotion in school and clinical settings to limit the over reliance on the maladaptive ER strategy expressive suppression.

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Chapter 1: Introduction

Overview

Emotion regulation (ER) refers to how an individual monitors and modifies their emotional responses to stimuli (Gross, 1998). The ability to regulate one's emotions adaptively has been linked with positive psycho-social outcomes (Gross, 2002). Equally, dysregulation, the inability to regulate emotion or the maladaptive use of strategies to modify emotion is related to poorer psycho-social functioning in adolescents (Silk, Steinberg & Morris, 2003) and adults (Jazaireri, Urry & Gross, 2013). Emotion regulation can involve a number of strategies such cognitively reappraising emotion eliciting stimuli or suppressing the emotional experience (Web, Miles & Sheeran, 2012). The development of emotion regulation in infants and children has been studied extensively and places parental socialisation of emotion as a central process by which individuals develop the ability to understand and regulate emotion (Cole, 2014; Morris, Silk, Steinberg, Myers & Robinson, 2007).

Emotion socialisation refers to the direct and indirect ways in which information about emotion and its management is passed on, for example through didactic teaching, contingencies or modelling of behaviours. Socialisation of emotion can either validate or invalidate an individual's experience of emotion and lead to the internalisation of a set of rules, attitudes and beliefs about emotion. However, the socialisation of emotion is not restricted to childhood and is likely to be an ongoing process across the life span under a number of influences including peers, life events and changing role expectations (Zimmerman & Iwanska, 2014). Adolescence in particular represents a time of dynamic neuronal and physiological change associated

with increased emotional and social processing (Blakemore & Mills, 2014) that may impact on both socialisation processes and emotion regulation abilities. The unique nature of adolescence means it is important to study the adolescent perspective of parental emotional socialisation.

The term emotion representations is a general term given here to refer to the internalized understanding about emotion a person may have (Meyer, Raikes, Virmani, Waters & Thompson, 2014; Zimmerman & Thompson, 2014). The internalised understanding of emotion, or how emotion is internally represented, may relate to the ability to identify and recognise emotion. The ability to identify and be aware of emotion is considered a prerequisite to the engagement of emotion regulation strategies (Barrett, Gross, Christensen & Benvenuto, 2001; Gross & John, 2003). In addition, individuals may also internalise beliefs about whether emotions are acceptable and useful experiences, which may also influence how an individual engages in emotion regulation (Gross, 2015).

To address gaps in the literature, the current thesis will explore the relationship between representations of emotion and emotion regulation in an adolescent sample. It will also consider how adolescent experiences of their mothers as agents of emotion socialisation relate to their representations and regulation of emotion. In other words, the current study will examine the relationship between adolescent perceptions of their mothers' validation or invalidation of their expressions of emotion, to their valuation, awareness and regulation of emotion. Further, the extent to which these representations mediate between perceived socialisation and emotion regulation will be considered.

The following chapter will outline the development of emotion and why adolescence is a time of heightened risk for psychopathology. The relevance of emotion regulation in the clinical context will then be considered. Emotion regulation will be discussed in detail and linked to the potential role of emotion representations in its use. Finally the development of emotion regulation via parental socialisation will be explored, highlighting the lack of research with adolescents and on the mechanism of intergenerational transmission of emotional regulation. The current thesis explores whether representations of emotion are such a mechanism of transmission, between socialisation and emotion regulation.

Emotional Development and Adolescence

Emotions connect individuals to their environment by acting as a source of feedback about significant events and providing them with information about their needs, in turn allowing an individual to prepare for action (Frijda & Scherer, 2009; Scherer, 2015). Emotion also plays a crucial role in social communication by prompting the use of language, the sharing of knowledge, and eliciting protective and supportive responses from community members (Rimé, 2009). Sadness for instance elicits attention and social support from mothers (Buss & Kiel, 2004).

Emotional development requires scaffolding by the caregiver in an individual's early years. The management of emotion is initially undertaken by others whilst the ability for self-regulation develops with maturation (Saarni, 2008). As communication skills and awareness of the self and others increase, one's understanding of emotions and

social expectations also increases. Between the ages of 2-5 years reciprocal emotional communication emerges (Saarni, 2011). The tasks required for emotional competence become more complex with age. In mid childhood to pre-adolescence children are adapting to the expectations of social norms, distinguishing between genuine and false emotions and engaging in problem solving to manage stressful situations (Saarni, 2011).

Emotional development is inextricably linked with the social context for its development and regulation (Saarni, 2008). Eisenberg, Cumberland and Spinrad (1998) provide a heuristic model of factors contributing to the socialisation of emotion. The child's characteristics (temperament, age), parent characteristics (gender, personality, emotion-related beliefs), cultural factors (norms and values) and situational context, all input into parents' socialisation practices. However, emotional development is also dependent on brain maturation and individual differences in physiological reactivity (Zimmerman & Thompson, 2014), on which these environmental factors act.

Early life events, particularly those of maltreatment and neglect have neurological consequences, such as reductions in hippocampus volume (Riem et al., 2015). The hippocampus plays an important role in modulating an area of the brain called the hypothalamic-pituitary-adrenal (HPA) axis and is involved in the release of the stress hormone cortisol and in maintaining homeostasis (Riem et al., 2015). The amygdala, a brain region involved in threat response, has also been shown to be sensitised in adolescents who have been exposed to childhood trauma (Marusak, Martin, Etkin & Thomason, 2015). When the amygdala is sensitised and the hippocampus is

inefficient the normal regulation of emotion is impaired (Shin, Rauch & Pitman, 2006). In addition, the prefrontal cortex, which continues to develop beyond adolescence, oversees the regulation of thought and emotion and is easily disrupted by stress (Arnsten, 2009). Therapies for trauma reactions aim to reduce the activity of the amygdala by bringing the prefrontal cortex back “on-line” (Arnsten, Raskind, Taylor & Connor, 2015).

Early life events can therefore be particularly damaging in maturing brains as the trajectory of neural development can be directed onto a maladaptive course. Such findings from research into Post-Traumatic Stress Disorder give some insight into the environmental impact on basic brain structures and the important role of higher regulatory cognitive systems. Equally, well-functioning and adaptive environments can enhance emotion development and its regulation.

Of particular interest in the current study is the developmental period of adolescence. Adolescence is a period characterised by physical, biological, behavioural and emotional change and is a time of heightened risk for long-term poorer outcomes. Adolescence is a key period for the emergence of emotional disorders. Between the ages of 11-16 years the prevalence rate for diagnosable mental disorder is 13% for boys and 10% for girls (Green, McGinnity, Meltzer, Ford & Goodman, 2005). Some estimates have found that as much as 74% of adults with a psychiatric diagnosis received a first diagnosis between the ages of 11-18 years (Kim-Cohen et al., 2003). This is a stark demonstration of the pre-adult onset of psychopathology. In addition it has been found that the earlier the onset of psychological difficulty, the worse the

prognosis is for adulthood (e.g. Moffitt, Caspi, Harrington & Milne, 2002; Kim-Cohen et al., 2003).

Adolescence involves the hormonal and neural changes of puberty, which have been associated with increased sensitivity to stress and emotional reactivity, peaking in mid-late adolescence (Dahl & Gunnar, 2009; Nelson, Leibenluft, McClure & Pine, 2005). This time of heightened emotional reactivity is evidenced by increased amygdala activity (Williams et al., 2006). Such changes are thought to be partly responsible for increases in emotional sensitivity (Dahl & Gunnar, 2009), particularly to social stimuli (Blakemore & Mills, 2014; Nelson et al., 2004).

This sensitivity and period of neuronal malleability could explain the increase in risk. Neuronal pruning and myelination takes place during this developmental phase and constitutes a period of neuronal remodelling where redundant neuronal pathways from childhood are eliminated and where remaining connections are strengthened with increased myelination (Giedd, Keshavan & Paus, 2008). This results in the restructuring and reorganization of systems serving cognitive, social, emotional and motivational functioning. This malleability lays the foundation where “moving parts get broken” (pp9, Giedd et al., 2008), in suboptimum environments and can initiate maladaptive trajectories (Cicchetti & Rogosch, 2002). The environment and the information it provides may therefore be of increased importance during this time. It is relevant then to clarify the environmental contributions to the use of emotion regulation during this period.

Emotion in the Clinical Context

The generation and expression of emotion is core to human functioning and therefore dysfunction (Scherer, 2015). Despite this the study of affect and its direct inclusion in clinical approaches is a relatively modern phenomenon (Tracey, Klonsky & Proudfit, 2014). Within the United Kingdom's National Health Service and its guiding body the National Institute of Clinical Excellence (NICE), Cognitive Behavioural Therapy (CBT) has become the talking therapy of choice for a number of mental health disorders. For example for children and adolescents CBT is recommended for Depression, Obsessive-Compulsive Disorder, Post-Traumatic Stress Disorder and Social Anxiety (NICE, 2015; 2005; 2005; 2013). In cognitive therapies thoughts and behaviours are the focus of work with (historically) minimal consideration of the role of affect (Berking & Whitley, 2014). By contrast Psychodynamic approaches emphasise the central role of affect and its avoidance, with limited explicit focus on cognition (Shedler, 2012). The reality of clinical work likely involves more flexibility than is presented here, however both interventions, depending on the diagnosis, provide around a fifty percent efficacy rate, (Shedler, 2012; Hofman et al., 2012; Fonagy, 2015). This could indicate that both therapeutic approaches may need to consider the affective and cognitive elements that are involved in emotion regulation. If for historical, political and academic reasons therapeutic approaches have been split along the cognitive-affective divide it seems reasonable that uniting the approaches offers the possibility of greater success. Indeed there is considerable evidence that experiencing affect, within a safe therapeutic alliance, and its subsequent cognitive exploration is an important mechanism for therapeutic change (Castonguay, Goldfried, Wiser, Raue & Hayes, 1996; Ablon & Jones, 1998; Whelton, 2004).

The importance of including affect in therapy is indicated by the rapid rise of “third-wave” (Hayes, 2004a) CBT approaches such as Dialectical Behaviour Therapy (DBT, Linehan, 1993), which targets emotion regulation, and Acceptance and Commitment Therapy (ACT, Hayes, Strosahl & Wilson, 1999) that promotes the acceptance of affect. The affective revolution (Adrian, Zeman & Veits, 2011) has seen research and clinical approaches increasingly consider the way emotion is regulated, and to a lesser extent the experiential avoidance of affect, acknowledging them as maintaining factors of psychopathology (Tracy et al., 2014; Spinhoven, Drost, de Rooij, van Hemert & Penninx, 2014).

One’s ability to be aware of and modulate emotion, that is to regulate one’s emotional experience and expression, is starting to be considered as a transdiagnostic process. That is, a cause or maintenance process that is implicated across disorders and symptom clusters (Aldao, 2012; Harvey, Watkins, Mansell & Shafran, 2004). Watkins (2015) suggests that a shift in focus to understanding transdiagnostic mechanisms in psychopathology may improve treatment outcomes. Addressing underlying processes of symptoms may allow clinicians to more effectively tackle the complexity of multiple diagnoses. The validity of diagnostic categories has been questioned on the basis of high comorbidity across disorders, heterogeneity within disorders and limits in treatment efficacy (Watkins, 2015). It is therefore relevant to understand the various affective and cognitive elements that influence emotion regulation in order to increase awareness of possible targets of intervention.

In the field of emotion regulation the interplay between affect and cognition is a key area of exploration (e.g. Watkins, 2015). Cognitive appraisals of emotional stimuli are

considered to play a key role in its regulation (Gross, 1998; Rimé, 2009; Scherer, 2015; Tracy et al., 2014), hence the integration of cognitive-affective clinical approaches is relevant. What is unclear is the extent to which beliefs and thoughts about emotions, influence appraisals of an emotional experience and therefore the perceived importance of modifying or expressing emotion.

Emotion Regulation

As an individual develops they are required to manage their emotions in order to respond appropriately to a variety of situations, in line with social-relational contexts, to create and maintain adaptive behaviours and social connections and experiences (Wang, Vujovic, Barrett, & Lerner, 2015). As such the ability to recognise and modulate affect, emotion regulation, is a crucial part of human development (Wang et al., 2015). Failures to regulate emotion or engaging unsuitable regulation strategies are central features of psychological problems (Gross, 2013; Gross & Jazaieri, 2014 p4). In adults emotion regulation difficulties form the basis for many affective disorders, Depression, Anxiety, Bipolar as well as in Personality Disorders (Jazaieri et al., 2013; Linehan, 1993).

Difficulties in emotion regulation have also been implicated in child and adolescent psychopathology. In mid-childhood parents' reports on their child's inability to regulate anger and sadness have been associated with depressive symptoms in children between 8-11 years (Sanders et al., 2013). Failures to regulate emotion appropriately are also linked to depressive symptoms and problem behaviour in adolescents. Silk, Steinberg and Morris (2003), in a sample of 153 adolescents

(average age 14 years) found that their self-reports suggested that those who experienced more lability and less affective regulation were more depressed and showed more problem behaviour.

Regulation of emotion involves the use of various strategies in order to, for example, reduce strong negative affective states or increase and prolong positive affective states. It may be helpful to think of it in terms of keeping an emotional even keel in order to maintain good social, psychological, behavioural, functioning. For example a phase of mania in Bipolar Disorder could be thought of as an inability to down-regulate intense positive emotion.

Definition in detail.

Amongst several overlapping definitions of ER the consistent and key characteristics are the conscious or unconscious (explicit or implicit), use of strategies to monitor and modify emotional responses, in order to achieve a goal or desired outcome and maintain affective homeostasis, in a socially acceptable way (Thompson, 1994; Gottman, Katz & Hooven, 1996; Calkins & Leerkes, 2004; Gross & Jazaieri, 2014; Zeman, Cassano & Adrian, 2013). A variety of strategies can be used to regulate emotion. Much of the research surrounding emotion regulation has grown out of an early model of emotion regulation put forward by Gross (1998) and which has recently been updated (Gross, 2015).

Emotion regulation strategies.

Gross' (1998) process model of regulation (see Fig.1) is a widely used model that is intended to demonstrate a temporal cascade of regulation strategy engagement. The strategy used is defined by where it is engaged along a linear process of emotion generation. The suggested strategies are situation selection and modification, attentional deployment, cognitive change, and response modulation. For instance an individual may attempt to control what emotion is generated by carefully selecting a situation that will initiate or reduce the likelihood of an emotion. In this case situational selection and situational modification involve selection or control of the external environment to influence the type of emotion generated (Gross, 1998; Gross & John, 2003). Once emotion has started to be generated attentional deployment may come into play and involves how one directs or redirects one's attention to alter emotion. Cognitive change is how individuals make sense of or interpret the emotion-eliciting situation. Finally response modulation refers to the attempts to manage the physiological sensation and behavioural display of emotion (Gross & Jazaieri, 2014).

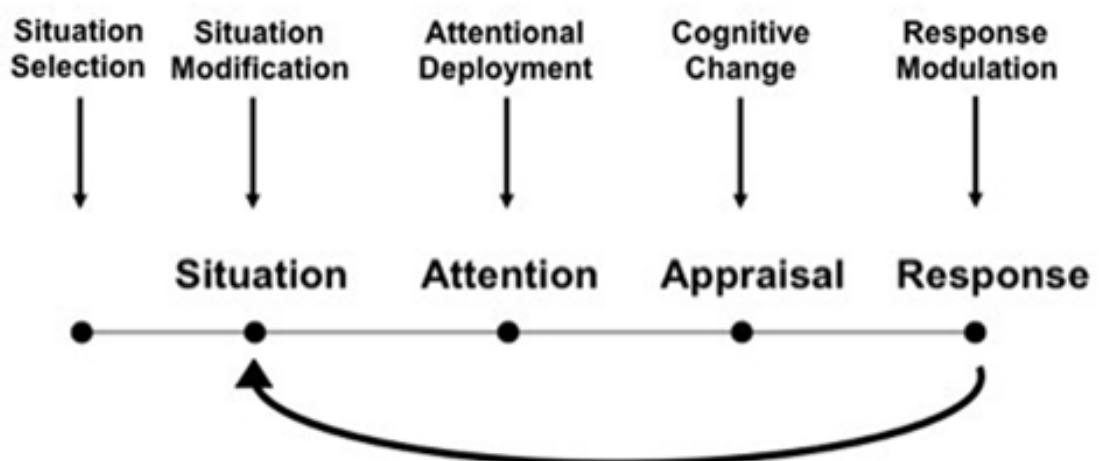


Figure 1. The process model of emotion regulation. From “Emotion Regulation: Conceptual Foundations,” by J. J. Gross and R. A. Thompson, 2007, in Handbook of Emotion Regulation (p. 10), J. J. Gross (Ed.), New York, NY, Guilford Press. Copyright by Guilford Press. Taken from Gross & Jazaieri, 2014.

On the back of this model, research into the types of strategies used to regulate emotion have focused on cognitive change and response modulation. Cognitive change involves strategies such as reappraising a situation and problem solving. Attempts at cognitive change can also prove unhelpful, such as rumination and worry, as in repetitive thinking about the past or the future without problem solving. Response modulation strategies might involve the suppression of the expression or the experience of feeling (Gross, 1998). Self-harm and binge eating are also examples of a response modulation strategy, exercise might be another (Jazaieri et al., 2013).

In a meta-analysis of 306 experimental comparisons of various adult ER strategies Webb, Miles and Sheeran, (2012) found broadly that cognitive change was more effective at altering emotion outcomes than attempts to modify behavioural and physiological responses. In particular they found that reappraisal of the emotion eliciting stimuli was a successful emotion modulating strategy. Suppressing the experience of emotion or thoughts about the event did not prove an effective strategy. Interestingly they found that even though suppression strategies did not alter the physiological recorded experience it did alter the self-reported experience of affect. This suggests the involvement of cognitive processes in expressing emotion.

In another meta-analytic review of six ER strategies by adults, the maladaptive strategies rumination, avoidance and suppression were linked with more psychopathology (Anxiety, Depression, eating- and substance- related disorders) (Aldao, Nolen-Hoeksema & Schweizer, 2010). Adaptive strategies such as acceptance, reappraisal and problem solving were also associated with less psychopathology, however the association was not as strong as with maladaptive strategies. As maladaptive strategies have a proportionally greater influence of psychopathology they are especially important to understand.

The use of ER strategies varies developmentally (Cole, 2014; Zimmerman & Iwanski, 2014). For example middle adolescents, compared to pre-adolescence (age 11) and middle adulthood (age 50), have been shown to have the fewest emotion regulation strategies (Zimmerman & Iwanski, 2014). This reduction in ER strategy may put adolescents at greater risk of developing psychological difficulties (Lanteigne, Flynn, Eastabrook & Hollenstien, 2014; Gilbert, 2012; Silk et al., 2003).

In a study investigating cognitive coping strategies and symptoms of depression and anxiety in adults and adolescents, age differences were found in the extent of strategy use (Garnefski, Legerstee, Kraaij, van den Kommer & Teerds, 2002). Both adolescents and adults engaged in a variety of thinking styles in response to stressful events; acceptance, catastrophizing, other-blame, positive reappraisal, putting into perspective, refocus on planning, positive refocusing, rumination and self-blame. Adolescents used all strategies significantly less than adults did. They especially used less positive reappraisal, where one tries to give positive meaning to a difficult event. In both groups more positive reappraisal was associated with less anxiety and

depression, but the strength of this relationship was greater in adults (Garnefski et al., 2002). This finding suggests that the use of ER strategies is different in adolescents compared to adults. It also suggests that the way ER strategy and psychopathology are related differs between adults and adolescents. If positive reappraisal is not as strongly associated with psychopathology in adolescence, as it is in adults, not using positive reappraisal may be part of typical development. However, its extended absence may be problematic.

Expressive Suppression and Cognitive Reappraisal.

Two specific ER strategies have garnered most attention because of their link with psychopathology and well-being in adults. Cognitive reappraisal, a strategy of cognitive change, and expressive suppression a form of response modulation (Gross & Thompson, 2007; Gross & John, 2003). Cognitive reappraisal (hereafter reappraisal) involves re-interpreting emotional stimuli to reduce the negative emotional impact. Expressive suppression (suppression) is the inhibition of expressive emotional behaviour, for example keeping a “poker-face” (Gross & John, 2003). Reappraisal reduces negative affect and increases positive affect, whereas suppression has been found to increase physiological arousal, impair memory and reduces the positive emotional experience (Gross, 2002; Goldin, McRae, Ramel & Gross, 2008).

There are mixed findings on whether expressive suppression actually reduces the emotional experience (Gross, 2002) with some evidence suggesting there is a reduction in negative experience of emotion, if not to the same level as reappraisal (Goldin et al., 2008). Other studies indicate that suppressors are able to display less

negative emotion, but overall experience more (Gross & John, 2003). Reappraisal, on the other hand, activates early frontal cortex engagement leading to reduced amygdala activity (Goldin et al., 2008; Ochsner & Gross, 2008). This is compared to the use of suppression, which is associated with later frontal engagement and increased amygdala activity (Goldin et al., 2008; Ochsner & Gross, 2008).

An important social consequence of reducing the expression of emotion is that it reduces or removes signs to other individuals that help or comfort is required, which is likely to have effects on receiving support. Those who use reappraisal tend to share both negative and positive emotions more and are more liked by friends than those who tend to suppress their displays of emotion (Gross & John, 2003).

In adult studies an increased use of suppression has been linked with psychopathological symptoms whereas reappraisal is associated with better outcomes (Aldao et al., 2010; Cutuli, 2014). Suppression of anger has also been linked with symptoms of depression in 8-11 year olds (Zahn-Waxler, Klimes-Dougan, & Slatery, 2000). In 9-15 year olds those with higher depressive symptoms showed a preference for the use of suppression as an ER strategy (Hughes, Gullone, Watson, 2011). Gullone & Taffe (2011) adapted Gross & John's (2003) measure of cognitive reappraisal and expressive suppression, the Emotion Regulation Questionnaire, for use with children and adolescents; the Emotion Regulation Questionnaire- Child and Adolescent Version (ERQ-CA). They also found that across gender and age groups (10-18 years) expressive suppression had a moderate positive association with depression scores.

In a comparison of adolescents (12-16 year olds), with either low or high depressive symptomology, those with lower levels of depressed symptoms rated themselves as using significantly more reappraisal and less suppression as ER strategies (Betts, Gullone & Allen, 2009). In a large longitudinal study reappraisal was associated with less serious non-suicidal self-harming (Voon, Hasking & Martin, 2014). However, reappraisal has also been shown to have a weak negative association with depression (Aldao et al., 2010) and predictive of psychopathology only in the presence of other maladaptive strategies, such as suppression (Aldao & Nolen-Hoeksema, 2012). Exploring both expressive suppression and cognitive reappraisal may therefore lead to better interventions than examining one strategy alone.

As indicated earlier, ER strategy use changes with development (Garnefski et al., 2002). These developmental changes are apparent in the use of reappraisal and suppression. Gullone, Hughes, King & Tonge (2010), using the ERQ-CA, examined the developmental trajectories of suppression and reappraisal in a large sample ($N=1,128$) of 9 to 15 year olds, whom they followed over two years. They found that the use of reappraisal was relatively stable over time, but a decrease in use was seen at around 15 years of age. Suppression use declined over time and older children used it less than younger children. They also compared their data to that of Gross & John (2003) who looked at young adults (18-20 years). They found no significant difference between their pre-/adolescent sample and the young adults on self-reported reappraisal (Gullone et al., 2010). They did however find that suppression use, in females only, was significantly higher in the adolescent sample compared to the young adults (Gullone et al., 2010).

Lantrip et al., (2015) suggest that there is a shift from use of suppression toward the use of reappraisal as children age. They propose a shift could be due to the corresponding development in adolescents' prefrontal cortex and therefore executive function. This maturation would allow for improved cognitive flexibility and problem solving, which are required for cognitive reappraisal. McRae et al. (2012), in an experimental functional magnetic resonance imaging (fMRI) study comparing 10-13, 14-17 and 18-22 year olds, found increases in cognitive reappraisal abilities with age that were accompanied by activation of areas of the pre frontal cortex (left ventrolateral), which are also associated with reappraisal in adults. This supports the assertion that reappraisal may increase with the development of the pre-frontal cortex, but it does not explain why the use of suppression would necessarily decrease.

In addition to the physiological development that may influence ER use, the social context of adolescence may influence the use of ER strategy. Adolescence is a period of heightened sociocultural processing whereby the adolescent brain is more receptive and sensitive to social stimuli compared to other types of stimuli (Blakemore & Mills, 2014; Crone & Dahl, 2012). At the same time, compared to older children and young adults, adolescents have been found to show less activation of brain areas associated with perspective taking and social processing, during normal emotional reactivity (McRae et al., 2012). However, during a task of cognitive reappraisal these social processing brain areas showed heightened activation compared to the younger and older age group (McRae et al., 2012). This, the authors suggest, indicates that adolescents may place different emotional emphasis on stimuli compared to those younger and older than them (McRae et al., 2012). The way adolescents perceive and interact with the world is likely to represent a unique experience that may be

mismatched with adults. This means it is as important for studies to assess the adolescent experience.

In summary cognitive reappraisal and particularly expressive suppression have been shown to have important roles in wellbeing and psychopathology across the lifespan. They have been implicated as ER strategies in adolescence but it is unclear how these strategies develop and change over this developmental period. Cognitive reappraisal may increase or remain stable, whereas some evidence suggests expressive suppression decreases with age. The way adolescents engage with social stimuli may mean they engage with ER in ways different to adults and younger children, highlighting the importance of understanding their experience.

The extended process model of emotion regulation.

Shortcomings of the process model (Gross, 1998) have led to its recent extension (Gross, 2015). The model assumed linearity implying that ER is not an adaptive or dynamic process (Sheppes, Suri & Gross, 2015). It only focused on the implementation of strategies, which means it did not account for why certain strategies are evoked (Sheppes, Suri & Gross, 2015). It is also an adult model, based on a stabilised emotion regulation system. Very recently however Gross (2015) and colleagues (Sheppes, Suri & Gross, 2015) have extended the model and although it remains an adult model it may offer opportunities to incorporate developmental considerations.

Additions to the model include the acknowledgment of three stages of emotion regulation: Identification, Selection and Implementation. Each of these stages are

linked by a valuation. Valuations may be basic neurological reflexes or complex belief systems and define the affective regulation process. The individual interprets the stimuli (internal and external) as either “good” or “bad” (Gross, 2015). In the Identification Stage, an emotion is detected and that emotion is deemed to warrant regulation or not. The “valuation” is whether the emotion is “sufficiently negative or positive to activate regulation” (pp14, Gross, 2015). If emotion regulation is deemed necessary the Selection Stage is initiated. Here an individual’s repertoire, or lack thereof, of regulation strategies is called on and selected (appropriately or not) based on the context, such as the type of emotion and the intensity of emotion. In the Implementation Stage the selected strategy is converted into (ideally) situationally appropriate “tactics”. This process may repeat and alter based on valuations of the initial response. Initial reactions to external stimuli, called first-level valuations (e.g. fear response), are followed by a second-level valuation, which is the valuation of the first-level response, for example this fear response is acceptable considering the context. If the valuation deemed the initial response unacceptable the strategy selected could be altered.

The model highlights that there are several stages at which emotion regulation could fail and result in psychopathology (Sheppes, Suri & Gross, 2015). The ER difficulties people encounter may be based variously on whether they can initially identify affect, whether they have access to the appropriate strategy and whether they select the most useful strategy.

The inclusion of a valuation system goes beyond the usual focus on strategy type and suggests that the way people interpret emotion or the beliefs they have about emotion

can determine how they approach and adapt the emotion regulation process. The model is a functional model and does not account for how an individual learns to identify affect, where their valuations come from and how they develop their repertoire of strategies. The notion of valuations, however, links in with developmental theories of the internalisation of representations of emotion. It is therefore important first to consider the extent to which the valuations and beliefs are implicated in emotion regulation.

Representations of Emotion: Awareness and Value

Emotion and cognition are not independent of each other; rather they are mutually interacting (Ochsner & Gross, 2008; Pessoa, 2015). The cognitive and reflective processes that occur alongside affective states are associated with an individual's ability to monitor, evaluate and regulate affect (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). In other words, cognitive processes are involved in emotion regulation. Awareness of emotions is considered a necessary prerequisite to the regulation of them (Barrett et al., 2001; Gross & John, 2003; Izard et al., 2011; Fustos, Gramann, Herbert & Pollatos, 2013). This is acknowledged in the extended process model with the inclusion of the Identification stage (Gross, 2015). Being aware of and able to identify one's emotions is thought to allow the individual to select an appropriate regulation strategy, provided that strategy is available. There is neurological evidence to suggest that making an emotional state aware, i.e. bringing it into consciousness, reduces amygdala activation and therefore emotional arousal (Herwig, Kaffenberger, Jancke & Bruhl, 2009).

The notion of emotional awareness requires clarification as it is used somewhat variously within the existing literature. In a recent meta-analysis Boden and Thompson (2016) differentiate between two core and distinct aspects of awareness, Attention and Clarity. These concepts come from Salovey et al., (1995) who developed the Trait Meta-Mood Scale (TMMS) to measure describe the meta-mood experience, which is one's ability to reflect on and manage emotion. The measure also assesses Repair, a form of ER. Clarity is the ability to differentiate between different emotions and it is this that is predominantly used as a measure of "awareness" (e.g. Barrett et al., 2001; Kranzler et al., 2015). Attention is the perceived importance in attending to emotion *and* the extent to which an individual values emotion. Clarity and Attention are related but distinct concepts that are moderately positively correlated. The label of Attention however is misleading; of the 13 items only two are statements about attention, the remaining statements are about the acceptability and importance of, and value placed on, emotions. Therefore Clarity can be equated with awareness, as it is emotion differentiation, and Attention can be thought of as a valuation, in other words one's beliefs about the value of emotion.

The ability to differentiate between emotions has been found to relate to emotion regulation in adults and adolescents. In particular there is evidence to suggest that being able to distinguish between emotions is related to less use of expressive suppression. In a study of German adults Subic-Wrana and colleagues (2014) found that individuals who were able to identify and label feeling states had less use of suppression as an ER strategy than individuals less able to differentiate between emotions. This relationship however was not found for reappraisal. In an adolescent sample a short scale assessing clarity of emotions (Difficulties in Emotion Regulation

Scale, DERS; Gratz & Roemer, 2004) has also been used to predict the use of ER strategy in 13-16 year old females (Eastabrook, Flynn & Hollenstein, 2013). Clarity was strongly negatively correlated with Suppression and moderately positively correlated with Reappraisal (Eastabrook, Flynn & Hollenstein, 2013). This finding requires replication in a mixed gender sample.

The extended process model of ER (Gross, 2015) includes a central role for valuations in addition to identification. How people subjectively make sense of and value emotion may play an important role in how they engage with emotion regulation. This proposition is very much in line with the concept of valuation from the recently extended process model of emotion regulation but there is comparatively less evidence on how these values are related to ER. An individual's tendency to experience emotion without suppressing or avoiding it may be related to how useful and acceptable they deem emotion to be. An individual who does not value emotion and does not consider emotions to be significant enough to attend to, seems unlikely to make attempts to manage them (Gohm, 2003). On the other hand someone who pays excessive attention to and overvalues emotion is likely to be prone to negative outcomes (Berrocal & Extremera, 2008; Gohm, 2003). Although, as an aside, it seems such negative outcomes may require the presence of both high attention and the use of an unhelpful cognitive regulation strategy, such as rumination (Thayer, Rossy, Ruiz-Padial & Johnsen, 2003).

The current proposition is that beliefs about the importance and value of emotion direct its regulation, by influencing how an individual interacts with emotion. Attitudes toward emotions have been shown to influence how adults are willing to

engage with emotion and emotion eliciting behaviour. For instance a recent adult study has demonstrated that the belief that experiencing disgust is harmful, unnecessary and useless, is related to a reduced willingness to engage with the emotion and disgust eliciting behaviours (Markovitch, Netzer & Tamir, 2015).

There is some limited evidence linking beliefs about the value of emotion and emotion regulation in adults. In a study of adults, Manser, Cooper and Trefusis (2012) found that beyond beliefs about thoughts, beliefs that emotions were shameful/irrational and useless were related to higher symptoms of Emotionally Unstable Personality Disorder (EUPD). Although they used EUPD symptoms as a proxy for emotion dysregulation they also found that those who said they believed emotions were uncontrollable, shameful, irrational and damaging were more likely to use risky and self-harming behaviours to cope with emotions. This provides some indication for a role of beliefs about emotion in emotion regulation. The authors used a newly devised measure assessing beliefs individuals' hold about their ability to manage emotion for example "once I start feeling upset there's nothing I can do to control it" and "I punish myself for feeling upset", which could account for the relationship with emotion regulation strategies. It would be beneficial to use a commonly used measure such as the TMMS in order to consider perceptions about the value of emotion, as well as to make comparisons with existing literature.

Beliefs about the value of emotion have been associated with expressive suppression and cognitive reappraisal in adults. In a large community based sample ($N=919$) with an average age of 35 years Boden and Thompson (2015) recently found that voluntary Attention, as measured by items of the TMMS, was positively correlated with

reappraisal. It was negatively correlated with Suppression, where it showed a particularly strong relationship (Boden & Thompson, 2015). Gross and John (2003) in a study with young adults ($M=20$ years), using the TMMS, found that those higher in Attention, in other words those who placed value on emotions, reported less use of expressive suppression than those lower in Attention. They found no significant relationship with Reappraisal (Gross & John, 2003). These studies show mixed findings for the relationship between Attention and reappraisal; it may be there is a different relationship between beliefs and reappraisal in younger samples. The studies concurred that Attention appears to be related to suppression in adults. This limited evidence requires replication and extending into an adolescent population.

Taken together it appears there is some evidence for an association between representations of emotion and emotion regulation. Greater clarity of emotion has been associated with less use expressive suppression and, in some studies, greater use of cognitive reappraisal. There is also evidence that links attending to and valuing emotion (Attention) to less use of suppression. The evidence for a relationship between Attention and cognitive reappraisal, however, is mixed. Given the import with which reappraisal is given within the literature and its central role as an intervention for psychopathology in Cognitive Behavioural Therapy it is necessary to examine this construct further. Overall there is limited consideration in the literature about the representations of emotion that adolescents hold, and an understanding of the role of beliefs about emotion is particularly lacking.

Development of Emotion Regulation: Emotion Socialisation

Emotion socialisation refers to the direct and indirect ways in which information about emotion and how to manage it is passed on. This information may include how to understand and make sense of emotion, in other words representations of emotion. Following a review of the literature Morris et al., (2007) offered a tripartite model of family influence in the development of emotion regulation: via observational learning and modelling, through parenting practices specifically aimed at emotion and its management, and from the influence of the emotional environment of the home. Parents socialise their children to emotion from an early age directly via didactic teaching and indirectly by modelling and responding to emotional behaviour, in both cases providing contingencies for certain expressions of emotion and discussion of emotional content (Denham & Kochanoff, 2002; Zeman, Cassano, Perry-Parrish, & Stegall, 2006; Saarni, 1999). The way parents act as agents of emotion socialisation for their offspring has been linked with emotional and social competence in infants (Denham, Mitchell-Copeland, Strandberg, Auerbach & Blair, 1997), increased symptoms of depression in 10 year olds (Sanders, Zeman, Poon & Miller., 2013), anxiety in 7-12 year olds (Hurrell, Hudson & Schniering, 2015) and emotional and behavioural problems in adolescence (Klimes-Dougan et al., 2007; Hastings et al., 2014). Parental socialisation has also been extensively linked with the development of ER strategies in young children (Gottman et al., 1996; Meyer et al., 2014); and middle childhood to pre-adolescence (Ramsden & Hubbard 2002; Eisenberg et al., 2005; Yap et al., 2010; Shipman & Zeman, 2011; Sanders et al., 2013; Schaffer et al., 2012).

Some studies have examined parental expressions of emotion and their responses to their offspring's emotion as key sources of emotion socialisation, and have found they

are related to their offspring's emotion regulation. Parental invalidating responses to offspring expressions of emotion in particular have been linked with poorer emotion regulation in offspring. In one study (Meyer et al., 2014) mothers of 4-5 year olds were asked about how they responded when their child was distressed, their understanding of and beliefs about emotion. They also reported on their child's general ability to regulate emotion, based on whether their child sought help from an adult, changed the focus of their attention, physically or verbally vented or became submissive in response to a variety of situations. Meyer et al., (2014) found that parents who responded to their child's distress in punitive and minimising ways, or in a way that matched the distress of the child, also described children with less ability to regulate emotion.

In another study with older, pre-adolescent children, Shaffer, Suveg, Thomassin, and Bradbury (2012) found unsupportive responding to offspring's negative emotions was related to more emotion dysregulation. Using the same measure as Meyer et al. (2014) parents responded to vignettes in which their child expresses negative emotion and rate how they would respond to it. The responses on the Coping with Children's Negative Emotion Scale (CCNES, Fabes, Eisenberg & Bernzweig, 1990) formed Unsupportive and Supportive reaction subscales. Unsupportive responding involved minimising, punitive and distress reactions, in other words emotionally invalidating responses. Supportive responding referred to expressive encouragement, problem focused and emotion focused responses, so soothing, emotion encouraging and validating responses. They asked 97 mothers of 7-12 year olds to report on their responses to their child's expression of negative emotion, their perception of their

child's emotion regulation, and contextual risk factors (parental psychological distress, educational attainment, household income).

Unsupportive maternal reactions were associated with greater levels of negativity and emotional lability in children and supportive reactions with greater emotion regulation. Contextual risk factors were also related to less supportive reactions but not directly with emotion regulation, emphasising the differential impact of stressful environments and emotion socialisation on emotion regulation. Both Meyer et al. (2014) and Shaffer et al.'s (2012) study show that in young and middle aged children that unsupportive and invalidating maternal responses to their child's display of negative emotion leads to reduced ability to regulate emotion. The downside of both these studies is that mothers reported on their child's ER. It could be that unsupportive parents are more sensitive to perceiving certain behaviours and emotions as dysregulated or unmanageable and therefore their reports on their child's ER abilities may not be wholly accurate.

A study using observation and maternal and child self-reports of emotion socialisation supports the maternal reported studies described. Yap, Allen and Ladouceur (2008a) found that 11-13 year olds whose mothers responded to positive affect in an invalidating way showed more emotionally aversive and dysphoric behaviours and reported more use of unhelpful emotion regulation strategies than those children whose mothers validated positive expressions of emotion (Yap, Allen & Ladouceur, 2008a). Taken together these studies suggest that parental responses to offspring displays of emotion influence offspring ER in childhood to pre-adolescence, and that this may occur via parental invalidation of their child's expression of emotion.

A study with an adolescent sample using a lab based task and self-report offers mixed findings. Daughters, Gorka, Rutherford and Mayes (2014) found that mothers' ability to tolerate their own distress while completing a task predicted their adolescent daughters', but not sons', ability to tolerate distress. Maternal inability to tolerate distress may model to their offspring that emotions cannot be regulated. Maternal (self-reported) emotional dysregulation has also previously been linked with harsher and less supportive responses to adolescent negative emotions (Jones et al., 2014).

However, Daughters et al. (2014) found mothers' reports (as opposed to observed distress tolerance) of how they responded to their adolescents' distress (using the CCNES adapted for adolescents) was not related to adolescent distress tolerance. Distress tolerance is a related concept to ER, where the ability to tolerate distress is likely to be a result of use of an ER strategy, but it may not be possible to make direct comparisons. The study does show the difference between observable lab-based tasks and maternal reports. It may be relevant then, considering the difficulty in maternal reports, to examine the felt experience of adolescents.

A recent study has demonstrated that adolescents' perceptions of their parents' socialisation of emotion mediate the relationship between parent and offspring emotion regulation (Buckholdt, Parra & Jobe-Shields, 2014). Buckholdt et al. (2014) asked 80 parent-adolescent (12-18 years) dyads to report on their emotion regulation. Young people also reported on their perceptions of parental invalidation. Those young people who viewed their parents as emotionally invalidating reported more emotion regulation difficulties. Further, their perceptions of invalidation mediated the

effect of parental (self-reported) dysregulation on adolescent emotion regulation (Buckholdt et al., 2014). Thus, it appears understanding the offspring's experience is important regardless of the objective truth per se, because it carries its own influence on how emotion socialisation is received (Klimes-Dougan & Zeman, 2007). Such perceptions may be especially important in adolescence when young people are more emotionally reactive and attuned to social stimuli (Blakemore & Mills, 2014).

Buckholdt et al. (2014) make an important contribution to a dearth of adolescent emotion socialisation literature. Through the inclusion of parent-adolescent dyads the study tells us something about how ER is transmitted to adolescent offspring. That is parents' poor emotion regulation was related to poor offspring emotion regulation, via the invalidation of emotions. The study however uses a very general global measure of ER that makes it difficult to identify what facets of emotion regulation are implicated (John & Eng, 2014) and so assessing specific aspects, such as cognitive reappraisal and expressive suppression would be beneficial. It would also be of worth to extend their research to assess the role of supportive socialisation, to understand whether a lack of validation has a similar impact as the presence of invalidation or whether the presence of validation bolsters ER skills.

The literature reviewed suggests that the way parents model their interactions with emotion has some influence on their offspring's ability to regulate emotion. This modelling may take the form of demonstrations of parental dysregulation but has been linked more widely with the way parents respond to, and describe responding to their child's display of emotion. More specifically invalidating maternal responses to emotions are associated with greater difficulty in ER for the child. The literature on

this relationship in adolescents is limited but emerging (Cole, 2014; Zimmerman & Iwanski, 2014). The way parents socialize their children to ER is likely to change or require change as children develop (Morris et al., 2007) in order to adapt to increasing social expectations and autonomy. We do not know the extent to which parental responses to adolescent displays of emotion relate to adolescent emotion regulation. It also appears that the adolescent perspective is crucial to assess in order to understand whether the experience of being validated or supported is as central to ER as is parents' observed and reported validating and supportive responses to emotion.

Mechanisms of transmission: representations of emotion.

Understanding the mechanism by which socialisation translates into emotion regulation is central to gaining insight into how ER develops and therefore locating potential targets for intervention. Offspring are thought to internalise parents' approaches toward emotion to form their own representations of how to understand and deal with emotion (Beebe & Lachman, 1994; Cole, 1994, Eisenberg et al., 2001) but this assertion remains largely unexamined. Research that has laid claims to examining the internalisation of ER strategies, or that has implied transmission, have explored the association between parent ER or parenting and offspring ER (Bariola et al., 2011).

The early work of Gottman and colleagues (Gottman, Katz, & Hooven, 1996) suggests that parents' own representations of emotion influence how they socialize their offspring to emotion. As in the socialisation literature reviewed, Gottman et al. (1996) place a central role on the way parents coach and respond to emotion in

directing emotional development in offspring. They also emphasise the role of parental beliefs and understanding of emotion, what they term as an individual's meta-emotion philosophy. A parent's meta-emotion philosophy (MEP) directs how they engage with their child's emotions, in the process teaching their child how to soothe and manage physiological arousal. They propose that both the style of parenting that emerges from the MEP and its ability to regulate physiological arousal lead to the development of emotion regulation by producing in the child the ability to self-soothe and understand emotion.

The way a parent socialises their child to emotion is therefore considered to be entwined with how they view and understand emotions. Gottman et al. (1996) developed the MEP interview. It assesses a parent's awareness, acceptance and coaching (behavioural and instructive approaches) of emotion in reference to both themselves (self-directed MEP) and to their child (child-directed MEP). Parents described as having an emotion-coaching meta-emotion philosophy demonstrate an awareness of emotions and differentiate between them, accept their expression, and guide or coach children on how to experience and regulate emotion (Gottman et al., 1996; Katz, Maliken & Stettler, 2012). A "dismissing" approach tends to involve ignoring or dismissing emotions and represents a parent's higher level of intolerance of emotion (Gottman et al., 1996).

The MEP interview elicits parents' representations of emotion (awareness and beliefs about acceptability and value) and their behavioural approach to emotion socialisation. Using this interview alongside behavioural observations these researchers have linked an emotion-coaching philosophy in parents with improved

physiological emotion regulation, peer relationships, school achievement and health outcomes in children at 5 years and again at 8 years (Gottman et al., 1996).

Using the MEP interview mothers who were more aware and accepting of their own emotions have been found to show fewer aversive responses to their 10-12 year old on a lab based task (Yap, Allen, Leve and Katz, 2008b). During a task involving conflict, mothers' awareness alone was associated with reduced negative socialisation with pre-adolescents with difficult temperaments. The authors suggest that parents who are aware of emotion may be better able to adapt to or understand the temperament of their offspring (Yap, Allen, Leve and Katz, 2008b).

In addition to parental representations of emotion influencing their socialisation practices (Gottman et al., 1996; Yap et al., 2008b), if emotional representations are internalised, we might also expect a relationship between these representations and offspring emotion regulation. In a study (Katz and Hunter, 2007) of mothers of 13 year olds, both child-directed and self-directed emotion-coaching philosophy was related to improved emotion regulation and psychological outcomes in their offspring, compared to those mothers who were not as emotion coaching. Mothers who had a child-directed emotion coaching philosophy were found to have adolescents with less aggressive and dysphoric behaviour than mothers who did not (Katz and Hunter, 2007). When mothers were more accepting of their own negative emotions adolescents also reported higher self-esteem and fewer depressive symptoms (Katz and Hunter, 2007). These studies do not demonstrate the internalisation of emotion representations in offspring per se but they do show that parental emotion coaching

meta-emotion philosophy is related to improved emotion regulation and psychological outcomes.

The difficulty with the MEP interview is that it conflates socialisation practices and cognitive representations (understanding and beliefs) about emotion. As such it is difficult to determine the relative roles of parental behaviour and parental beliefs in emotion socialisation and the subsequent influence on the development of emotion regulation. Moving away from the MEP interview, another study also links parental representations of emotion to their socialisation practices. The Meyer et al., (2014) study examined the link between maternal representations about emotion, their socialisation of emotion and their child's ER, in a typical sample of mothers of 4-5 year olds. Mothers completed a measure of adult beliefs and attitudes about emotion, the Trait Meta Mood Scale (TMMS, Salovey et al., 1995), the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) and their self-reported responses to their child's expressions of negative emotion, measured using the coping with Children's Negative Emotion Scale (CCNES, Fabes et al., 1990). The TMMS and ERQ were combined to assess parent's emotion representations; this includes beliefs about the value of emotion and the ability to distinguish between emotions (Attention and Clarity) in addition to preferred emotion regulation strategies (Reappraisal and Suppression). They amalgamated Repair from the TMMS and Reappraisal from the ERQ to form the variable Regulation.

Meyer et al. (2014) found an association between representations of emotions and emotion socialisation. Mothers who were high in Clarity, the ability to distinguish between emotions, reported more emotionally encouraging responses to offspring

displays of emotion than those low in Clarity. Mothers who valued and attended to emotion more (Attention) responded in more emotion-focused (e.g. soothing) and problem solving ways, than those mothers who did not value emotions. Meyer et al.'s (2014) study suggests a link between the beliefs a mother has about the emotion and her ability to distinguish between emotions and her approach to socialisation.

Meyer et al., (2014) also found that the way mothers acted as agents of emotion socialisation mediated the relationship between maternal emotion representations and child emotion regulation, indirectly linking parental representations of emotion to child emotion regulation in 4-5 year olds. Parental representations here are the amalgamation of parental beliefs and regulation strategies into a composite "representation" variable. It is therefore difficult to determine the individual roles of Attention and Clarity and distinguish them from parent's own ability to regulate emotion. Socialisation may be mediating the effect between representations and offspring ER because parental ER may be closely related to how parents respond to offspring displays of emotion. In other words socialisation may have been measured twice.

These studies show parents' beliefs about emotion and awareness of emotion are related to how parents socialize emotion, as well as to their child's ability to regulate emotion. This lays out some of the routes of transmission, however the studies do not demonstrate whether the beliefs and behaviours of parents are replicated in their children, as would be predicted by the internalisation theory. There is little research pertaining to young people's beliefs about emotion and how they relate to their parents beliefs or socialisation practices.

Parental beliefs about emotion have been linked with adolescent beliefs about themselves. Her and Dunsmore (2011) found that adolescents' likelihood of viewing themselves as more interdependent (than independent) were increased when their parents held the view that emotions are dangerous. More directly related with the current considerations is Hunter et al.'s, (2011) examination of the meta-emotion philosophy of 152 depressed and healthy 14-18 year olds and their parents. They found that parental child-directed MEP (awareness, acceptance and how best to socialise emotion) but not self-directed MEP (awareness and acceptance) was associated with adolescent MEP. Adolescents were more likely to be more accepting of emotion and more aware of it if their parents had an emotion coaching approach toward their offspring.

In Hunter et al.'s (2011) study child-directed MEP involves questions about socialisation as well as beliefs. The finding that adolescent beliefs about emotion were related to child-directed MEP and not parents' self-directed MEP suggests that socialisation is required to pass on representations of emotion. Parents can hold [contrary] views or feelings about their own emotion that they are able to control in order to socialize emotion (Le & Impett, 2016) to their offspring in their preferred way. This ability indicates that parents are able to regulate their own emotion, and as has previously been demonstrated parental ER predicts offspring ER, in children. Given this is the only study that relates parental beliefs about emotion and socialisation with adolescent beliefs about emotion it requires replicating, in a way that can tease apart socialisation and beliefs.

The separation of self- and child- directed emotion representations highlights the possibility that such representations may be elicited under different circumstances and with varying levels of consciousness. In much the way that parents own emotion regulation is linked with offspring ER, unconscious i.e. non child-directed behaviours can unintentionally socialise offspring to emotion (Buckholdt et al., 2014; Daughters et al., 2014). It could be possible that parents' self-directed beliefs are demonstrated to offspring outside parents' awareness. Gathering offspring's general perception of their parents' emotion socialisation might be a way to capture parents' intended and unintended socialisation.

In summary the route of transmission for ER from parent to child may be that parent's representations of emotion influence how they (consciously or unconsciously) socialise their offspring to emotion, which provides information that is internalised by offspring and directs how they relate to and regulate emotion. The evidence reviewed links parent representations of emotion to their socialisation of emotion (Gottman et al., 1996; Yap et al., 2008b), and to offspring ER (Katz and Hunter, 2007; Meyer et al., 2014), and representations/socialisation to adolescent representations of emotion (Hunter et al., 2011). Hunter et al. (2011) did not examine emotion regulation and therefore there is no literature, which could be found, linking adolescents' own representations of emotion to their emotion regulation.

Testing the extent to which adolescent representations are related to their regulation of emotion is required to establish this as a possible mechanism of transmission. The premise put forward then is that socialisation, through the internalisation of information about emotions, influences offspring emotion regulation. The current

thesis has highlighted two aspects of information about emotions, the ability to identify emotion and the value one places on emotion, as potentially important representations that might be internalized and relate to emotion regulation.

Measurement

As highlighted throughout the literature reviewed there are two main issues with measurement that the current study hopes to mitigate, that is the conflation of ER and emotion socialisation and the tendency to rely on parental reports. Measures of socialisation such as the meta-emotion philosophy interview (Gottman et al., 1996) have conflated behavioural socialisation with beliefs, which the current study wanted to separate. Many of the studies reviewed have used the validated parent informant CCNES (Fabes et al., 1990) to measure socialisation. It asks parents to report on how they would respond to expressions of negative affect from their child or adolescent. This means it does not directly assess beliefs and awareness of emotion, which makes it suitable for parents in the current study. There are limited alternatives in the literature for adolescents to report on socialisation (an exception being O'Neal & Magai, 2005). The current study will use the CCNES-AP (Fabes et al., 1998), which is an unpublished version. It asks adolescents to report on how a caregiver usually responds to their displays of negative emotion. The CCNES-AP allows the present study to access adolescent perceptions of parental socialisation whilst being able to make comparisons to parental reports and to the existing literature using the CCNES.

Measures that provide global scores of ER risk losing important information about different regulation strategies. As the process model of ER suggests (Gross, 1998; 2015) strategies engaged at different times relative to the generation of emotion might

have quite different consequences. It is therefore worth exploring different aspects of emotion regulation. Cognitive reappraisal and expressive suppression are a limited selection of ER strategies but they represent some specificity.

Synthesis

Parents hold beliefs about the importance, the acceptability, and the consequences of emotion and its expression. Parent's understanding of emotion is likely to form the basis of how they socialise their offspring to emotion and its regulation. These beliefs and the resultant direct and indirect socialisation of emotional behaviour are significant for their potential role in the intergenerational transmission of emotional responding, be that adaptive or maladaptive (Meyer et al., 2014; Zeman et al., 2006). There is considerable research, with children, into how parental socialisation is related to offspring's management of emotion and in turn psychopathology. Surprisingly, given the emotional and social sensitivity of adolescence, there is limited research that examines the socialisation-ER relationship in adolescence. In particular research with the much studied ER strategies cognitive reappraisal and expressive suppression is lacking in this age group.

The relationship between socialisation and possible internalised understandings of emotion is also in need of investigation. Bringing together this theory with the recently extended process model of emotion regulation (Gross, 2015) highlights the particular relevance of examining ones' ability to identify emotion as well as beliefs about the value of emotion. The extended process model of ER places valuations (neurological reflexes or complex belief systems) of emotions in a central role in selecting, activating and engaging emotion regulations strategies. There is some adult

and limited adolescent evidence to suggest that a better ability to distinguish between emotions leads to less use of expressive suppression and more use of cognitive reappraisal. The ability to distinguish between emotions has been the subject of more investigation than beliefs about emotion, because being able to identify emotion has been considered a prerequisite to its regulation. However some research with adults suggests attending to and valuing emotion is related to less use of expressive suppression.

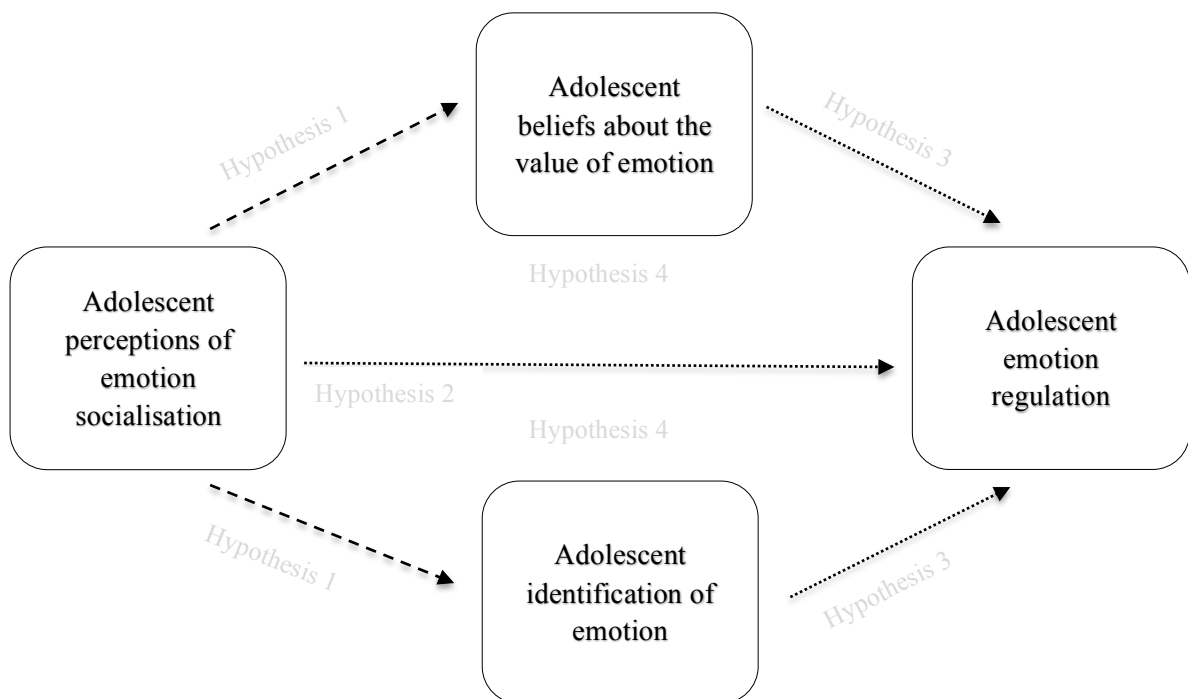


Figure 2. Conceptual model of perceived emotion socialisation and its relation to emotion representations and regulation. Dashed line represents gaps in the literature; dotted line represents evidence predominantly in non-adolescent age groups.

The current study will therefore investigate the extent to which adolescents’ beliefs about the value of emotion, and their ability to distinguish between emotions, mediates the relationship between parental socialisation and their use of ER strategies.

In particular adolescent perceptions of their mother's responses to the displays of emotion will be considered in order to allow for the unique social and emotional experience of adolescence and overcome the difficulties associated with parental reporting. Figure 2 represents a conceptual model of the current study.

From the outset the aim of the present study was to assess more directly the concept of transmission via the internalisation of representations of emotion by including parent-adolescent dyads in the study (conceptual model in appendix A). Having parent and adolescent informants would have allowed a comparison of reports on socialisation. It would have also enabled an assessment of the extent to which representations of emotion held by parents are found in their adolescents, and the extent to which both predicted ER. However, recruitment of parents proved difficult and only 21 parents compared to over a 169 adolescents took part. As the numbers were not sufficient for a reliable analysis only the adolescent part of the study is examined here. Although conclusions about transmission become limited the present study hopes to contribute to the gaps in the understanding of the relationship between representations of emotion, but particularly beliefs about emotion and ER in adolescents.

Study Aims & Hypotheses

The aims of the current study are to improve our understanding of the relationship between perceived maternal socialisation of emotion, and adolescent beliefs about emotion and emotion regulation. The current study will expand upon the key relationships currently implicated for children but not for adolescents, where parental

socialisation of emotion is associated with emotion regulation (Suppression and Reappraisal). The present study will also examine the relationship between representations of emotion, beliefs about the value of emotion (Attention) and ability to identify (Clarity) emotion with emotion regulation, of which there is mixed evidence in mainly adult samples. Finally the current study will examine whether the expected relationship between perceived socialisation (Supportive or Unsupportive responses to displays of emotion) and emotion regulation is accounted for by representations of emotion.

Hypothesis 1.

Adolescent experiences of maternal socialisation will predict adolescent representations of emotion; specifically perceived Unsupportive socialisation will be associated with less Attention (value) and Clarity (awareness) and perceived Supportive socialisation will be associated with more Attention and Clarity.

Hypothesis 2.

Perceived maternal socialisation will predict adolescent emotion regulation strategy use; specifically the more adolescents perceive their mothers as being Unsupportive the more they will report using Expressive Suppression and the less they will use Cognitive Reappraisal. Conversely it is expected that the more mother's responses are thought of as Supportive the more Cognitive Reappraisal and the less Expressive Suppression will be used.

Hypothesis 3.

Adolescent representations of emotion will predict their use of emotion regulation strategy; greater Attention and Clarity will predict greater use of Reappraisal and less use of Suppression.

Hypothesis 4.

Adolescent representations of emotion are expected to mediate between perceived socialisation and emotion regulation strategies.

Chapter 2: Method

Design

The current study has a cross-sectional design using an online survey at a single time-point. Parent-adolescent dyads completed self-report measures of perceived parental emotion socialisation, representations of emotion (beliefs about and awareness of emotion), with adolescents additionally completing a self-report measure of emotion regulation.

Participants

169 adolescents were recruited from four schools in the South East of England and inner city London. Only 21 parent-adolescent dyads took part, therefore, as the number of parents taking part was insufficient for analysis parents were excluded from further consideration. Forty-six adolescents were excluded based on incomplete

or inconsistent survey completion, refused consent or specified a caregiver who wasn't their mother (see Data Cleaning for details). The final sample consisted of 123 adolescents aged 12-18 years ($M = 15.63$ years, $SD = 1.53$). They were mostly female ($N = 83$, 68%) with 2 unknown, and predominantly identified themselves as White ($N = 77$, 63%). Full demographic details can be found in Table 1.

A single school (School D) made up 56% ($N = 69$) of the adolescent sample where the school's catchment area is drawn from a predominantly White British Home County (2011 Census). All schools were rated Outstanding by Office for Standards of Education (Ofsted), a UK Government standards body. Demographic details for each school are also presented in Table 1. Schools A ($N = 18$), B ($N = 27$) and C ($N = 9$) had higher numbers, than the national average, of children identified as disadvantaged by the Pupil Premium. The Pupil Premium is additional funding awarded to schools for children identified as disadvantaged. Pupil Premium statistics were not available for School D, but the surrounding area has high levels of employment. Ofsted reported that schools A and B had considerably higher than average numbers of pupils with English as an additional language.

Table 1

Sample Demographic Characteristics

| Variables | School A | School B | School C | School D | Total (%) |
|-----------------|----------|----------|----------|----------|-----------|
| N (% of sample) | 18 (15) | 27 (22) | 9 (7) | 69 (56) | 123 (100) |
| Age Range | 12-14 | 14-15 | 16-17 | 16-18 | 12-18 |
| Sex | | | | | |
| Male | 9 | 10 | 4 | 9 | 38 (30.9) |
| Female | 9 | 16 | 5 | 59 | 83 (67.5) |
| Unknown | | 1 | | 1 | 2 (1.6) |
| Ethnicity | | | | | |
| White | 11 | 5 | 3 | 58 | 77 (62.6) |
| Asian | 2 | 3 | 1 | 5 | 11 (8.9) |
| Black | 3 | 2 | 5 | 1 | 11 (8.9) |
| Mixed | 1 | 5 | | 4 | 10 (8.1) |
| Other ethnic | 1 | 11 | | | 12 (9.8) |
| Unknown | | 1 | | 1 | 2 (1.6) |

Total sample age $M=15.63$ ($SD=1.53$)

Procedure

Literature Search

Details of the literature search are given here to demonstrate the case for the novelty of the research in comparison to the existing literature. Science Direct, PsychInfo and Google Scholar databases were searched to identify relevant literature. Literature from 2000 onwards and written in English were initially considered. Search terms included emotion regulation, affect regulation, dysregulation, emotion socialisation,

child, adolescent, beliefs about emotion and emotion representations. Reference sections in key papers were also used to identify relevant and key articles. The online “cited by” function on journal websites and Google scholar was also used.

The search found existing literature for relationships between emotion socialisation and emotion regulation in children and pre-adolescents but not adolescents. There was inconsistent examination of representations of emotion and limited aspects of emotion regulation largely in adults. Although there is a great deal of literature on the relationship between parental representations of emotion and their socialisation practices, with the exception of Hunter et al., (2012), there was nothing found examining emotion socialisation and the emotion representations in adolescents. There was also a gap in literature examining the relationship between adolescent perceptions of emotion socialisation and their representations of emotion. Therefore the current study addresses a number of gaps in the literature.

Piloting

Ahead of data collection the online parent and adolescent questionnaires were piloted to test for the accessibility of instructions and the completion time. To account for time constraints an opportunistic sample formed from personal contacts was used. For the young person questionnaire a 16 and 17 year old, two Trainee Clinical Psychologists (aged 25 and 27) and a parent of a 16 year old (aged 52) completed it. They took between 15-20 minutes to complete and suggested some re-wording of the instructions. The parent questionnaire was completed by the same parent and two Trainee Clinical Psychologists (31 and 25 years). They suggested minor alterations with wording and again took no more than 20 minutes to complete. As this was an

unrepresentative and highly educated sample it was expected that participants would take longer to complete it.

Recruitment and Participation

Adolescents and their parents were recruited through the young person's school. A number of secondary schools were contacted; fourteen schools were approached of which two in London and two in South East England took part.

Schools A and B took part at end of the Summer Term 2015 and schools C and D at the start of the Autumn term 2015. Young people completed the online questionnaires, hosted by the Royal Holloway, University of London, Psychology Department's survey system during normal lesson time. Pupils were seated at individual computers and asked to work separately. Both the researcher and a teacher were present.

When young people were asked to rate their parents' socialisation practices (see Measures) they were informed that the questions would be asked about their mother but that they could specify another parent/guardian if they preferred.

Parents were informed of the study through the school Newsletter and paper versions of the information sheet (Appendix B) going home. Young people were informed at school by their teachers and during assembly, and were also given an information sheet (Appendix C).

Parents completed the online questionnaire at a parent-teacher conference or in their own time using an Internet link provided in the information sheet. Parents were

reminded to take part by prompting the young person to remind them. Prize draws were run for parents to win one of three £25 or a single £50 Amazon voucher, when both parent and adolescent questionnaires were completed.

Whilst participating schools were willing and able to find time within the school day for their pupils to take part, access to parents was harder to obtain. One school allowed access to their parent-teacher conference, which is where most of the 21 parents were recruited. An additional handful of parents took part by reminding pupils with an email via the school, and posters around the school (Appendix D). Access to other parent-teacher conferences and use of the schools' SMS systems were not possible.

Ethical Considerations.

Ethical approval was sought from the Department of Psychology Ethics Committee, Royal Holloway, University of London. It was granted on the 13th May 2015 following a minor amendment to ensure participants were aware of the separation between their school and the study, discussed below. Reference 2015/031R1 (Appendix E).

An opt-out procedure for consent was adopted; parents were asked to return the opt-out form, attached to the information sheet (Appendix B), to school if they did not want their adolescent to take part. The school was asked to send information sheets home to parents and adolescents at least a week before taking part. In addition, informed consent was gained from adolescent and parent participants as they began the online survey. Participation in the study was voluntary, with a prize-draw incentive for parents who were anticipated to be a hard to access sample. The British

Psychological Society (BPS, 2014) acknowledges the use of rewards in recruitment, but they must not be disproportionate as to be coercive (BPS, 2014). The small rewards offered were not considered large enough to be coercive.

There are perceived and real power imbalances between researchers and participants, but especially between schools and students (BPS, 2014). The request to take part in the study came via the school and was intended to be conducted during school time, which may have led participants to think the study was a school requirement. As such adolescents and parents were informed in the information letter and reminded before participation that it was not a school requirement and would not effect their [child's] education and they were free to withdraw at any time. If they chose not to take part teachers asked them to continue with their schoolwork.

All participants were informed they could withdraw at any time and in addition they could request that their data be removed anytime before the end of January 2016. Confidentiality was assured and the route to making the data anonymous was explained. In order to match parent and adolescent data participants were asked to provide their names and parents the name of their child. Matching anonymous ID numbers would be given and the names removed from the data. Data was stored separately in a password protected electronic file, in case data withdrawal requests were made. Again as participation was via the school it was emphasised that the school would never have access to the data and parents and adolescents would not have access to each other's data.

Two twelve year olds wanted to take part when data collection was conducted at a parent-teacher conference. Due to their younger age their parents were consulted directly and asked to consent (parents of both children also took part) and additional help with the language of the questionnaires was offered to these young adolescents.

In the case of any disclosures from children the school safeguarding policy would be followed. No disclosures were made.

Stakeholder Involvement

Where possible stakeholders in the research should be included in order for the research to be relevant, meaningful and accessible. The piloting process informed the accessibility of the survey for the adolescent age group. Schools were asked to feedback on the information sheets. During the first of two data collection periods at School A parents and adolescents taking part were asked to give feedback on the questionnaire. Most found it manageable if not more thought provoking than they had anticipated. Young people highlighted three words as unknown; pessimistic, optimistic and recital. As such, definitions were provided in future data collection. Informal verbal instructions were introduced for future data collection as a result of questions from the young people, to inform them that this was not a test and there were no “right or wrong” answers.

It was agreed that the results of the study would be disseminated via schools to adolescents and parent.

Measures

Young people completed three questionnaires; the Trait Meta Mood Scale (Salovey et al., 1995) to measure their awareness and value placed on emotion (representations of emotion); the Emotion Regulation Questionnaire Child and Adolescent Version (Gullone & Taffe, 2012) to measure the use of the emotion regulation strategies expressive suppression and cognitive reappraisal; and the Coping with Children's Negative Emotions Scale-Adolescent Perspective (Fabes & Eisenberg, 1998) for perceptions of maternal emotion socialisation. Parents were also asked to complete the same questionnaire to assess their representations of emotion, the Trait Meta Mood Scale (Salovey et al., 1995) and a parental report version of the socialisation measure Coping with Children's Negative Emotions Scale-Adolescent (Fabes & Eisenberg, 1998). Due to poor parent recruitment data from parent reports were not analysed. Examples of scale items are provided, with the full scales presented in the Appendix F-H. Basic demographic details were also collected; age, gender, ethnicity parents, whether they were adopted or under foster care. Parents were additionally asked their highest level of education and occupational status.

Trait Meta Mood Scale (TMMS)

The TMMS was used as a measure of adolescent beliefs about and awareness of emotion (Salovey et al., 1995; Appendix F). The TMMS allows the present study to explore the relative contributions of awareness and value based beliefs in a single well-validated measure. It is a well-used and validated measure in the adult population (Salovey et al., 1995; Palmer, Gignac, Bates & Stough, 2003) and undergraduate samples (Fitness & Curtiss, 2005; Thompson et al, 2007) but has had little use in adolescent populations. The benefit of using a measure that has been used

in samples of different ages is that it allows normative changes in age to become more salient when making comparisons across the literature (Zimmerman & Iwanski, 2014).

The TMMS is a 30 item self report measure with three subscales accessing beliefs about the importance of attending to emotion and acceptance of emotion, in other words how one values of emotion (Attention to Feelings, 13 items), the ability to discriminate between moods (Clarity of Feelings, 11 items) and the ability to regulate emotion (Mood Repair, 6 items). Items are rated on a 5-point likert scale from 1 (strongly disagree) to 5 (strongly agree). High scores indicate greater propensity in that subscale. Scores could range from 13-65 for Attention to Feelings, 11-55 for Clarity of Feelings and 6-30 for Mood Repair.

The subscales have been found to show good internal consistency in a population of undergraduate students (Salovey et al., 1995); Attention to Feelings ($\alpha = .86$) (“I pay a lot of attention to how I feel,” and “Feelings give direction to life”), Clarity of Feelings ($\alpha = .88$) (“I am usually very clear about my feelings” and “I can’t make sense out of my feelings”) and Mood Repair ($\alpha = .82$) “When I become upset, I remind myself of all the pleasures in life” and “I try to have good thoughts no matter how bad I feel”). TMMS-30 variables will be referred to as Attention (value placed on emotion), Clarity (awareness) and Repair (positive thinking to regulate emotion).

This is the first time the TMMS-30 has been used with UK adolescents. A 24-item Spanish version has been validated in adolescents aged 12 to 17 years old ($M=14$, $SD = 1.6$) by Salguero et al., (2010) and Pedrosa et al., (2014) with ages 14-23 years ($M =$

16, $SD = 1.4$). The TMMS has also been used with Australian adolescents aged 14-17 years ($M = 17$, $SD = 1.8$) where Attention distinguished between adolescent sex offenders and controls (Moriarty, Stough, Tidmarsh, Eger & Dennison, 2001). In the present study each of the subscales demonstrated good internal consistency Attention ($\alpha = .80$), Clarity ($\alpha = .83$) and Repair ($\alpha = .73$).

The present study is concerned with how young people value emotions (Attention) and how aware of them they are (Clarity). The Repair subscale will only be included in correlation analyses to contribute to the examination of measure validity.

Emotion Regulation Questionnaire-Children and Adolescent Version (ERQ-CA)

The ERQ-CA (Gullone & Taffe, 2012; Appendix G) was used to measure adolescents' style of emotion regulation. It benefits from having clearly distinguishable constructs as opposed to other global measures of ER (John & Eng, 2014). It can be compared to a number of studies, including adult studies which frequently use the original adult measure (Gross & John, 2003) and has some normative data for children and adolescents (Gullone, Hughes, King & Tonge, 2010).

The 10-item ERQ-CA is closely based on the adult version ERQ (Gross & John, 2003) with some of the wording revised to make it more accessible for instance "not expressing emotion" became "not showing feelings". The ERQ-CA has been validated with children and adolescents aged 10-18 years ($M = 14$, $SD = 2.5$). Participants rate their tendency to regulate their emotion by Expressive Suppression (Suppression) or Cognitive Reappraisal (Reappraisal) on a 7-point likert scale from 1 (strongly disagree) to 7 (strongly agree). Reappraisal consists of six items, with a possible range

of scores from 6-42. Example items include “When I want to feel happier, I think about something different” “I control my feelings about things by changing the way I think about them”. Suppression consists of four items, with a possible range of scores from 4-28. Example items include “I keep my feelings to myself” “I control my feelings by not showing them”. In the present study, showed good internal consistency for each subscale $\alpha = .77$ (Reappraisal) and $\alpha = .73$ (Suppression).

Coping with Children’s Negative Emotions Scale-Adolescent Perception (CCNES-AP)

The CCNES-AP (Fabes & Eisenberg, 1998; Appendix H) was used to assess adolescents’ perceptions of their mother’s emotion socialisation practices. The measure was selected as it acts as a measure of young people’s experiences of how their mother responds to their displays of emotion. There are very few measures accessing young people’s views and those that do often involve broader concepts such as the family affective environment, for example the Family Assessment Device (Epstein, Baldwin & Bishop, 1983). In addition, the parent report version, had enough parents been recruited, would have made it possible to compare adolescent and parent views on socialisation.

Adolescents are presented with 9 hypothetical vignettes in which they are asked to report how they think their mother would respond when they experience distress. Adolescents rate on a 7-point likert scale from 1 (very unlikely) to 7 (very likely) the likelihood that they think their mother would respond in each of six ways, classified as emotion focused (“talks to me to calm me down”), problem-focused (“helps me think of things to do to solve the problem”), expressive encouragement (“encourages

me to express my anger”), minimization (“tells me not to make such a big deal out of it”), punitive (“gets angry at me for losing my temper”), and with distress (“becomes uncomfortable and uneasy in dealing with my anger”). The six subscales have previously been grouped into Supportive and Unsupportive scales by summing the scores of the respective three subscales (Daughters et al., 2014; Perry, Calkins, Nelson, Leerkes, & Marcovitch, 2012; Denham & Kochanoff, 2002). The Supportive scale (formed of emotion focused, problem-focused, and expressive encouragement) represents validating responses to emotion. The Unsupportive scale (formed of minimization, punitive, and distress responses) represents invalidating responses to emotions. The Supportive and Unsupportive subscales can range in score from 3-21.

The CCNES-AP has not been published before, despite two parent reported versions (one child and one adolescent) being well used in published literature. The original 12-item child version CCNES has been shown to have good psychometric properties (Eisenberg et al., 1996; Fabes et al., 2002) and several studies have found good internal consistency in mother’s reporting on their adolescents (Daughters et al., 2014; Jones et al., 2014; Ehrlich et al., 2013). The present study found good internal reliability for the subscales $\alpha = .95$ (Supportive) and $\alpha = .81$ (Unsupportive).

Data Analysis

Data were analysed using SPSS v.21 (IBM Corp). 169 responses were extracted from the online survey into an Excel file and transferred into SPSS. Data were screened for errors and false responses, patterns of missing data were examined and imputed using the Expectation-Maximization method, finally, the data were assessed for outliers. Hypothesis testing was two-tailed. High value scores represent greater use of strategy

or response and presence of belief. Factor Analyses were conducted to examine the validity of the TMMS and CCNES-AP. Scale validity was supported by an exploration of expected variable relationships.

To address the first hypothesis that perceived maternal socialisation would predict emotion representations two hierarchical regression analyses were performed. Perceived Supportive and Unsupportive responses were entered as independent variables to separately predict awareness (Clarity) and beliefs about the acceptability (Attention) of emotion.

To address the second and third hypotheses that emotion representations and perceived maternal socialisation would predict emotion regulation strategy, two hierarchical regression analyses were performed with Suppression or Reappraisal as the dependent variable. Emotion representations (Clarity and Attention) and emotion socialisation were considered together to reduce the likelihood of Type 1 error and to assess the relative contributions of these concepts. Emotion socialisation variables were entered into the model first based on existing evidence and the theory that socialisation leads to internalized representations of emotion (Petrocelli, 2003).

The final hypothesis concerns the current thesis' central source of interest, whether representations of emotion underlie the relationship between perceived socialisation and use of emotion regulation strategy. As such mediation analyses were performed using Hayes' (2013) PROCESS method (model 4), which involves bootstrapping. This method of mediation analysis is increasingly used as traditional techniques (Baron & Kenny, 1986) have been criticized for being low enough in power to

potentially fail to detect effects and because they do not directly assess the indirect effect (i.e. the mediation effect) only infer it (Hayes, 2009). In addition bootstrapping makes no assumptions about the normality of distribution (Hayes, 2013). 95% confidence intervals are used to determine the significance of the indirect effect; the indirect effect is significant at .05 if the lower and upper bounds of the confidence zero do not include zero (Hayes, 2009; Eastabrook, Flynn & Hollenstein, 2013).

Power Calculation.

An a priori power calculation was conducted to estimate the required sample size. Buckholdt et al. (2014) report the correlation for adolescent emotion regulation difficulties and their perceptions of parental invalidation at $r = .42$. Eastabrook, Flynn and Hollenstein (2013) report unstandardized regression coefficients between emotional awareness and Reappraisal ($r = .29$) and Suppression ($r = -.67$). These studies represent medium to large effect sizes (Cohen, 1992). However, Meyer et al. (2014) examining parental reports of socialisation and child regulation using multiple regression produce a small effect size ($r = .07$) (Cohen, 1992). Due to the variation of effect sizes in previous literature an effect size of $r = .20$ was chosen for the current study. Based on a power calculation a sample size of 76 adolescents allows for 80% power in detecting a medium effect size ($r = 0.2$) at .05 level of statistical significance (Cohen, 1988; 1992).

Data cleaning.

An insufficient number of adolescents reported on their father's (or alternative caregiver's) emotion socialisation for analysis therefore anyone who identified an alternative primary care-giver was excluded ($N = 29$), leading to the exclusion of 14 girls and 13 boys. An additional 9 ($N = 11$ in total) answered "No" to the consent

question and were therefore removed. Whilst some of these responses were complete many were partially complete or characterised by repetition of the same response for each item. A further 8 cases were removed as they completed only demographic data, or completed with repeated same score responding ($N = 1$). After data cleaning a total of 123 cases remained.

Preliminary Analyses

Missing data.

Following data cleaning and prior to the formation of subscales items were examined for missing data using the MVA (Missing Value Analysis) function in SPSS. It is broadly accepted that it is preferable for missing data to remain under the 5% level (Tabachnick & Fidell, 2007). Expectation-Maximization was used to complete missing data. This is a method of missing data imputation that uses the observed data to estimate a set of parameters that are in turn used to estimate missing data (Schlomer, Bauman & Card, 2010). This method is recommended over deletion techniques or mean substitution to avoid loss of data and protect against the reduction of variance that results in the overestimation of standard errors that occurs with mean substitution (Schlomer, Bauman & Card, 2010). Expectation-Maximization has been shown to produce accurate reliability estimates and not to bias the data and is also appropriate for factor analysis (Enders, 2003; Schlomer, Bauman & Card, 2010) For each variable the assumption that data were missing completely at random (MCAR) was assessed and confirmed using Little's MCAR test (Little, 1988).

For the ERQ-CA 99.4% of the data were complete and 2 items (both for Reappraisal) had 1.6% missing data. A single case was identified to have complete data for all

items except the TMMS, thus this case was removed from the TMMS analysis but kept for remaining variables (Pairwise) resulting in 99.4% complete data, with no item exceeding 2.5% missing.

Initial examinations of missing data in CCNES-AP showed 4.9% of data was incomplete with 25 items having missing data ranging from 4.9-8.1%. The identified pattern suggested that the last two questions were frequently not completed. This is likely to be due to them coming at the end of the survey and IT failures, where the programme froze for 3 participants. Four cases were removed, 3 having no data and 1 having less than 50% of data completed. After which only 2% of all CCNES-AP data was missing with three items at 5% missing data.

Where items were removed due to missing data they were removed only for that variable and were included in the remainder of the analysis (Pairwise), in order to preserve statistical power. This applied to four cases for the CCNES-AP and one for the TMMS.

Outlier analysis.

Outliers were removed to ensure that statistical estimates were not distorted by data with undue influence (Field, 2009; Cousineau & Chartier, 2010). Boxplots suggested the presence of univariate outliers for the CCNES-AP Supportive and Unsupportive scales. Standardising the data into z-scores allowed further examination of the outliers, with scores greater than 3 (Osborne & Overbay, 2004) or 3.29 (Field, 2009; Tabachnick & Fidell, 2007) identified as outliers. The decision of how to deal with outliers was biased toward keeping data (Cousineau & Chartier, 2010) especially when there was no obvious reason that the data were not representative of the sample

(Osborne and Overbay, 2004). Therefore two outliers were removed (1 supportive, 1 unsupportive) based on the 3.29 criteria.

Normality of distribution of variables.

The assumption of normality for each variable was assessed by examination of histograms and z-score calculations. Data were considered to have significant skew or kurtosis in distribution if $z > 2.58$ ($p < .01$) (Field, 2009). No significant kurtosis was found in the distributions. Following removal of the outliers the distribution of CCNES-AP Supportive remained negatively skewed ($z = -5.1$ to $z = -4.5$). Shapiro-Wilk's test was also significant for CCNES-AP Supportive ($F = .938$, 117, $p < .001$), indicating a violation of normality.

A reflected Log10 Transformation removed remaining potential outliers and corrected the skew to -1.37 and the Shapiro-Wilk ($F = .984$, 117, $p = .177$) became non-significant, allowing the use of parametric tests. The transformed CCNES-AP Supportive was used in subsequent correlation and regression analysis. Descriptive data, Factor analysis and mediation analysis report untransformed scores. Log10 transformation requires reflecting negatively skewed data thus the correlation coefficients for CCNES-AP Supportive are reversed in direction. As such the correlation direction is added retrospectively, non-transformed coefficients are also reported.

Chapter 3: Results

Descriptive Statistics

Table 2 provides the descriptive statistics for the main variables and demonstrates marginal change in the means following removal of outliers. Data with outliers excluded will be discussed.

Adolescents perceived their mothers as responding to them in more Supportive ways ($M = 14.6$, $SD = 3.0$) than Unsupportive ways ($M = 9.0$, $SD = 2.8$). That is they rated their mother's responses to their negative displays of emotion as more problem solving, emotion focused and accepting of its expression than they rated it punitive, minimizing and matched with distress. This trend is in line with Daughters et al.'s (2014) maternal reports of more Supportive compared to Unsupportive responses. However, compared to these maternal reports (Daughters et al., 2014) the current adolescent sample viewed their mother as less Supportive ($M = 17.0$) and more Unsupportive ($M = 7.0$).

The number of items in the Cognitive Reappraisal and Expressive Suppression scales are different, therefore percentages of the possible range of scores for each were calculated. Adolescents showed greater use of the emotion regulation strategy Cognitive Reappraisal (64%, $M = 27.0$, $SD = 6.0$) than they did Expressive Suppression (56%, $M = 15.8$, $SD = 5.2$). This means young people in the present study tended to think about things in a different way in order to improve their mood

than they did suppress their expression of emotion. These scores correspond with the trends found in previous studies with 13-16 year old girls (Eastabrook et al., 2013), 10-18 year olds (Gullone & Taffe, 2012) and in 9-15 year olds (Gullone et al., 2010).

Adolescents showed similar ratings in Attention ($M = 47.0$, $SD = 7.3$), Clarity ($M = 35.1$, $SD = 7.3$) and Repair ($M = 20.3$, $SD = 4.3$), as found in an Undergraduate sample ($M = 50.0$, 38.0 and 22.0 respectively) (Thompson, Gignac, Bates & Stough., 2007). Attention, the value one places on and attends to emotion, fell in the top third of the potential score range (13-65). Clarity, one's awareness of emotion, fell around the mid-point in the possible score range (11-55).

Table 2

Means and standard deviations for all variables with and with outliers.

| Variables | With Outliers | | | Outliers removed | | | |
|-----------------------|---------------|---------------|----------------|------------------|---------------|----------------|----------------|
| | <i>N</i> | <i>M (SD)</i> | Observed Range | <i>N</i> | <i>M (SD)</i> | Observed Range | Possible Range |
| CCNES-AP Supportive | 119 | 14.4 (3.2) | 3 - 19 | 117 | 14.6 (3.0) | 4 - 19 | 3 -21 |
| CCNES-AP Unsupportive | 119 | 9.1 (2.9) | 3 - 19 | 117 | 9.0 (2.8) | 3 - 17 | 3 -21 |
| ERQ Reappraisal | 123 | 27.0 (6.0) | 12 - 42 | 121 | 27.0 (6.0) | 12 - 42 | 6 - 42 |
| ERQ Suppression | 123 | 15.9 (5.2) | 4 - 27 | 121 | 15.8 (5.2) | 4 - 27 | 4 -28 |
| TMMS Clarity | 122 | 35.1 (7.3) | 16 - 52 | 120 | 35.1 (7.3) | 16 - 52 | 11 - 55 |
| TMMS Attention | 122 | 46.9 (7.4) | 29 - 61 | 120 | 47.0 (7.3) | 29 - 61 | 13 - 65 |
| TMMS Repair | 122 | 20.2 (4.3) | 8 - 30 | 120 | 20.3 (4.3) | 8 - 30 | 6 - 30 |

Demographic Differences

Table 3 shows mean scores by gender and age group. As gender and age have been found to relate to use of emotion regulation strategy (Gullone et al., 2010; Gullone & Taffe, 2012) and on beliefs about and awareness of emotion (Fitness & Curtis, 2005; Thompson et al., 2007) a series of Independent T-Tests and ANOVAS were used to explore potential differences on the main variables. Equal variances were assumed unless stated otherwise.

Gender.

A non-significant difference of gender was found for both emotion regulation strategies, and for Clarity and Repair. There was a significant difference between males and females on Attention, with girls showing a higher propensity to value emotion ($M = 48, SD = 7.2$) compared to boys ($M = 44.7, SD = 7.2$); ($t(116) = 2.34, p = .02$). Gender differences were also found for perceived emotion socialisation. Boys rated their mothers responses as significantly more Unsupportive ($M = 10, SD = 2.3$) than girls did ($M = 8.5, SD = 2.9$), ($t(113) = -2.97, p = .004$). Similarly girls rated their mother's responses as more Supportive ($M = 14.9, SD = 3.2$) than boys ($M = 3.8, SD = 2.4$), equal variance were not assumed for the reflected Log10 variable ($t(85) = -2.64, p = .01$).

Table 3

Means (Standard Deviations) for all variables for the Total Sample by Age Group, Sex and Ethnicity

| Sample | Parent Socialisation | | Emotion Regulation Strategy | | Beliefs about Emotion | | |
|--------------|----------------------|----------------|-----------------------------|-------------|-----------------------|---------------|------------|
| | CCNES-AP | | ERQ-CA | | TMMS | | |
| | Supportive | Unsupportive | Reappraisal | Suppression | Clarity | Attention | Repair |
| Total sample | 14.6 (3.0) | 9.0 (2.8) | 27.0 (6.0) | 15.8 (5.2) | 35.1 (7.3) | 47.0 (7.3) | 20.3 (4.3) |
| Sex | | | | | | | |
| Males | 13.8 (2.4)** | 10.2 (2.3)** | 26.9 (5.6) | 16.4 (5.4) | 36.8 (7.2) | 44.7 (7.3)* | 20.1 (4.1) |
| Female | 14.9 (3.2)** | 8.5 (2.9)** | 26.7 (6.0) | 15.5 (4.9) | 34.3 (7.3) | 48.0 (7.2)* | 20.2 (4.3) |
| Age Group | | | | | | | |
| 12-14 | 14.5 (2.6) | 9.7 (2.7) | 25.7 (5.9) | 15.7 (5.7) | 36.6 (6.9) | 44.1 (7.5) | 19.5 (4.7) |
| 15-16 | 14.9 (2.9) | 8.4 (2.8) | 27.5(6.1) | 15.5 (4.9) | 34.2 (7.6) | 48.9 (7.1)** | 20.5 (4.1) |
| 17-18 | 14.3 (3.4) | 8.9 (3.0) | 27.3 (5.6) | 16.1 (4.8) | 34.4 (7.4) | 47.9 (6.8)* | 20.5 (3.9) |
| Ethnicity | | | | | | | |
| White | 14.8 (2.8) | 8.4 (2.9)*** | 27.1 (5.5) | 15.5 (5.2) | 34.5 (6.8) | 49.4 (6.3)*** | 20.5 (4.1) |
| BME | 14.1 (3.3) | 10.1 (2.5) *** | 26.3 (6.5) | 16.3 95.0) | 36.1 (8.2) | 42.6 (7.1)*** | 19.5 (4.5) |

* $p < .05$ ** $p \leq .01$ *** $p < .001$

Age.

ANOVAs revealed non-significant differences between age groups for perceived maternal emotional socialisation, emotion regulation strategy, nor for Clarity and Repair. The three age groups significantly differed on Attention ($F(2,115) = 4.97, p = .008$). Bonferroni corrected t-tests showed that the 15 and 16 year olds ($t(71) = -2.85, p = .006$) and 17 and 18 year olds ($t(82) = -2.47, p = .02$) had a significantly greater attention to and value for emotion than the 12, 13 and 14 year olds.

Ethnicity.

Ethnicity was transformed into a dichotomous Dummy variable White and BME (Black and Minority Ethnic) due to the comparatively small numbers of African, Caribbean, Asian, Oriental and Mixed ethnicities and to enable use in correlations. T-tests indicated significant differences between White and BME participants on Attention ($t(116) = 5.38, p < .001$) and Unsupportive maternal responses ($t(113) = -3.09, p = .003$) only. Those who classified themselves as White ($N=76$) scored more highly on Attention ($M=49.4, SD=6.3$) than those describing themselves as a member of a BME ($N=42$) ($M=42.6, SD=7.1$). BME participants also scored their mother's responses as more Unsupportive ($M=10.1, SD=2.4$) than White participants ($M=8.4, SD=2.9$).

Relationships between Variables

Correlations.

Partial correlation analyses were conducted to investigate the relationships between variables, controlling for age, gender and ethnicity based on the differences already reported. Correlations are shown in Table 4. The reflected Log10 Supportive variable

is reported below with the direction of association reversed for clarity. Both the transformed and untransformed correlations are reported in Table 4.

As hypothesised, adolescents' perception of maternal responses to their distress as Supportive was significantly related to greater use of Reappraisal as an emotion regulation strategy ($r = .23, p = .01$) and less use of Suppression ($r = -.28, p = .003$). Perceived Supportive socialisation was also associated with greater Clarity ($r = .23, p = .02$), greater Attention ($r = .31, p = .001$) and greater Repair ($r = .40, p < .001$), as anticipated.

The hypothesised relationships for Unsupportive responding were corroborated. Adolescent's perception of their mothers responding to them in an Unsupportive manner was significantly related to increased use of Suppression ($r = .30, p = .001$) and less Attention ($r = -.20, p = .03$), Clarity ($r = -.22, p = .02$) and Repair ($r = -.28, p = .003$).

The emotion regulation strategy Suppression was negatively correlated with Clarity ($r = -.29, p = .001$), Attention ($r = -.49, p < .001$) and marginally with Repair ($r = -.19, p = .05$). The relationship between Suppression and Repair, a construct similar to Reappraisal, is in line with findings that Suppression and Reappraisal are seldom related (Gross & John, 2003; Gullone & Taffe, 2012).

The emotion regulation strategy Reappraisal, was only significantly correlated with Repair ($r = .61, p < .001$), attesting to the similarity of the constructs, as seen in the items (see also Meyer et al., 2014).

Repair showed the expected positive relationship with Clarity ($r = .36, p < .001$) and was not significantly related to Attention, nor were Clarity and Attention significantly related, in line with the findings at the measure's original development (Salovey et al., 1995).

In summary all expected relationships were seen with the exception of the lack of relationship between Reappraisal and other variables beyond Supportive responses.

Table 4

Partial correlations among key study variables controlled for age, gender and ethnicity and correlations for demographics

| Variables | 1. CCNES-AP Supportive (Non-transformed) | 2. CCNES-AP Unsupportive | 3. ERQ Reappraisal | 4. ERQ Suppression | 5. Clarity | 6. Attention | 7. Repair |
|---|---|--------------------------------|--------------------------|--------------------------|---------------|-----------------|--------------|
| 1. CCNES-AP Supportive (Non-transformed) | - | . | | | | | |
| 2. CCNES-AP Unsupportive | .53** (-.56**) | - | | | | | |
| 3. ERQ Reappraisal | -.23** (.26**) | -.14 | - | | | | |
| 4. ERQ Suppression | .28** (-.33***) | .30*** | -.01 | - | | | |
| 5. TMMS Clarity | -.23* (.23**) | -.22* | .13 | -.29*** | - | | |
| 6. TMMS Attention | -.31*** (.30***) | -.20* | -.07 | -.49*** | .06 | - | |
| 7. TMMS Repair | -.40** (.42***) | -.28** | .61*** | -.19* | .36*** | .05 | - |
| Age | -.01 (-.01) | -.14 | .14 | .01 | -.09 | .23* | .16 |
| Gender | .22* (-.16) | .27** | .01 | .08 | .16 | -.21* | -.02 |
| Ethnicity | .08 (-.12) | .28** | -.06 | .07 | .10 | -.45** | -.12 |

Correlation significant at * $p < .05$, ** $p < .01$, *** $p < .001$

Non-transformed correlation (r) in parenthesis.

Validity of Measures

In addition to the relationships observed in correlation analyses Factor Analyses were conducted for the TMMS and CCNES-AP in order to confirm the expected structure with the current adolescent age group.

Factor analysis: Trait Meta Mood Scale (TMMS).

An exploratory factor analysis, specifying a three-factor solution was conducted to confirm the expected structure of the TMMS, which has not been used in an UK adolescent sample before. As with previous work (Salovey & Mayer, 1995) the current study found a correlation between the TMMS subscales, between Clarity and Repair, therefore a Varimax rotation was used (see also Salgeuro et al., 2010; Fernandez-Berrocal, Extremera & Ramos, 2004). Despite the small sample size for a Factor Analysis the examination was deemed appropriate on the basis of the KMO = .73 and Bartlett's test of sphericity was significant ($\chi^2=1342.1, p<.001$). In addition the determinant was above .00001 (4.1E-006), meeting the assumption of no multicollinearity (Field, 2009). Small coefficients below .40 were suppressed (Field, 2009).

Examination of the scree plot supported a three-factor solution (Appendix I). Rotated factor loadings (Appendix I) show the 3-factor solution followed the dimensions of Clarity, Attention and Repair. The eigenvalues for these factors were 4.9, 4.2 and 2.8 accounting for 39.8% of the variance. There was some indication that the measure could be improved with the removal of 5 items as their coefficient fell below .40. A Repair item (9) fell into the Clarity factor. Three Attention items loaded onto the Attention factor with coefficients below .40 and one, also below .40, loaded onto

Repair. Each of the subscales demonstrated good internal consistency Attention ($\alpha = .80$), Clarity ($\alpha = .83$) and Repair ($\alpha = .73$).

**Factor analysis: Coping with Children Negative Emotions Scale-
Adolescent Perspective (CCNES-AP).**

An exploratory factor analysis, specifying a two factor solution, with Varimax rotation, was conducted to confirm the expected structure of the CCNES-AP. Again the basis of analysis was supported by KMO = .85 and Bartlett's test of sphericity was significant ($\chi^2 = 4602.6$, $df = 1431$, $p < .001$) and the determinant (1.000E-013). A 2-factor solution was supported by the scree plot (Appendix J). Factor loadings are presented in Appendix J. Items relating to Unsupportive and Supportive maternal responding formed the dimensions, with eigenvalues 12.9 and 9.6 respectively, accounting for 41.7% of the variance. Items representing Expressive Encouragement, Problem-Focused Reactions and Emotion Focused Reaction scales defined the Supportive factor. Two Distress Response items (items 4D & 9D) and one Punitive item (item 6C) loaded onto both factors. One Minimization item (item 5D) loaded onto the Supportive factor, and two Expressive Encouragement items related to this factor dropped below .40. Punitive, Distress and Minimization Reaction subscales entirely defined the Unsupportive factor, with one Distress item (1A) falling below .40. Good internal reliability for the subscales was found $\alpha = .95$ (Supportive) and $\alpha = .81$ (Unsupportive).

Overall, the present study has provided initial support for the use of the TMMS and CCNES-AP in a UK based adolescent sample. There are improvements that could be made for future use but considering the factor structure, the expected correlations and

the internal reliability of the subscales, the measures are acceptable for use in the current study.

Examining Research Questions

Hierarchical multiple regressions were conducted to further explore the relationship between parental socialisation of emotion, adolescent beliefs about the value of emotion and adolescent emotion regulation. For all models assumptions allowing the generalizability of the model were met: Homogeneity of variance, linearity, normality of residual errors, independent errors (Durbin-Watson statistic = 1.9 to 2.1) and no multicollinearity (VIF between 1.1 and 1.6) and tolerance above .2 (.6 to .9) and are therefore not reported again.

A post hoc confirmatory power analysis indicated that, for hierarchical multiple regressions, the current study was adequately powered to detect effect sizes of 0.2 ($p=0.05$) for hypothesis 1 ($B = .97$) and hypotheses 2 and 3 ($B = .94$) (Soper, 2016).

1. Do adolescent experiences of maternal emotion socialisation predict adolescent representations of emotion?

Attention.

The hierarchical regression model to determine predictors of Attention to emotion accounted for 26% of the variance (Adjusted $R^2 = .26$; $F(5, 109) = 9.06$, $p < .001$). As shown in Table 5 Ethnicity (White or BME) ($B = -5.7$, $\beta = -.38$, $t(109) = -4.3$, $p < .001$) and Supportive socialisation ($B = -9.0$, $\beta = -.25$, $t(109) = -2.6$, $p = .01$) make unique

contributions to the variance, with Support (reflected Log10) related to an increase in Attention.

Clarity.

The hierarchical regression model to determine predictors of Clarity of emotion accounted for 5% of the variance (Adjusted $R^2 = .05$; $F(5, 109) = 2.27$, $p = .05$). Table 6 shows that Gender makes an independent contribution to the model ($B = 3.3$, $\beta = .21$, $t(109) = 2.07$, $p < .04$)

Table 5

Hierarchical Regression Analysis for Attention

| Independent Variables | <i>r</i> | <i>R</i> ² | B | Std. E (B) | β | t | p |
|--------------------------------|----------|-----------------------|--------|------------|---------|--------|-------|
| Step 1: Covariates | .467 | .218 | | | | | |
| Age | | | .271 | .448 | .057 | .604 | .547 |
| Gender | | | -1.726 | 1.429 | -.110 | -1.208 | .230 |
| Ethnicity | | | -6.209 | 1.351 | -.408 | -4.596 | .001* |
| Step 2: Parental Socialisation | .542 | .294 | | | | | |
| Age | | | .403 | .432 | .084 | .933 | .353 |
| Gender | | | -.577 | 1.418 | -.037 | -.407 | .685 |
| Ethnicity | | | -5.751 | 1.337 | -.378 | -4.300 | .001* |
| Supportive | | | -8.961 | 3.439 | -.255 | -2.605 | .010 |
| Unsupportive | | | -.126 | .262 | -.049 | -.480 | .632 |

**p* < .001

Table 6

Hierarchical Regression Analysis for Clarity

| Independent Variables | <i>r</i> | <i>R</i> ² | B | Std. E (B) | β | t | p |
|--------------------------------|----------|-----------------------|--------|------------|---------|--------|------|
| Step 1: Covariates | .177 | .031 | | | | | |
| Age | | | -.072 | .493 | -.015 | -.146 | .884 |
| Gender | | | 2.171 | 1.573 | .140 | 1.380 | .170 |
| Ethnicity | | | 1.075 | 1.487 | .071 | .723 | .471 |
| Step 2: Parental Socialisation | .307 | .094 | | | | | |
| Age | | | .022 | .484 | .005 | .046 | .964 |
| Gender | | | 3.282 | 1.587 | .212 | 2.068 | .041 |
| Ethnicity | | | 1.776 | 1.497 | .118 | 1.186 | .238 |
| Supportive | | | -5.378 | 3.850 | -.155 | -1.397 | .165 |
| Unsupportive | | | -.375 | .294 | -.147 | -1.276 | .205 |

2. To what extent do perceived maternal socialisation of emotions and 3. adolescent representations of emotion predict the use of emotion regulation strategy?

Expressive Suppression.

Suppression was entered as the dependent variable, with age, gender and ethnicity controlled for in the first step, entering Supportive (Log10 transformed) and Unsupportive socialisation in the second step and emotion representations (Clarity and Attention) in the third. The full model is displayed in Table 7. The overall model accounted for 30% of the variance of Suppression (Adjusted $R^2 = .30$; $F(7, 107) = 7.94$, $p < .001$). Consideration of the partial correlation coefficients show that Age, Gender and Ethnicity make no significant contribution to the variance nor do perceived Supportive and Unsupportive socialisation when considered with Clarity and Attention. Unsupportive responses made a marginally significant contribution in the absence of representations of emotion ($B = .41$, $p = .05$). A reduced model with Clarity and Attention predicted 29% of the variance of Suppression (Adjusted $R^2 = .29$; $F(2, 117) = 10.45$, $p < .001$). An increase in the ability to distinguish between emotions and the tendency to value emotion predict a decrease in the use of expressive suppression. Attention has a greater influence on expressive suppression ($B = -.38$) compared to Clarity ($B = -.19$).

Cognitive Reappraisal.

The same model was used to predict Reappraisal. The overall model was non-significant (Adjusted $R^2 = .05$; $F(7, 107) = 1.82$, $p < .09$). The partial correlation coefficients showed that Age ($B = .80$, $\beta = .21$, $t(107) = 2.0$, $p = .05$) and Support ($B = -$

7.38, $\beta = -.26$, $t(107) = -2.24$, $p = .03$) were independently associated with Reappraisal. Therefore a reduced model was considered, shown in Table 8, (Adjusted $R^2 = .05$; $F(4, 110) = 2.38$, $p = .05$). The final model shows that perceived Supportive emotion socialisation independently contributed to Reappraisal, all be it at a small proportion of the variance, 5%. Thus perceptions of validating responses predict an increase in the use of cognitive reappraisal as an emotion regulation strategy.

Table 7

Hierarchical Regression Analysis for Expressive Suppression: Full and reduced models

| Independent Variables | <i>r</i> | <i>R</i> ² | <i>R</i> ² Change | F change (sig) | B | Std. E (B) | β | t | p |
|-----------------------------------|----------|-----------------------|---------------------------------|-------------------|-------|---------------|------|-------|-------|
| Step 1: Covariates | .120 | .014 | .014 | .543 (.65) | | | | | |
| Age | | | | | .25 | .357 | .07 | .69 | .49 |
| Gender | | | | | 1.06 | 1.14 | .09 | .93 | .36 |
| Ethnicity | | | | | .84 | 1.08 | .08 | .78 | .44 |
| Step 2: Parental Socialisation | .352 | .124 | .110 | 6.8 (.00) | | | | | |
| Age | | | | | .17 | .34 | .05 | .49 | .62 |
| Gender | | | | | .01 | 1.12 | .00 | .01 | .99 |
| Ethnicity | | | | | .12 | 1.06 | .01 | .11 | .91 |
| Supportive | | | | | 4.33 | 2.72 | .17 | 1.59 | .11 |
| Unsupportive | | | | | .41 | .21 | .22 | 1.98 | .05 |
| Step 3: Representation of Emotion | .585 | .342 | .218 | 17.7 (.00) | | | | | |
| Age | | | | | .31 | .300 | .09 | 1.04 | .30 |
| Gender | | | | | .35 | 1.00 | .03 | .35 | .73 |
| Ethnicity | | | | | -1.60 | 1.01 | -.14 | -1.59 | .11 |
| Supportive | | | | | .30 | 2.47 | .01 | .12 | .90 |
| Unsupportive | | | | | .30 | .18 | .17 | 1.67 | .10 |
| Clarity | | | | | -.16 | .06 | -.23 | -2.79 | .006 |
| Attention | | | | | -.35 | .07 | -.49 | -5.29 | .001* |

| Independent Variables cont. | <i>r</i> | <i>R</i> ² | <i>R</i> ² Change | F change (sig) | B | Std. E (B) | β | t | p |
|---------------------------------|----------|-----------------------|---------------------------------|-------------------|-------|---------------|---------|-------|-------|
| Reduced Model: Suppression | .542 | .294 | .304 | 24.9 (.00) | | | | | |
| Step 2: Emotion Representations | | | | | | | | | |
| Age | | | | | .34 | .30 | .10 | 1.14 | .26 |
| Gender | | | | | .82 | .96 | .07 | .87 | .39 |
| Ethnicity | | | | | -1.30 | .98 | -.12 | -1.33 | .19 |
| Clarity | | | | | -.19 | .06 | -.27 | -3.34 | .001* |
| Attention | | | | | -.38 | .06 | -.53 | -6.00 | .001* |

Reflected Log10 transformed Variable Supportive CCNES-AP reported. * $p < .001$

Table 8

Hierarchical Regression Analysis for Cognitive Reappraisal: Full and reduced models

| Independent Variables | <i>r</i> | <i>R</i> ² | <i>R</i> ² Change | F change (sig) | B | Std. E (B) | β | t | p |
|------------------------------------|----------|-----------------------|---------------------------------|-------------------|-------|---------------|------|-------|-----|
| Step 1: Covariates | .164 | .027 | .027 | 1.02 (.38) | | | | | |
| Age | | | | | .65 | .41 | .17 | 1.61 | .11 |
| Gender | | | | | 1.05 | 1.29 | .08 | .81 | .42 |
| Ethnicity | | | | | -.29 | 1.22 | -.02 | -.23 | .81 |
| Step 2: Parental Socialisation | .283 | .080 | .053 | 3.14 (.05) | | | | | |
| Age | | | | | .75 | .40 | .19 | 1.86 | .06 |
| Gender | | | | | 1.81 | 1.31 | .14 | 1.37 | .17 |
| Ethnicity | | | | | -.03 | 1.24 | -.00 | -.02 | .98 |
| Supportive | | | | | -6.48 | 3.19 | -.23 | -2.03 | .04 |
| Unsupportive | | | | | -.04 | .24 | -.02 | -.16 | .87 |
| Step 3: Representations of Emotion | .326 | .107 | .027 | 1.60 (.21) | | | | | |
| Age | | | | | .80 | .40 | .21 | 2.00 | .05 |
| Gender | | | | | 1.51 | 1.33 | .12 | 1.13 | .26 |
| Ethnicity | | | | | -.95 | 1.34 | -.08 | -.71 | .48 |
| Supportive | | | | | -7.38 | 3.30 | -.26 | -2.24 | .03 |
| Unsupportive | | | | | -.03 | .24 | -.01 | -.13 | .90 |
| Clarity | | | | | .06 | .08 | .08 | .83 | .41 |
| Attention | | | | | -.14 | .09 | -.17 | -1.57 | .12 |

| Independent Variables cont. | <i>r</i> | <i>R</i> ² | <i>R</i> ² Change | F change (sig) | B | Std. E (B) | β | t | p |
|---|----------|-----------------------|---------------------------------|-------------------|-------|---------------|------|------|-----|
| Reduced Model: Reappraisal | .282 | .080 | .053 | 6.30 (.01) | | | | | |
| Step 2: Parental Socialisation | | | | | .75 | .40 | .19 | 1.9 | .06 |
| Age | | | | | 1.78 | 1.30 | .14 | 1.37 | .17 |
| Gender | | | | | -.08 | 1.20 | -.01 | -.06 | .95 |
| Ethnicity | | | | | -6.75 | 2.69 | -.24 | -2.5 | .01 |
| Supportive | | | | | .75 | .40 | .19 | 1.9 | .06 |
| Reflected Log10 transformed Variable Supportive CCNES-AP reported | | | | | | | | | |

4. Do representations of emotion mediate the relationship between perceived maternal socialisation and adolescent emotion regulation?

Preacher and Hayes' (2004; Hayes, 2012; 2013) PROCESS Macro for mediation was used to test whether representations of emotion (Attention and Clarity) mediated the relationship between perceived emotion socialisation (Supportive and Unsupportive) and the emotion regulation strategy Suppression. As Attention and Clarity did not predict Reappraisal in the hierarchical regression analyses a mediation effect is not examined here. The PROCESS Macro uses bootstrapping (5,000 resamples), which does not assume normality, therefore the non-transformed Supportive variable was used. Age, gender and ethnicity were controlled for.

Mediators between Perceived Supportive Socialisation & Expressive Suppression.

A multiple indirect effects model of perceived supportive emotion socialisation on expressive suppression by Attention and Clarity was assessed. Simultaneously examining representations of emotion allows consideration of their distinctive contributions to Suppression and is shown in Figure 3. The total indirect effect of perceived Support on Expressive Suppression was significant ($ab = -.30$), BCa 95% Confidence interval (-.55, -.13). An examination of specific indirect effects indicated that both Attention ($ab = -.20$, CI = -.45, -.05) and Clarity ($ab = -.11$, CI = -.24, -.02) were significant. Thus beliefs about the value of emotion (Attention) and one's ability to distinguish between emotions (Clarity) mediate the relationship between perceived Supportive (i.e. validating) maternal responses to emotion and adolescent use of expressive suppression.

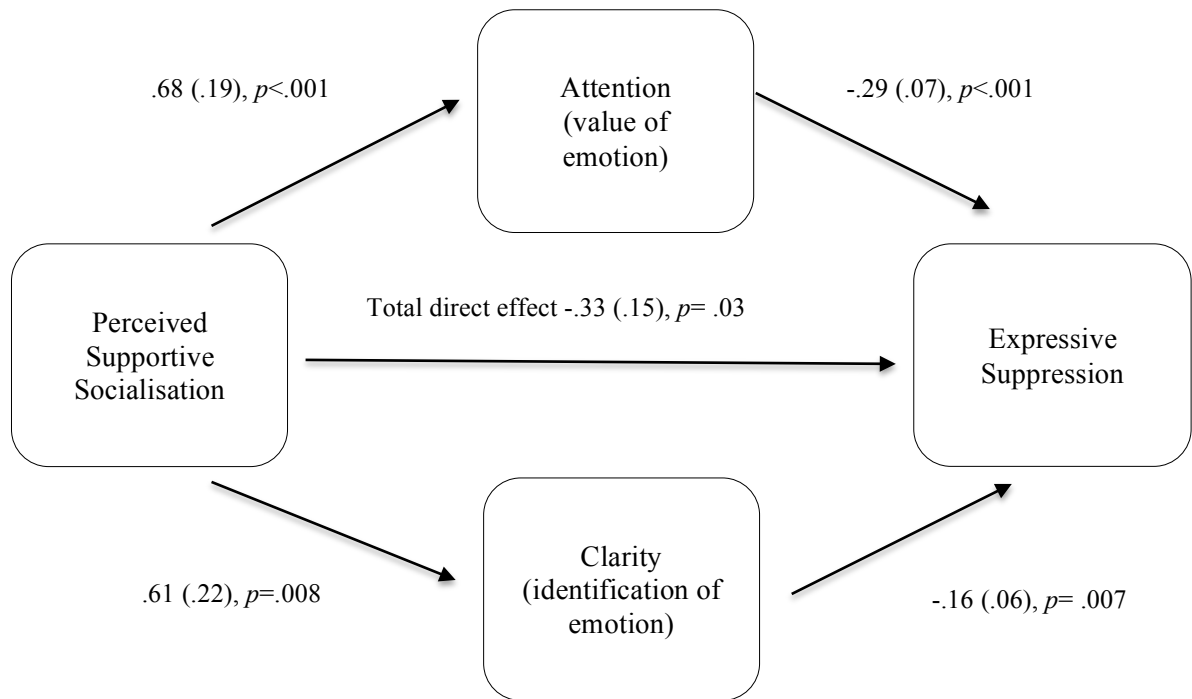


Figure 3. Multiple Mediation Model for Representations of Emotion between Perceived Supportive Socialization and Expressive Suppression. Values represent regression coefficients (std. error).

Mediators between Perceived Unsupportive Socialisation & Expressive Suppression.

Attention and Clarity were also assessed as potential mediators between Unsupportive socialisation and Suppression, as shown in Figure 4. The total indirect effect of perceived Unsupportive responding on Expressive Suppression was significant ($ab = .25$), BCa 95% Confidence interval (.08, .48). Consideration of specific effects showed there was a non-significant indirect effect of perceived Unsupportive socialisation on Suppression through Attention ($ab = .15$, CI = 00, .37). There was a significant indirect effect of perceived Unsupportive socialisation on Suppression through Clarity ($ab = .10$, CI = .02, .24). Therefore, the relationship between

perceived invalidating emotion socialisation and expressive suppression was mediated by adolescent's ability to distinguish between emotions.

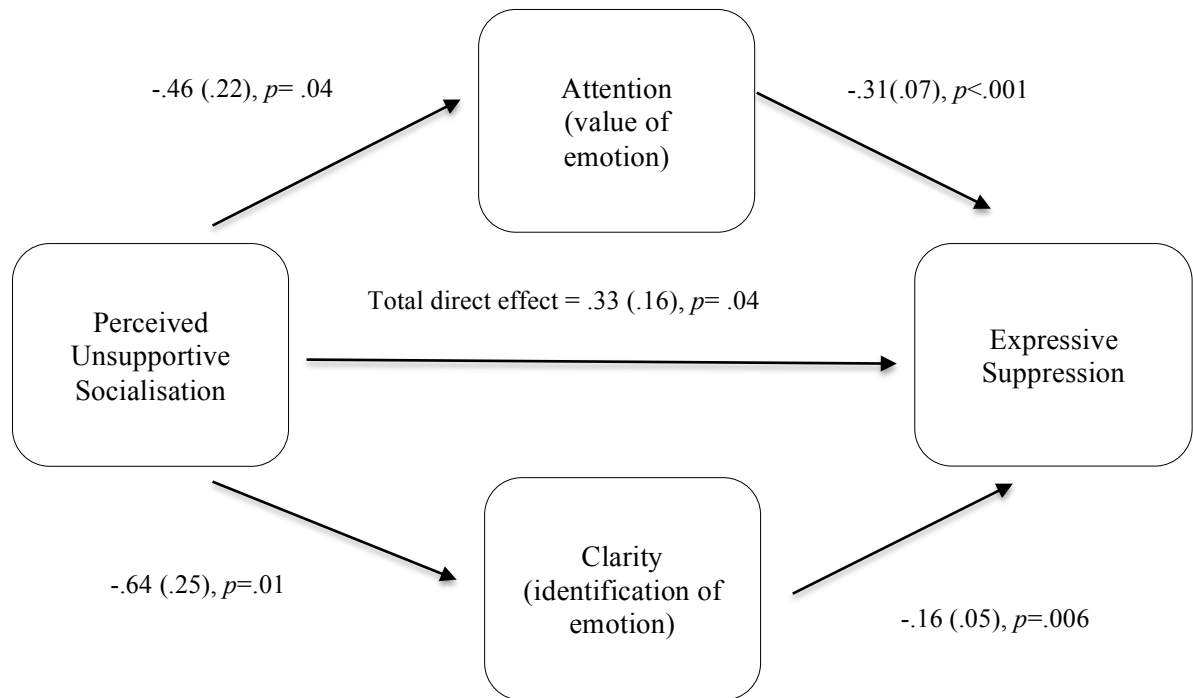


Figure 4. Mediation model for Attention and Clarity between Perceived Unsupportive Socialisation and Expressive Suppression. Values represent regression coefficients (std. error).

Chapter 4: Discussion

Overview

The following discussion will give an overview of the present study, restate its aims and provide a summary of the findings for each hypothesis. The validation of the Trait Meta Mood Scale (TMMS, Salovey et al., 1995) and the Coping with Children's Negative Emotions Scale – Adolescent Perceptions (CCNES-AP, Fabes et al., 1998) for use with an adolescent sample will be considered, concluding that they are suitable for use in the current population. A detailed discussion of the findings for each hypothesis will follow, contextualizing the findings in the existing literature. Finally the theoretical, clinical and research implications of the findings will be considered and conclusions made in light of the limitations of the study.

The current study set out to address the limited literature exploring emotion socialisation and emotion regulation in adolescents. The study particularly enhances the scant adolescent literature examining cognitive reappraisal and expressive suppression, over more general measures of emotion regulation (ER). Crucially the current study includes an adolescent perspective allowing it to address some of the issues created by maternal reports in the extant literature. It also allows for the developmentally specific experience of adolescence to be taken into account.

The current study was concerned with the mechanism by which emotion socialisation influences ER. The study conducted an examination of the relationship between perceived socialisation of emotion and representations of emotion. The representations of emotion were one's beliefs about the value of emotion and one's

ability to identify emotions and contribute novel findings to the existing literature. The mixed adult evidence was also extended, by assessing how adolescent beliefs about and clarity of emotion were related to their use of emotion regulation strategies. Finally, the current study assessed if emotion representations mediated the relationship between emotion socialisation and regulation. This provides new evidence about the potential internalisation of emotion representations by adolescents. A more detailed consideration of the transmission and internalisation of representations could not be considered without the inclusion of parents, which was not viable in the current study.

Self-report questionnaires from 123 12-18 year olds assessed the adolescent's view of how their mother responded to their negative emotional expression. Mothers' responses were classified as either Supportive or Unsupportive. For example maternal responses that were classified as Supportive were validating responses that focused on identifying and soothing the emotion, were problem solving and were encouraging of the expression of emotion. Responses classified as Unsupportive were invalidating responses characterised by minimizing and punitive responses and that matched the child's distress.

Adolescents also reported on their representations of emotion; the extent to which they saw value in emotions (Attention) and how aware of emotion they were, by being able to distinguish between emotions (Clarity). Finally they rated their use of emotion regulation strategies, cognitive reappraisal (Reappraisal) and expressive suppression (Suppression).

There were three key findings of the study that will be discussed (i) emotion representations were the best predictors of expressive suppression for adolescents, (ii) emotion representations mediated the relationship between perceived socialisation and expressive suppression and (iii) cognitive reappraisal was only associated with perceptions of validating maternal responses.

Summary of findings.

Adolescents generally reported more use of cognitive reappraisal than expressive suppression as an emotion regulation strategy. They also tended to perceive their mother's responses to their expression of negative emotion as validating. Females rated their mothers as more Supportive and less Unsupportive than males did. Females also attended to and valued emotions more than males, as did 15-18 year olds compared to 12-14 year olds. No gender differences were found in use of emotion regulation strategy.

Figures 6 and 7 show the correlational relationships between variables for cognitive reappraisal and expressive suppression respectively.

Hypothesis 1.

The current study expected that perceptions of mothers' validating (Supportive) responses to emotion would be related to greater value being placed on the utility of emotion and with a greater ability to distinguish between emotions. Conversely, invalidating (Unsupportive) responses were expected to be related to less Attention and Clarity.

Adolescents' value in emotion and awareness of emotions (Attention and Clarity) were related to socialisation as predicted. That is, perceptions of Supportive responses) were associated with more positive regard for emotion and with a greater ability to distinguish between emotions. Reports of Unsupportive responses were associated with lower scores on Attention and Clarity.

Only perceived Supportive socialisation, and Ethnicity, made a significant predictive input to Attention. Socialisation did not predict Clarity as expected; instead Gender explained a small proportion of the variance.

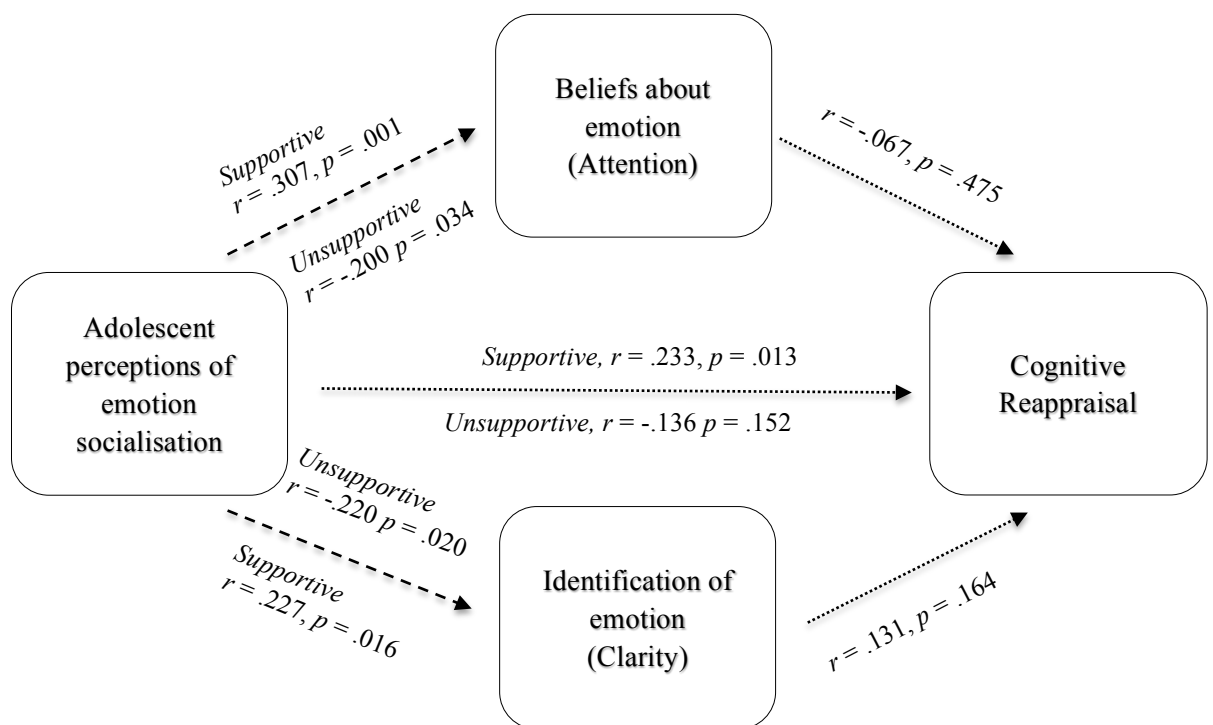


Figure 5. Conceptual model with correlations for all variables in relation to cognitive reappraisal.

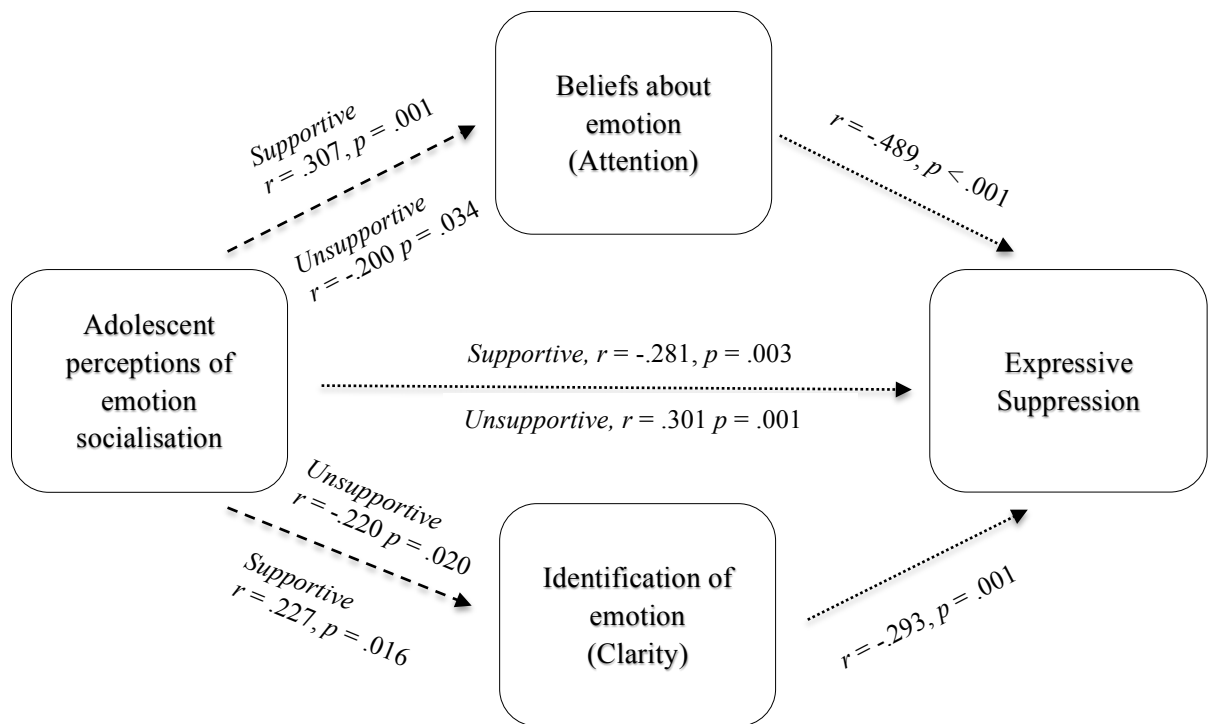


Figure 6. Conceptual model with correlations for all variables to expressive suppression

Hypothesis 2.

It was anticipated that higher ratings of mother’s Supportive socialisation would be associated with more use of cognitive reappraisal and less use of expressive suppression by adolescents. Perceptions of Unsupportive socialisation were expected to be associated with increases in the use of expressive suppression and less use of cognitive reappraisal.

Correlations showed some of the expected relationships between perceived socialisation and emotion regulation strategies. Adolescent perceptions of validating responding were significantly related to greater use of cognitive reappraisal and less

use of expressive suppression as emotion regulation strategies. Perceptions of invalidating responding were related to an increased use of expressive suppression. However, invalidating responses were not related to cognitive reappraisal.

Despite these correlational findings, perceived socialisation did not independently contribute to a model explaining expressive suppression when representations of emotions were included.

Hypothesis 3.

The current study expected that the more adolescents' placed value in emotion and were able to distinguish between emotion, with more they would use Reappraisal and the less they would use Suppression as ER strategies. Those reporting less Attention and Clarity were also expected to use more Suppression and less Reappraisal.

Correlations showed that representations of emotion, both Attention and Clarity, were related to less use of expressive suppression, but neither were related to cognitive reappraisal. In the regression model beliefs about the value of emotion and awareness of different emotions were independent predictors of Suppression accounting for 28% of the variance.

Hypothesis 4.

Although specific predictions were not made about the mediation analyses it was expected that there would be a mediating effect of emotion representations between perceived socialisation and ER.

Beliefs about the value of emotion and ones' awareness of emotions both mediated part of the relationship between perceived Supportive socialisation and expressive suppression. Only Clarity, awareness of emotion, mediated between Unsupportive socialisation and Suppression.

Overall the expectations for the hypotheses were broadly met. More perceived validating and fewer perceived invalidating responses to emotion were associated with adolescent's greater ability to distinguish between emotions and with them placing greater value on emotions. These emotion representations were in turn associated with expressive suppression and mediated the relationship between emotion socialisation and Suppression. Two unexpected findings were revealed. Perceived Unsupportive responses did not hold the expected predictive power and Reappraisal was only related to perceived Supportive responses. The role of gender and ethnicity were not planned and will be considered in the discussion of the findings.

Discussion of Main Findings

Validity of measures.

The Trait Meta Mood Scale is a well-used and validated measure in the adult population (Salovey et al., 1995; Palmer, Gignac, Bates & Stough, 2003) and undergraduate samples (Fitness & Curtiss, 2005; Thompson et al, 2007) but has had little use in adolescent populations. Similarly the Coping with Children's Negative Emotions Scale is a validated and frequently used measure (Fabes & Eisenberg, 1998; Denham & Kochanoff, 2002; Meyer et al., 2014) but the CCNES-AP (Fabes &

Eisenberg, 1998), where adolescents report on their perceptions of their mother's responses to their emotions has not been validated. It was not in the scope of the current project to complete a full validation of these measures however correlations and factor structures were assessed for the TMMS and CCNES-AP in order to ensure validity for use in the current study. The ERQ-CA has been validated in a child and adolescent population (Gullone & Taffe, 2012). Overall factor structures and relationships between variables were found to be in line with existing literature. Factor loadings for both measures can be found in Appendices I and J.

Trait Meta-Mood Scale (TMMS).

A 3-factor solution was confirmed for the TMMS, administered to 123 adolescents, (12-18 years), with factors defined by items corresponding with Clarity, Attention and Repair. There were low loadings for four items onto the relevant factors (1 Clarity, 3 Attention) and two items fell onto different factors (item 9 Repair falling into Clarity and item 12 Attention falling into Repair). This suggests some improvements to the measure could be considered for the UK adolescent population.

A Spanish version of the TMMS, validated for adolescents (12-17 years) (Salgeuro et al., 2010) was reduced to 24 items from the original 48-item scale (Fernandez-Berrocal et al., 2004). However, the alpha reliability coefficients in the current study confirmed a high level of internal consistency for each subscale suggesting the scale is reliable.

The adolescents participating in the current study reported comparable scores in Attention, Clarity and Repair as older undergraduate university samples (English speaking), scoring 2-3 points lower on each scale (Thompson et al., 2007; Salovey et al., 2002; Fitness & Curtis, 2005). The lower scores in this younger sample are in line with the theory that emotional understanding develops with age (Lantrip et al., 2015). The current study found age differences for Attention only, where the current sample of 15-18 year olds showed significantly greater attention to and were more accepting of emotion than the 12-14 year olds. A similar pattern was found in a Spanish adolescent sample (Salgeuro et al., 2010).

Correlations between the three subscales replicated previous findings where Repair and Clarity were positively correlated and where neither correlated with Attention (Salovey et al., 1995; Boden & Thompson, 2016). Salovey et al., (2002) in a sample of 16-23 year olds also found a non-significant correlation between Attention and Clarity but a significant relationship between Clarity and Repair. The finding suggests that the ability young people have to differentiate between emotions is not related to their positive valuation of emotion.

Gender differences were not found in Clarity and Repair but were found for Attention. Girls showed a higher propensity for accepting, valuing and attending to emotion than boys. This replicates Thompson et al.'s (2007) finding with university students where women scored more highly than men on Attention but where no gender differences in Clarity were found. In an adolescent sample the adapted Spanish TMMS also showed small gender differences, with females reporting more Attention than males. They also found no gender difference in Clarity (Salgeuro et al., 2010).

Taken together these findings suggest there is no difference in the way males and females can differentiate between emotions but rather the way they value them is different.

The current study found that White participants rated themselves as valuing and attending to emotions more than BME (Black and Minority Ethnic) participants. This crude categorisation of ethnicity was necessary in order to perform analyses with small numbers of participants from different ethnic minorities. A meta-analysis of studies looking at general emotional intelligence in adults (Joseph and Newman, 2010) found that those identified as White scored more highly than those described as Black. However, the authors do not specify the measures included in what is an unwieldy concept and it seems implied the included studies are from the United States. (Joseph and Newman, 2010). In a more closely related study, Hunter et al., (2012) used the meta-emotion philosophy (MEP) interview to assess emotion coaching and emotion dismissing attitudes in parents and adolescents. They reported that 30% ($N=305$) of their sample identified themselves as BME, which is broadly comparable to the ethnic mix in the current study, 37% ($N=123$). They found no ethnic differences in adolescent and parent meta-emotion philosophy (Hunter et al., 2012).

Ethnicity is frequently unreported in the literature that has been reviewed, which may indicate no significant differences are being found, that it is not a priority in research or reflect the over reliance on mostly White university students in the literature. Further research is required to establish consistent findings and to find more culturally

appropriate ways of thinking about differences in the meaning of emotion along cultural and ethnic lines.

Overall the TMMS scale can be considered to be an acceptable measure to assess the extent to which adolescents' value and attend to emotion and are able to distinguish between emotions. As explained previously Repair will not be discussed further as it is not the focus of the current study.

Coping with Children's Negative Emotions Scale-Adolescent Perspective.

A 2-factor solution was confirmed for the CCNES-AP. The measure is formed of six subscales, but where the parent report scale has been used, two-factors have been reported (Daughters, et al., 2014; Ehrlich et al., 2013). The current study found evidence for the same Unsupportive and Supportive structure used by Daughters et al. (2014). Two Expressive Encouragement items did not load onto the Supportive factor and one Distress Reaction item did not load onto the Unsupportive factor. Four items also loaded onto both subscales. Again, this scale could benefit from some improvements but with each subscale showing good internal consistency, overall the measure was considered appropriate for use in the current sample.

Adolescents tended to perceive their mothers as showing more Supportive than Unsupportive responses to their displays of distress. Compared to Daughters et al.'s (2014) findings, the current study found that adolescents rated their mothers as less Supportive and more Unsupportive than mothers rated themselves. The present study found that boys rated their mothers as more Unsupportive compared to girls, with

girls also rating their mothers as more Supportive than did boys. This suggests that boys may receive more punitive and minimizing responses from their mothers.

This finding corresponds with research suggesting the differential socialisation of boys and girls. Parents of toddlers have been shown to be more punitive toward girls' displays of anger than boys, but less responsive to boys sadness than they are to girls' (Chaplin, Casey, Sinha & Mayes, 2010). Nineteen year olds have retrospectively reported on the socialisation of emotions by their mothers and fathers (Garside & Klimes-Dougen, 2002). A complex picture emerged depending on which parent and emotion was being reported on. Broadly speaking men reported being punished more by their parents for displays of negative emotions than women did (Garside & Klimes-Dougen, 2002). The current results support research that indicate differential socialisation of emotion in males and females.

No age differences were found, which can't be compared against previous literature. Black and ethnic minority participants described their mothers as more Unsupportive than White participants. Ehrlich et al. (2013) had parents report on their responses to their adolescents' negative affect. They reported that parents of White adolescents reported less Harsh responding than parents of Black adolescents. These findings are contextualised in research by Nelson, Leerkes, O'Brien, Calkins and Marcovitch (2012). African American mothers of five year olds reported holding more beliefs that the expression of negative emotion was less acceptable, particularly for boys, than European American mothers. In line with these beliefs African American mothers reported less supportive responding to their child's negative emotion than European American mothers. However, there was no difference in observations of mothers'

teaching their children about emotion (Nelson et al., 2012). The current findings appear to be in line with ethnic differences found in previous literature; however the current results do not identify the differing social and cultural consequences of displays of emotion.

The CCNES-AP can therefore be deemed an appropriate tool for the present purposes, to assess adolescent's perceptions of their mother's responses to their displays of negative emotion. The measure could fill a gap in the literature for an adolescent measure assessing perceptions of parents' responses to [adolescent] displays of emotion.

Hypothesis 1: The extent to which perceived maternal socialisation is related to adolescent representations of emotion.

The current study set out to explore the extent to which adolescent perceptions of maternal socialisation were related to their representations of emotions. Theory suggests that offspring internalize their understanding of, and beliefs about, emotion from how parents model and respond to emotion (Beebe & Lachman, 1994; Cole, 1994; Leahy, 2012). The internalisation of representations of emotion is therefore a central mechanism by which parental socialisation is transmitted to offspring ER. However there is a lack of literature examining whether parental socialisation is related to adolescent representations of emotion. A specific prediction was made that adolescent perceptions of invalidating socialisation would be associated with young people placing less value and being less able to distinguish between emotion. Equally, those who experienced mother's responses as validating were expected to place

greater value in emotions and be better able to distinguish between them. These expectations were partially met.

Attention.

The current study found that the best predictive model for Attention, beliefs about emotion, was determined by experiencing your mother as Supportive and being classified as Caucasian. The model accounted for 26% of the variance of Attention. In other words, responses to displays of negative emotion that were seen as problem solving and encouraging of the expression of emotion (Supportive) predicted greater value, acceptance and attention to emotions (Attention), in adolescents. The role of ethnicity in the predictive model was not predicted. In addition the expectation of a role for perceived Unsupportive socialisation was not met. These represent novel findings adding to the literature by examining the relationship between parental socialisation of emotion and its relation to adolescent beliefs about the value of emotion.

Hunter et al. (2011) found that parents' child-directed meta-emotion philosophy (MEP) was moderately associated with adolescent MEP. When parents reported having accepting and emotion coaching approaches toward their adolescent children, their children also had more awareness of and were more accepting of emotion. The current study supports this finding as it shows adolescent experiences of validating responses to emotion uniquely predicted the tendency for adolescents to value emotion. However, the interview these authors used to access adolescent MEP accesses adolescent beliefs *and* regulation strategies. The present study also expands

on this general MEP score by establishing a link between perceived parental socialisation and adolescent beliefs about emotion, without conflating these beliefs with ER strategy.

The current finding that ethnicity made a significant predictive contribution to adolescent valuations of emotion was not predicted. The broad White and BME ethnic categories used do not make for nuanced conclusions. However, given the paucity of reporting on ethnic differences in the literature the current findings raise interesting questions about the role of ethnicity in the value and importance placed on emotion.

Three of the schools in the current sample were in ethnically diverse areas of London and where the rates of English as a second language were higher than the national average. Although ethnicity does not equate to culture there is some limited cross cultural research that is worth considering as it indicates cultural differences in the significance and communication of emotions (Burlison, 2003; Rime, 2009). For example emotions have been found to be greater predictors of life satisfaction in individualistic cultures compared to collectivist ones (Suh, Diener, Oishi & Triandis, 1998). Culture has also been associated with how parental supportive and unsupportive socialisation is related to offspring well-being (Lugo-Candela, Harvey, Breaux & Herbert, 2015). Thus culture appears to contextualise the meaning and significance emotions have.

Evidence directly considering the TMMS is limited. One study (Fernandedez-Berrocal, Salovey, Vera, Extremera & Ramos, 2005) suggests that scores on all three subscales Attention, Clarity and Repair influence psychological outcomes differently

depending on the culture (nationality) of participants. For instance Fernandedez-Berrocal et al., (2005) found that Attention was a stronger predictor of depression for participants from what they classified as feminine cultures, Chile and Spain compared to the United States. They didn't however report on whether the scores themselves differed between the nations. The current study offers some initial findings suggesting that the White majority, placed greater value on and attended to emotion more, as measured by the TMMS, than BME participants.

Clarity.

The unexpected finding that Clarity was only predicted by gender contradicts the existing literature. Males reported more Clarity, the ability to distinguish between emotions, than females did. In the hierarchical regression model this accounted for 5% of the variance of Clarity. Although previous research has identified that women tend to report greater Attention, gender differences have not been found for Clarity (Boden & Berenbaum, 2012; Mankus et al., 2016). One study that did show similar patterns to the current findings is by Fitness and Curtis (2005) where men scored more highly on Clarity than women. Their sample consisted of mostly first-year undergraduate students (65%), who were mostly 18 years old (38%), but where ages ranged from 17-71 years. However, they only reported a significant correlation not a group comparison, where the latter would have controlled for the smaller group of men compared to women.

The current finding requires replication before conclusions can be drawn but it could suggest that for 12-18 year olds the ability to differentiate between emotions is partially predicted by gender. It may be that there are developmental differences in

emotion differentiation between the genders. Social emotion differentiation has been shown to develop across adolescence in girls (Burnett, Thompson, Bird & Blakemore, 2011) but such findings need to be examined in males. Another possible explanation is that males may over-estimate their emotion recognition skills, or that females underestimate theirs (Petrides & Furnham, 2000).

A major caveat to the current predictive finding is that T-tests showed a non-significant difference in Gender on Clarity. There are two likely explanations for this confusing result. T-tests have lower statistical power than multiple regressions, as the regression model controls for multiple sources of variance in the dependent variable. It may be that a bigger sample would show differences on the T-test. An alternative explanation is that with the addition of two additional variables (socialisation) in the model the variance is explained by the other variables leading to a spurious small effect. Considering Gender was non-significant in the first step of the model, was not significant on the T-test and the finding contradicts existing literature, it seems Gender is not a reliable predictor of Clarity.

The present study expected to find a relationship between Clarity and perceived socialisation. Perceptions of validating responding were positively correlated with the ability to distinguish between emotions. Experiences of invalidating responses were also negatively correlated with Clarity. Previous research has also found a link between maternal reported Clarity and their socialisation approach (Meyer et al., 2014). When mothers' had more Clarity they expressed more positive emotion and emotional encouragement with their children. When they reported less Clarity they were more likely to match their child's distress with their own distress (Meyer et al.,

2014). The current findings support the notion of a relationship between socialisation and Clarity but not one with significant predictive magnitude.

Interestingly, and against expectations, the present study did not find any predictive association of perceptions of Unsupportive responses to Attention or Clarity. Correlations supported the prediction that those adolescents who experienced more Unsupportive responses also rated less Attention and Clarity than those who reported fewer Unsupportive responses.

Hypothesis 2 & 3: Influences on adolescent emotion regulation.

The extent to which perceived maternal socialisation of emotion (Hypothesis 2) and representations of emotion (Hypothesis 3) predicted the use of emotion regulation strategy was investigated. Previous research has shown that invalidating and unsupportive maternal responses to children and pre-adolescent's expressions of negative emotion are associated with the maladaptive use of emotion regulation strategies (Eisenberg et al., 2005; Gottman et al., 1996; Sanders et al., 2013). In turn this is related to poor psychosocial outcomes (Denham et al., 1997; Hurrell et al., 2015). Correlational findings are discussed initially, in regard to each hypothesis respectively, the considerations of which can be applied to the findings of the predictive influence socialisation and representations, which follow.

Perceived emotion socialisation.

As predicted, correlations showed that validating (Supportive) responses to displays of emotion were associated with less expressive suppression and more cognitive reappraisal in adolescents. This is in line with findings for younger children. A study

(Jaffe, Gullone & Hughes, 2010) assessed how pre-adolescents' (9-12 year of age) perceptions of levels of warmth, nurturing and parental care were related to expressive suppression and cognitive reappraisal. The study also collected self-reports on their temperament. Even when controlling for the child's temperament, perceived Care predicted less use of Suppression and greater use of Reappraisal (Jaffe et al., 2009).

In the same vein in the current study adolescents who viewed their mother's responses to their emotion as invalidating (Unsupportive) reported more use of expressive suppression. When adolescents experienced their mother as reacting in ways that were punitive, minimizing and showing her own distress adolescents reported a greater tendency to suppress the expression of their emotion as an emotion regulation strategy. This finding corresponds with the literature using parent's reports of socialisation and emotion regulation in children (Meyer et al., 2014; Shaffer et al., 2012). Adolescent reports (Buckholdt, Parra & Jobe-Shields, 2014) on parent's emotion invalidation have also been linked with a broad measure of emotion regulation. The current finding corroborates and enhances existing literature by including the adolescent perspective and using a measure of emotion regulation that allows some delineation of the aspects of emotion regulation.

The current findings also correspond with studies that have looked at measures of attachment. Whilst acknowledging that attachment and parental socialisation of emotion are different constructs they may also be related. Securely attached children develop the expectation that they will be responded to in a reflective, sensitive and consistent manner. Insecurely attached children learn to expect unreliable and

unpredictable responses and are found to use unhelpful ER strategies (Cassidy, 1994). In a large sample children and adolescents aged 10-18 year olds were asked to report on their attachment relationships with their parents and use of ER strategy (Gresham & Gullone, 2012). Participants reported on the quality of the relationship they had with their parents based on mutual Trust, quality of Communication and Alienation. Greater reported Communication predicted less Suppression and more Reappraisal. Alienation also predicted more Suppression and less Reappraisal. The present study extends the findings in the attachment literature into the emotion socialisation literature assessing responses to displays of emotion.

It was also expected that Unsupportive responses would be associated with less use of Reappraisal. The current study did not find a significant relationship between perceptions of invalidating responses and cognitive reappraisal. This is a difficult finding to explain in light of the existing evidence for invalidating and validating responding. However, adolescent perceptions in relation to cognitive reappraisal have received limited investigation and the current study contributes to the gaps in the literature.

Attention to and Clarity about emotion.

The predictions that greater Attention and Clarity would be related to greater use of Reappraisal and less use of Suppression were partially met. The current correlations showed that adolescents' use of lower levels of expressive suppression were associated with greater reported abilities in distinguishing between emotions, and more positive valuations of emotion. However, contrary to predictions, no

relationship between these emotion representations and the use of cognitive reappraisal was found.

The current finding that greater awareness of emotions (Clarity) was related to less use of expressive suppression is supported by existing, albeit limited, literature in adults (Gross & John, 2003; Subic-Wrana et al., 2014) and adolescents (Eastabrook, Flynn & Hollenstein, 2013). In a mostly White, female sample, adolescents aged 13-16 years completed the Emotion Regulation Questionnaire (Gross & John, 2003) and a subscale of the Difficulties in Emotion Regulation Questionnaire (Gratz & Roemer, 2004) measuring emotional awareness and clarity of emotion (Eastabrook et al., 2013). They found that emotional awareness predicted reduced use of Suppression ($r = -.67$). The sample of participants however is not generalizable and so the current findings bolster the findings in a mixed gender adolescent sample.

The negative correlation between valuing emotion (Attention) and expressive suppression in the current study supports adult findings (Gross & John, 2003). Although not the main focus of their study, Meyer et al. (2014) provide correlations for maternal reported items of the TMMS and ERQ. They show, like the current findings, that Attention and Clarity are both negatively correlated with Suppression. It appears then that the current study has found that the relationship between Clarity and Attention and the use of expressive suppression in adolescents follows the same trend as in adults. For Attention in particular this contributes to a gap in the existing evidence

The literature for cognitive reappraisal is somewhat mixed. In terms of the ability to distinguish between emotions, in adolescent girls emotional awareness has been found to predict greater use of Reappraisal (Eastabrook et al., 2013). Meyer et al. (2014) in their study with mothers merged the Repair (thinking positively) subscale of the TMMS and the Reappraisal ERQ items to form a Regulation variable. This amalgamated variable did not relate to Attention, like the current findings, but was positively correlated with Clarity, unlike the current findings. However, in a study of young adults the present findings are replicated; Gross and John (2003) found that both Clarity and Attention were not related to Reappraisal. An adult study looking at awareness of emotion found no relationship between awareness and Reappraisal (Subic-Wrana et al., 2014). Subic-Wrana et al., (2014) asked about the ability to identify and distinguish between emotions and found no significant correlation between what they called explicit awareness and Reappraisal. The current findings support the adult studies that do not link Clarity to Reappraisal, which is also shown here in adolescents.

The relationship between beliefs about emotion (Attention) and cognitive reappraisal is unclear because of mixed findings and no adolescent sample to compare against. Attention has been positively correlated with Reappraisal in 35 year olds (Boden & Thompson, 2015). In an adult sample, Wolgast et al. (2013) found that the related idea of one's willingness to accept affect was positively related to cognitive reappraisal. Elsewhere however a relationship has not been shown (Gross & John, 2003; Meyer et al., 2014). The overall picture for Reappraisal is mixed, particularly with regard to its relationship with Attention. The current study adds to this mixed

picture, and will be discussed in more detail when considering the implications of the present study.

Predictors of Expressive Suppression.

An interesting finding came from the regression model assessing the relative influence of socialisation and representations of emotion on the use of expressive suppression as an ER strategy. One's willingness to pay attention to and accept emotions (Attention) and one's ability to discriminate between emotions (Clarity) were the best predictors of expressive suppression use in adolescents. Perceived socialisation did not predict the use of expressive suppression beyond the influence of representations of emotion. Although perceived invalidating (Unsupportive) responses, but not validating (Supportive) responses, were associated with use of Suppression, in the regression model, this relationship became non-significant when Attention and Clarity were included in the model. This novel finding highlights the important role beliefs about the value of emotion and awareness of emotion have in adolescent emotion regulation, beyond that of the oft studied socialisation of emotion.

Predictors of Cognitive Reappraisal.

For the emotion regulation strategy Reappraisal expectations involving representations of emotion were not met. Perceived Supportive responses were the best predictor of increased use of cognitive reappraisal, although accounting for a relatively small amount of the variance (5%).

The predictions that socialisation and emotion representations predict ER were therefore partially met and provide novel findings. Implications will be discussed further below.

Hypothesis 4: Do representations of emotion mediate the relationship between perceived maternal socialisation of emotion and adolescent emotion regulation?

It was proposed in this study that the socialisation of emotion might contribute to emotion regulation via the internalisation of beliefs about and understanding of emotion. As such the current study investigated whether beliefs about the value of emotion mediated the relationship between perceived socialisation and emotion regulation strategy. One's awareness of emotion, as measured by the ability to distinguish between emotions, was also considered as a mediator. Both were found to mediate between perceived maternal Supportive responses and the use of expressive suppression as an ER strategy. Only Clarity, the ability to distinguish between emotions, was found to mediate the relationship between perceived Unsupportive socialisation and expressive suppression.

The findings provide novel evidence for the central role of adolescents' experiences of parental socialisation of emotion, and the role of representations of emotion, in predicting the use of expressive suppression as an emotion regulation strategy. Again the implications of this find are discussed below.

General Discussion

Theoretical Implications

The current study was concerned with the relationship between representations of emotion, but particularly beliefs about the value of emotions, and emotion regulation.

There were two reasons for this interest. First, internalized beliefs about and understanding of emotion may be a route by which parent socialisation of emotion influences offspring ER (Cole, 1994; Bariola et al., 2012). Second, Gross' (2015) extended process model of ER predicts the use of valuations in the selection of ER strategies. The current study found that beliefs about the value of emotion mediated the relationship between perceived socialisation and the emotion regulation strategy expressive suppression. One's awareness of emotion also played a similar mediatory role. So, if adolescents reported that their mothers responded to their distress in problem focused and emotionally encouraging ways then adolescents were less likely to use expressive suppression as a way to regulate their emotion. This relationship however is not direct, but works through the effect socialisation has on representations of emotion, specifically by how one values emotion and is able to distinguish between emotions, which in turn influences the use of expressive suppression. These findings are theoretically important as they can direct future research to consider the neglected area of beliefs about emotions as an underlying mechanism that influence ER.

One of the assumptions of the extended process model (Gross, 2015) is that being able to identify an emotion is a prerequisite for adaptive ER (Barrett et al., 2001; Gross & John, 2003; Gross, 2015). The current study, however, found that valuing emotions made a greater predictive contribution to reducing the use of expressive suppression than did being able to distinguish between emotions.

The proposed centrality of value beliefs to transmission of emotion regulation could be questioned by the lack of findings for cognitive reappraisal. Although the present

study showed that perceptions of maternal socialisation as validating were associated with increased use of cognitive reappraisal, reappraisal was not related to beliefs about the value of emotion. The present study proposed that transmission of ER strategies may be through the internalisation of beliefs about emotion. Perhaps the current findings suggest that the use of cognitive reappraisal as an ER strategy is not tied to a meta- view about emotion. This area warrants further investigation but there is some existing evidence tying cognitive reappraisal to beliefs about emotion (Wolgast et al., 2013).

In this study of adults Wolgast et al. (2013) found that one's willingness to accept affect was positively related to cognitive reappraisal. However the Acceptance and Action Questionnaire (AAQ, Hayes et al., 2004b) appears to measure a variety of related constructs (Chawla & Ostafin, 2007). Items included in the AAQ ask about the need for cognitive control and self-efficacy in the presence of negative affect. The study suggests that beliefs about the controllability of emotion may play a role in cognitive reappraisal. Indeed, beliefs about the controllability of emotion have also been linked to cognitive reappraisal in student samples. A recent study with participants ranging from 17-29 years of age ($M=19$) found that individuals who thought of emotions as fixed were significantly less likely to use cognitive reappraisal (De Castella, Goldin, Jazaieri, Ziv, Dweck & Gross, 2013). The study replicated an earlier study with 18 year olds (Tamir, John, Srivastava & Gross, 2007). American students who thought emotions were malleable were more likely to use reappraisal than those who thought emotions were fixed. Therefore it cannot be concluded that valuations (Gross, 2015) of emotion are not involved in cognitive reappraisal, rather a different type of valuation may be being made. Instead of how valuable and positive

emotions are, one's perceptions of how one can control and manipulate emotion could influence an individual's engagement with reappraisal. Interestingly beliefs about the controllability of emotion were not related to use of Suppression as an ER strategy (Tamir et al., 2007).

The use of expressive suppression is related to poor outcomes, making a full understanding of it relevant. If a young person thinks that emotions are acceptable they are perhaps more likely to display them. Larson et al. (2012) found that the likelihood of an adolescent increasing their use of expressive suppression over a year was related to their perceptions of how generally supportive they found their parents to be. Their perceptions of support mediated the relationship between depressive symptoms and the use of expressive suppression, such that more depressive symptoms were associated with greater use of suppression when adolescents felt their parents were not supportive of them. Larson et al. (2012) hypothesised that minimizing one's displays of negative emotion could be socially adaptive if it acts to keep parents engaged and supportive. This theory could be especially important for adolescents. Adolescence is a time of heightened sensitivity to social pressure and desirability (Blakemore & Mills, 2014; McRae et al., 2012). Adolescents also show heightened sensitivity to social rejection (Silvers et al., 2012). Therefore perceived social pressure may put these young people at greater risk of using expressive suppression to regulate their emotion.

Using expressive suppression may be beneficial for adolescents. They have been shown to be more emotionally reactive (Dahl & Gunnar, 2009), which may make the use of suppression socially appropriate. The current data however do not indicate that

suppression was the main strategy used, cognitive reappraisal was rated as showing greater use, a trend also seen elsewhere in this age group (Gullone et al., 2010). Gullone et al. (2010) found that over the ages of 9 to 15 the use of expressive suppression decreased but in comparison to a young adult sample the use of expressive suppression was greater, for females only. The result suggest some further examination is required to understand how the typical use of expressive suppression may vary across childhood and into adulthood. This would give some indication about the developmentally appropriate use of the strategy. Further, understanding the contextual factors that lead to use and maintenance of expressive suppression will be important for preventing the over reliance on a strategy that may be developmentally appropriate but that can become maladaptive.

The correlational nature of the current study means that it is possible young people's beliefs about the value of emotion influenced how they perceived and reported on maternal socialisation, rather than the converse. The finding that perceptions of Supportive socialisation predicted beliefs about the acceptability of emotion could indicate that adolescents who value and attend to emotion are more able to think about why their parents respond to them in certain ways. Fitness & Curtis (2005) in a university sample ($M=18$ years) found that Attention, but not Clarity was related to empathy and attributional complexity. Attributional complexity is an interpersonal measure of social acuity, the extent to which an individual applies complex reasoning to the causes and meaning of people's behaviour. Salovey et al. (2002) also found that Attention was related to empathy in 16-23 year olds. The current study cannot rule out the possibility that perceptions of Support were related to beliefs about emotion because the characteristics associated with those beliefs, such as empathy could be the

source of their understanding of maternal responses. Future research should include measures of empathy and attributional complexity as covariates.

Neither Clarity nor Attention were related to cognitive reappraisal. Reappraisal comes from idea that emotional responses are directed by the interpretation of emotional stimuli (Lazarus, 1991 cited in Tracy, Klonsky & Proudfit, 2014). In terms of Gross' process model reappraisal is a method of cognitive change that is proposed to be engaged before the emotional response is fully engaged (Gross, 1998, 2015). Therefore, one may not need to engage with any affective experience or be aware of emotion in order to reappraise emotion-eliciting stimuli, because the act of reappraisal itself limits the affect before it is fully generated.

Cognitive reappraisal then seems to be distinct from the affective experience. For instance, in a study of adults (Wolgast et al., 2013), considering measures of positive and negative affect and global wellbeing, Reappraisal was found to be strongly related to psychological wellbeing rather than negative emotionality (Wolgast et al., 2013).

Another possible explanation for why awareness is not related to cognitive reappraisal is that awareness of emotion itself is enough to reduce an affective experience. For instance bringing an emotion into consciousness reduces the level of emotional arousal (Herwig et al., 2010). Awareness then becomes a form of emotion regulation in its own right and mitigates the requirement to engage other ER strategies. This is the basis of many mindfulness based therapy approaches such as Dialectical Behaviour Therapy (DBT, Linehan, 1993), Acceptance and Commitment Therapy (ACT, Hayes et al., 1999) and mindfulness based cognitive therapy (Williams &

Kuyken, 2012). It could be argued that identification of emotion is not required to initiate all types of ER, but is itself a form of emotion regulation.

The unexpected finding that perceived Unsupportive responses did not predict the use of either emotion regulation strategy, in the main regression model, could be explained in a number of ways. The finding may indicate the difference in reporting between mothers and young people, explaining why the current findings do not fit with previous literature, based on maternal reports.

The finding may indicate that the measure was not sensitive enough or that this result is representative of a community, non-clinical sample. The clinical status of sample effects findings significantly. A meta-analytic review found that whether study samples were from clinical or normative populations significantly moderated the relationships between emotion regulation use and psychopathology (Aldao et al., 2010). This could be important in relation to the present results, since unsupportive responses and their relation to invalidation may occur in more complex or vulnerable samples.

Further to this, the current findings did show that Clarity, and not beliefs about emotion, mediated the relationship between invalidating socialization and expressive suppression. It may be that invalidation is representative of a more severe maladaptive form of socialisation that results in the basic inability to distinguish emotions. To understand this possibility the present study should be replicated in a clinical sample.

Clinical Implications

The current study extends to adolescents, previous research with children, that indicates the important association between parental emotion socialisation and the use of emotion regulation strategy. This might suggest that enhancing parents' emotion socialisation strategies would be beneficial to adolescents. There is early evidence to suggest that teaching parents to engage in an emotion coaching (i.e. increasing awareness and acceptance of their child's emotions) (Gottman et al., 1997) improves preadolescent's symptoms of anxiety and depression (Kehoe, Havighurst & Harley, 2014).

Adolescent perceptions that their mothers were responding in a validating manner to their distress were a better predictor of ER strategy use than perceptions of invalidating responses. Often the focus of therapy is on reducing parental unsupportive behaviours, however the current findings suggest that increasing supportive responses to emotional displays, may be an essential intervention. Specifically, increasing problem solving and encouragement of emotion responses to displays of negative emotion. Whittle et al. (2014) recently found unique neuronal effects of positive maternal parenting, as compared to negative parenting on adolescent brain development. With the use of structural magnetic resonance imaging 188 adolescents were followed from 12 years to 16 years of age. They found that the positive maternal behaviour at age 12 was associated with greater development of brain regions implicated in emotional regulation and reactivity at follow up (Whittle et al., 2014). Positive maternal behaviour better explained these changes than did negative and aggressive behaviour (Whittle et al., 2014). However, in clinical populations it may be necessary to reduce invalidating responding first and as a matter

of urgency. Clinicians could be aware that decreasing punitive responses may need to occur alongside increasing supportive responding to displays of emotion.

The current results offer a novel finding in that the value a young person places on emotion mediates the relationship between perceived parental socialisation and the use of expressive suppression. Therefore it is possible that enhancing a young person's belief in the value of emotion may reduce the use of expressive suppression. This is an important finding because expressive suppression is linked to increased risk of psychopathology in adults (Aldao et al., 2010; Haga et al., 2009) and adolescents (Henry, Castellini, Moses, & Scott, 2016; Hughes et al., 2011; Larson, 2013; Pepping, Duvenage, Cronin & Lyons, 2016). Further, adaptive strategies including cognitive reappraisal and acceptance have been shown only to predict psychopathology in the presence of maladaptive strategies, like avoidance and suppression (Aldao & Nolen-Hoeksema, 2012). Therefore increasing the use of reappraisal, at least in isolation, may not be the most effective intervention. Rather decreasing the use of expressive suppression by enhancing the belief that emotions are acceptable and adaptive may prove a useful focus of attention.

This conclusion has particular implications for Cognitive Behavioural Therapy (CBT), which aims to enhance the use of cognitive strategies such as reappraisal. CBT approaches might benefit from accessing the meta-beliefs adolescents have about their emotions. Therapeutic interventions such as Acceptance and Commitment Therapy and mindfulness based approaches that encourage the acceptance of affect may be appropriate in this age group.

Although the present study did not find age differences in the use of ER strategy, existing findings suggest that the use of suppression decreases with age (Gullone et al., 2010; Haga, Kraft & Corby, 2009) where reappraisal remains relatively stable (Gullone et al., 2010; Haga, Kraft & Corby, 2009) or increases with age (McRae et al., 2012). There is a need to integrate the potentially developmentally appropriate use of expressive suppression into CBT approaches. An affective focus, both on awareness and positive valuations of emotion may redirect a trajectory that involves the over reliance of such a strategy.

As discussed adolescent expressive suppression may influence negative outcomes by limiting help seeking behaviour and removing cues to others that help is required. It may be worth commenting at this point that thinking about why expressive suppression is being used, within a therapeutic setting, may be an opportunity to bring to the fore socio-cultural factors that influence beliefs about emotion. For instance suicide rates of men are the highest since 1981 with the 45-49 year olds particularly at risk (Samaritans, 2015). It may be that open discussions about the expression of emotion could save lives. This seems especially important given the findings in the current study that males and females did not differ on awareness of emotions but that they did differ on how much they valued them. Interestingly the current study found no difference in use of ER strategy in this age group. This is contrary to Gullone and colleagues' (2010; 2012) finding that male adolescents use expressive suppression more than females. One could speculate that the astonishing increase in social media and accompanied challenges to traditional gender stereotypes could mean that the current sample of males does not feel as obliged to suppress their expression of emotion, like current middle aged men may have thought they had to.

As the participants in the current study were from a community based school sample the results suggest a timely and feasible intervention in schools. A very recent study collecting information about mental health in schools captured 1,346 schools from 10 European countries including the United Kingdom (Patalay et al., 2016). Most schools considered mental health provision to be a priority for their school but half of them reported not providing sufficient support to their pupils. A number of barriers were identified including funding and access to specialists (Patalay et al., 2016). The findings of the current study suggest that the general mental health of pupils can be supported within school setting by facilitating an open and valuing ethos toward emotion within the school environment.

The current findings suggest that for adolescents targeting their beliefs directly, with or without parental emotion socialisation interventions, may be a useful in reducing the over reliance on expressive suppression. The finding is currently only applicable to non-clinical samples and therefore an accessible consideration for school environments. Future research needs to involve clinical samples in order to extend the findings further.

Critical Appraisal

Measures

The study employed a battery of self-report measures. Self-report measures carry the inherent problem of reporting bias or participants lacking the necessary insight to provide accurate reports (Aldao et al., 2010). In this case adolescents were being

asked to comment on their meta-emotions, their beliefs about their feelings. It is possible that the questions were beyond the developmental level in 12-18. It is possible, especially for the younger ages, that the concepts were too abstract. Behavioural measures, which facilitate a concrete target to reappraise or suppress may be a suitable remedy for future research. On the other hand self-report measures are ideal for accessing beliefs and attitudes (Aldao et al., 2010), which is what the current study wanted to achieve.

The current study also didn't include measures of emotional and behavioural problems, which have been shown to influence ER. A recent prospective study has shown, with structural equation modelling, that Depressive symptoms in adolescents preceded an increase in the use of suppression a year later (Larson et al., 2013). As such the current study cannot rule out other confounding factors that might be influencing use of emotion regulation strategy. Future research should rule out potential confounders.

Sample

The intention of the current study was to assess the transmission of representations of emotion from parent to offspring and examine whether those representations were related to adolescent emotion regulation. Difficulties recruiting parents mean that the study is limited to adolescent reports and conclusions about the transmission of representations of emotion cannot be directly made. Future research could examine the question of transmission by undertaking longitudinal designs and including parental reports. To improve engagement and encourage direct contact with parents,

recruitment planning could be organized around parent-teacher conferences, perhaps offering a talk and opportunity for face-to-face questions in a similar way to what was offered to adolescents.

Recent evidence has demonstrated the important role Fathers have in the socialisation of their offspring's emotion regulation in later childhood (Kiel & Kalomiris, 2015 for review). For example, father's non-supportive socialisation of emotion has been shown to have a unique influence on the management of negative emotions in 7-12year olds (Hurrell et al., 2015). The original aim of the present study was to recruit parent-adolescent dyads, and in doing so the decision was made to focus on mothers as it was assumed this would increase the participation rate. If an adolescent only study had been the aim in the first instance it would have been feasible to ask adolescents to report solely on Fathers and compare to the childhood literature with mothers. However, as it stands there is minimal research of this type with adolescents reporting on their mothers, thus the current research represents an important baseline with which to compare the relative contribution of various socialisation sources (fathers, peers). There is good reason to clarify the role of mothers in the first instance because they have been found to make unique contributions to ER development in childhood (Fosco & Grych, 2012) and adolescence (Bariola et al., 2012).

The current study excluded participants who did not report on their mothers because mothers and fathers have been shown to have a differential influence on offspring emotion regulation (Cole, 2014). The present study also aimed to create a baseline from which to compare against existing research. An alternative approach would have been to include all adolescent responses regardless of primary caregiver as there is an

argument to be made for avoiding replication of informants in research and to recognise that mothers may not be an individual's primary source of care and emotion socialisation. Future research could accommodate this tension in approaches to participant inclusion by conducting a sensitivity analysis, whereby differences between adolescents reporting on mothers and alternative caregivers could be examined and reported. Recent advances in statistical techniques that involve multi-level modelling could also be employed.

Strengths

Despite the limitations of the current study there are a number of strengths. First the present study contributes to a gap in literature that examines how an individual values emotion relates to emotion regulation. Further it does this the developmentally sensitive time of adolescence, which has not received as much attention as younger aged children (Zimmerman & Thompson, 2014). The exploration of the adolescent perspective is crucial to understand how the unique adolescent perception of world influences parents and their own ER. This appears to have shown that less supportive responding rather than more unsupportive responding is important to them.

The present study offers a partial validation of the Trait-Meta Mood Scale and the Coping with Children's Negative Emotions Scale -Adolescent Perspective in UK based adolescents.

Much of the research that has been discussed already has been based in largely Caucasian samples or an analysis involving ethnicity has not been included, making

the present study's findings of the role of ethnicity important. The sample came from a comparatively diverse sample. Although the present study did not have the numbers for a nuanced consideration of ethnicity it does point to the need to consider ethnicity and culture in the development and understanding of emotion representations and emotion regulation

Future Directions

In addition to the suggestions already made for future research, based on the findings and limitations of the study, a number of further avenues are indicated from the present study. The current study used the Trait Meta-Mood Scale because it offered the opportunity to compare an adolescent sample to existing literature. It also allowed the separation of awareness (Clarity) from values, which is pertinent in light of the valuations and identification components of the extended process model of emotion regulation. Despite these benefits future research could consider the breadth of possible beliefs about emotions. The Attention scale predominantly measures how valuable emotions are to an individual and whether they are significant enough to pay attention to. As the current results suggest, these ideas may relate to how willing a person is to engage with emotion. Other research has considered beliefs about how controllable or malleable emotions are (Romero, Master, Paunesku, Dweck & Gross, 2014). American 11-13 year olds were asked to rate their emotion-theories i.e. how changeable they believed their emotions to be and their mood and well-being over three years (Romero et al., 2014). They found that children who thought emotions were malleable aged 11 years reported fewer depressive symptoms, an effect that did not vary over time. Children who at age 11 reported poorer well-being, but believed

emotion was malleable showed greater improvements in well-being at 13 years than those who did not think emotions were changeable (Romero et al., 2014). It is therefore important that future research considers different types of beliefs individuals may have about emotion.

Adolescence is a time of social re-orientating, where their focus turns to the development of intimate peer relationships and when they become more sensitive to social evaluation (Blakemore & Mills, 2014; Somerville, 2014). As such, future research could consider the relative influence parents and peers have on emotion socialisation and emotion representations. Miller-Slough and Dunsmore (2016) in a review suggest that the relative impact of peer and parental influence on emotion socialisation is broadly similar, although direct research is limited. This study goes some way to establishing a baseline of adolescent representations of emotion and perceptions of socialisation.

The current study suggests that adolescents have a set of cognitions that mediate between how they experience their parents and how they use expressive suppression. If, as was originally intended, a comparison could be made between parent's beliefs and perceptions of socialisation, to those of their adolescent offspring, a clearer picture of the mechanism of transmission may be gained. Longitudinal studies are required to assess a chronological understanding of emotion development.

Conclusion

The present study aimed to extend the current understanding of influences on adolescent emotion regulation. The current study has contributed to the limited

literature exploring emotion socialisation and emotion regulation in adolescents, particularly enhancing adolescent literature examining cognitive reappraisal and expressive suppression. Findings suggest a similar pattern to those found in child and adult studies. Interestingly however the current findings emphasise the relationship between the affective experience and expressive suppression. In discussion of the findings it was proposed that expressive suppression might hold an adaptive importance during adolescence, which is a time of heightened social and emotional processing and sensitivity.

The key finding of the study that representations of emotion mediate the influence that perceived maternal socialization has on the use of expressive suppression support the theory of the internalisation of maternal socialisation practices. The finding also emphasises the interplay between affect and cognition. Cognitions about the value of emotion, and not just about an emotion eliciting stimuli, influence the use of emotion regulation strategy. This supports the notion of valuations in emotion regulation, as indicated in the extended process model of emotion regulation (Gross, 2015). Adolescent beliefs that emotions are not valuable are associated with an increased use of expressive suppression, which in the long term could lead to poorer psycho-social outcomes.

The current study supports a distinction between the emotion regulation strategies cognitive reappraisal and expressive suppression. In particular the limited findings linking socialization to cognitive reappraisal directs future research to consider how this ER strategy is developed.

The current findings suggest that for adolescents targeting their beliefs directly, with or without parental emotion socialisation interventions, may be a useful in reducing an over reliance on expressive suppression. This finding is only applicable to non-clinical samples and is therefore an accessible consideration for school environments.

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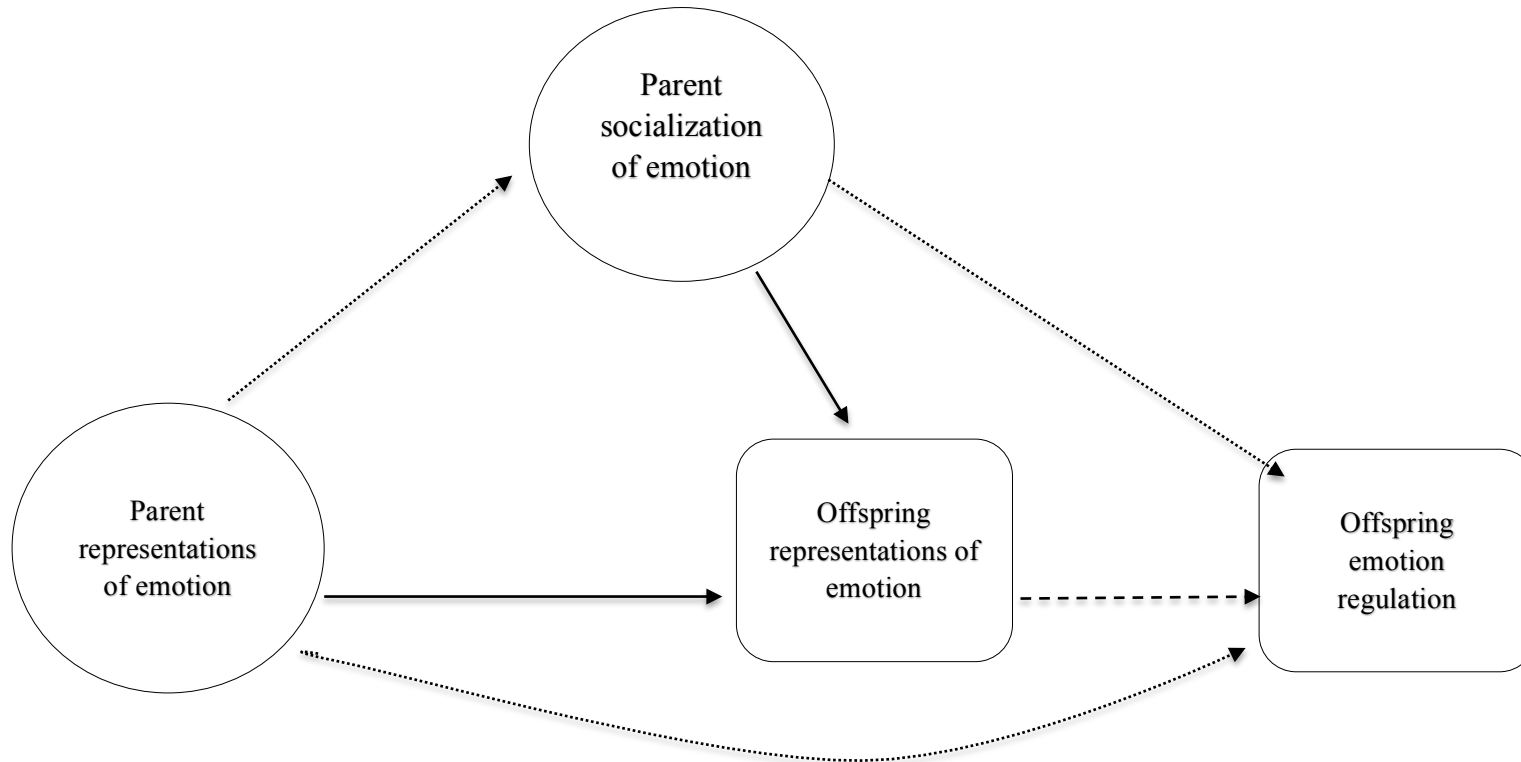
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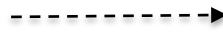
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Appendices

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| Appendices | Error! Bookmark not defined. |
| Appendix A. Conceptual model of intergenerational transmission of emotion regulation | Error! Bookmark not defined. |
| Appendix B: Information sheet for parents and guardians | Error! Bookmark not defined. |
| Appendix C: Information sheet for young people | Error! Bookmark not defined. |
| Appendix D: School poster | Error! Bookmark not defined. |
| Appendix E: Ethics response | Error! Bookmark not defined. |
| Appendix F: Trait Meta Mood Scale | Error! Bookmark not defined. |
| Appendix G: Emotion Regulation Questionnaire Child and Adolescent Version | Error! Bookmark not defined. |
| Appendix H: Coping with Children’s Negative Emotions Scale-Adolescent Perspective | Error! Bookmark not defined. |
| Appendix I: Trait Meta Mood Scale Factor Loadings & Scree Plot | Error! Bookmark not defined. |
| Appendix J: Coping with Children Negative Emotions Scale- Adolescent Perspective & Scree Plot | Error! Bookmark not defined. |

Appendix A. Conceptual model of intergenerational transmission of emotion regulation.



-  Evidence in child samples
-  Adolescent evidence (Hunter et al., 2011)
-  None

Appendix B: Information sheet for parents and guardians

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Understanding emotions in young people and their parents

Information sheet for parents and guardians

[School name], is taking part in a study about how parents and their adolescent children understand and manage their emotions. We would like to ask both you and your child to take part.

Who is running this study?

My name is Nadia Somers and I am a post-graduate student completing a Doctorate in Clinical Psychology at Royal Holloway, University of London. You may contact me at Nadia.Somers.2013@live.rhul.ac.uk or on 01784 414012. My work is supervised by Dr Alana James and Dr Helen Pote, academic members of staff. You may contact Dr James at Alana.James@rhul.ac.uk. I have a CRB check (now called DBS check), experience of working with children, and the study has been approved by the Psychology Department's internal ethics committee.

What is the study about?

Adolescence can be a time when some young people may experience emotional difficulties. The study hopes to gather information that will help us to understand how parents and professionals can best help teenagers. Specifically, we are exploring how parents and teenagers view emotions. Other studies in the past have found that the way parents understand and show their emotion influences how their young children understand emotions. A better understanding of how this works in adolescent aged children may contribute to the development of more helpful ways to help teenagers who are struggling with emotional and behavioural problems.

What will it involve for me and my child?

We are asking young people and their parents to take part in our study. You will both be asked to complete an online questionnaire that takes around 20 minutes. Children will be automatically asked to take part in school. Parents are asked to take part online at <http://tinyurl.com/studyparentquestions>. The questions ask about what you think about emotions (not how you are feeling right now) and how you might respond to certain situations. If you do not want your child to take part please opt-out using the form attached.

The answers given will not be seen by other pupils, teachers, school staff, or parents. Nobody outside of the research team will have access to the results of the study and all data provided by pupils and parents will be kept confidential (stored securely and privately) and anonymous (no names). The only time we would share information is if it involves possible harm to your child or another child.

You or your child can choose to withdraw the information provided, up until the start of the next school term (January 2016). Even after that time, when we write up the findings all the information will be anonymous.

When you complete the questionnaires you will be asked to give your consent/agreement to take part. At this point you will be asked for the name of your child. This will help us link your answers to those of

your child(ren) and find your answers if you wish to withdraw them at a later date. Names will be separated from the questionnaire answers before they are looked at and stored separately.

Prize draw

When a parent-child pair completes the questionnaires they will be entered into a prize draw for the chance to win one of four Amazon vouchers worth £25.

How can I take part?

To take part please visit the secure webpage: <http://tinyurl.com/studyparentquestions> to complete the questionnaires. If you wish to take part but do not have access to a computer please call 01784 414012 and leave your address and a copy will be posted to you.

Thank you very much for reading this! Please keep this sheet for your future information.

If you are happy for your child to participate, you do not need to take any action. However, if you do *NOT* wish your child to take part, you must complete the form attached.

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Understanding emotions in young people and their parents
Opt-out form

Thank you for reading the attached study information sheet.

Please only return this form to your child's form teacher at [School name] 4th December 2015 if you do *NOT* want your child to take part

I do *not* give consent for my son/daughter to take part in the research study on understanding emotions in young people and their parents

Name of child _____

Signature of parent/guardian _____

Name of parent/guardian _____

Appendix C: Information sheet for young people

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Understanding emotions in young people and their parents Information sheet for young people

Your college is taking part in a study about how adolescents and their parents understand and manage their emotions. We would like to ask you and your parent to take part.

Who is running this study?

This study is a final year research project run by Nadia Somers completing a Doctorate in Clinical Psychology at Royal Holloway, University of London. You may contact me at Nadia.Somers.2013@live.rhul.ac.uk. This study has been reviewed and approved by the Psychology Department internal ethical procedure at Royal Holloway, University of London, and your school has also given permission.

What is the study about?

Teenagers can sometimes struggle with their feelings. We are interested in how young people and their parents understand emotions (feelings). The study hopes to gather information that will help us to understand how parents and professionals might be able to help teenagers. Other studies in the past have found that the way parents understand and show their emotion influences how their children understand emotions. We will ask both you and a parent/guardian to answer some questions about emotions.

What would I need to do?

If you decide to take part, we will ask you to answer some questions, which should take you around 20 minutes. You will be taking part during the school day. Nobody except the research team will be allowed to your answers. Your teachers, classmates, and family will not see your answers. We are also asking a parent/guardian to take part, but they will not see your answers and you will not see their answers. The only time we would share information is if it involves possible harm to you or someone else.

It is helpful if you aim to answer all questions, but you may choose not to answer a question if you prefer not to. Even if your parent(s) are happy for you to take part, you do not have to take part if you don't want to, and this will not affect your education in any way. We will ask you for your name so we can match the answers you give to the answers your parent gives. The answers will then be given an ID number so that when the research team looks at the answers we do not know who they belong to, which means they will be anonymous.

After the study you can still withdraw your answers without giving a reason, up until the start of next term (January 2016). Even after that time, when we write up the findings all the information will be anonymous.


Prize draw

When both you and your parent complete the questionnaire, your parent will be entered into a prize draw for the chance to win an Amazon voucher for £25. So don't forget to remind them to take part!

Parents take part here <http://tinyurl.com/studyparentquestions>

You will take part in school.

Appendix D: School poster




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OF LONDON

Take part in research about emotions

Your college is taking part in research about what young people and parents think about feelings.


Please take part by answering some questions on a computer survey. It will take about 20 minutes.



Parents...

When both you and your child take part you will be entered into a draw to win one of four £25 Amazon gift vouchers!!!

Who is running the study:
My name is Nadia Somers and I am a post-graduate student completing a Doctorate in Clinical Psychology at Royal Holloway, University of London. You may contact me at Nadia.Somers.2013@live.rhul.ac.uk or on 01784414012. My work is supervised by Dr Alana James and Dr Helen Pote, academic members of staff. You may contact Dr James at Alana.James@rhul.ac.uk



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Appendix E: Ethics response

Ref: 2015/031R1 Ethics Form Approved Subject to Amendment

<https://outlook.office.com/owa/projection.aspx>

Reply all | Delete | Junk | ...

Ref: 2015/031R1 Ethics Form Approved Subject to Amendment

 psychology.it.support@rhul.ac.uk
Wed 13/05/2015 15:22
To: pava058@rhul.ac.uk; James, Alana
Cc: PSY-EthicsAdmin@rhul.ac.uk; Zagefka, Hanna; Lock, Annette; uqjt005@rhul.ac.uk

Inbox

Application Details: View the form click [here](#) Revise the form click [here](#)

Applicant Name: **Nadia Somers**

Application title: **Understanding emotions in young people and their parents**

Comments: Approved subject to amendment. This means that the following amendments are required before the research can commence (note that even though these changes are required, evidence of the revisions does not have to be submitted to DEC):

The names of the researchers are Pote and Somers, but the pull down menu shows that Alana James is the staff/supervisor. If she is indeed part of the team, she should be named on the materials too.

The supervisors' names and email addresses should be added to the consent form and debriefing sheet.

Appendix F: Trait Meta Mood Scale

Please read each statement and decide whether or not you agree with it. Place a number in the blank line next to each statement using the following scale:

- 5 = strongly agree
- 4 = somewhat agree
- 3 = neither agree nor disagree
- 2 = somewhat disagree
- 1 = strongly disagree

1. I try to think good thoughts no matter how badly I feel [Repair]
2. People would be better off if they felt less and thought more [Attention (R)]
3. I don't think it's worth paying attention to your emotions or moods [Attention (R)]
4. I don't usually care much about what I'm feeling [Attention (R)]
5. Sometimes I can't tell what my feelings are [Clarity (R)]
6. I am rarely confused about how I feel [Clarity]
7. Feelings give direction to life [Attention]
8. Although I am sometimes sad, I have a mostly optimistic outlook [Repair]
9. When I am upset I realise that the "good things in life" are illusions [Repair (R)]
10. I believe in acting from the heart [Attention]
11. I can never tell how I feel [Clarity (R)]
12. The best way for me to handle my feelings is to experience them to the fullest [Attention]
13. When I become upset I remind myself of all the pleasures in life [Repair]
14. My belief and opinions always seem to change depending on how I feel [Clarity (R)]
15. I am often aware of my feelings on a matter [Clarity]
16. I am usually confused about how I feel [Clarity (R)]
17. One should never be guided by emotions [Attention (R)]
18. I never give into my emotions [Attention (R)]
19. Although I am sometimes happy, I have a mostly pessimistic outlook [Repair (R)]
20. I feel at ease about my emotions [Clarity]
21. I pay a lot of attention to how I feel [Attention]
22. I can't make sense out of my feelings [Clarity (R)]
23. I don't pay much attention to my feelings [Attention (R)]
24. I often think about my feelings [Attention]
25. I am usually very clear about my feelings [Clarity]
26. No matter how badly I feel, I try to think about pleasant things [Repair]
27. Feelings are a weakness humans have [Attention (R)]
28. I usually know my feelings about a matter [Clarity]
29. It is usually a waste of time to think about your emotions [Attention (R)]
30. I almost always know exactly how I am feeling [Clarity]

Appendix H: Coping with Children's Negative Emotions Scale-Adolescent

Perspective

Adolescents' Perceptions of Parent Attitude/Behavior Questionnaire (Mother Version)

Instructions: In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that that your mother responds to you in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7.

| Response Scale: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------------|---------------|---|---|--------|---|---|-------------|
| | Very Unlikely | | | Medium | | | Very Likely |

1. When my mother sees me becoming angry at a close friend, she usually::

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| a. becomes uncomfortable and uneasy in dealing with my anger | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. encourages me to express my anger | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. talks to me to calm me down | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. tells me not to make such a big deal out of it | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. gets angry at me for losing my temper | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. helps me think of things to do to solve the problem | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2. When I get down because I've had a bad day, my mother usually:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. tells me I really have nothing to be sad about | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. tries to get me to think of the good things that happened | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. listens to me talk about my feelings | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. becomes obviously uncomfortable when she sees I'm feeling down | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. helps me think of things to do to get my problem solved | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. tells me to straighten up and stop sulking around the house | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. When I get anxious about performing in a recital or a sporting event, my mother usually:

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| a. helps me think of things to do to make sure I do my best | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. yells at me for becoming so anxious | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. tries to calm me down by helping me take my mind off things | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. tells me not to make such a big deal out of it | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. encourages me to talk about what is making me so anxious | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. gets anxious about dealing with my nervousness | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

4. When I get angry because I can't get something I really want, my mother usually:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. tries to make me feel better by making me laugh | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. helps me think of other ways to go about getting what I want | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. gets upset with me for becoming so angry | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. becomes uncomfortable and doesn't want to deal with me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. tells me I'm being silly for getting so angry | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. encourages me to talk about my angry feelings | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. When I get sad because I've had my feelings hurt by a friend, my mother usually:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. gets nervous dealing with my sad feelings | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. encourages me to talk about what is bothering me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. tries to cheer me up | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. tells me that things aren't as bad as they seem | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. gets angry at me for not being more in control of things | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. helps me think of ways to help make the problem better | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| Response Scale: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------------|---|---|---|---|---|---|---|
|-----------------|---|---|---|---|---|---|---|

| | | | | | | | |
|-----------------|---------------|---|---|--------|---|-------------|---|
| Response Scale: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Very Unlikely | | | Medium | | Very Likely | |

6. When my mother has sees me become anxious about something at school, she usually:
- | | |
|--|---------------|
| a. tells me that I'm making too big a deal out of it | 1 2 3 4 5 6 7 |
| b. becomes nervous and uneasy in dealing with my anxiety | 1 2 3 4 5 6 7 |
| c. gets angry at me for not dealing with things better | 1 2 3 4 5 6 7 |
| d. encourages me to talk about what is making me nervous | 1 2 3 4 5 6 7 |
| e. helps me think of things to do to solve the problem | 1 2 3 4 5 6 7 |
| f. helps comfort and soothe my anxious feelings | 1 2 3 4 5 6 7 |
7. When I get angry at a family member, my mother:
- | | |
|---|---------------|
| a. tries to help us resolve the conflict | 1 2 3 4 5 6 7 |
| b. threatens to punish me | 1 2 3 4 5 6 7 |
| c. tells me I'm over-reacting | 1 2 3 4 5 6 7 |
| d. tries to help me calm down | 1 2 3 4 5 6 7 |
| e. encourages me to let my angry feelings out | 1 2 3 4 5 6 7 |
| f. becomes very uneasy and avoids dealing with me | 1 2 3 4 5 6 7 |
8. When I get upset because I miss someone I care about, my mother usually:
- | | |
|--|---------------|
| a. becomes nervous dealing with me and my feelings | 1 2 3 4 5 6 7 |
| b. encourages me to talk about my feelings for this person | 1 2 3 4 5 6 7 |
| c. tries to get me to think about other things | 1 2 3 4 5 6 7 |
| d. tells me that I have nothing to be upset about | 1 2 3 4 5 6 7 |
| e. gets upset with me for not being in control of my feelings | 1 2 3 4 5 6 7 |
| f. helps me think of ways to get in touch with the person I miss | 1 2 3 4 5 6 7 |
9. When I become nervous about some social situation that I have to face (such as a date or a party), my mother usually:
- | | |
|---|---------------|
| a. tries to calm me down by pointing out how much fun I will have | 1 2 3 4 5 6 7 |
| b. gives me advice about what to do in the social situation | 1 2 3 4 5 6 7 |
| c. gets angry at me for being so emotional | 1 2 3 4 5 6 7 |
| d. prefers not to deal with my nervousness | 1 2 3 4 5 6 7 |
| e. encourages me to express my feelings | 1 2 3 4 5 6 7 |
| f. tells me I'm making a big deal out of nothing | 1 2 3 4 5 6 7 |

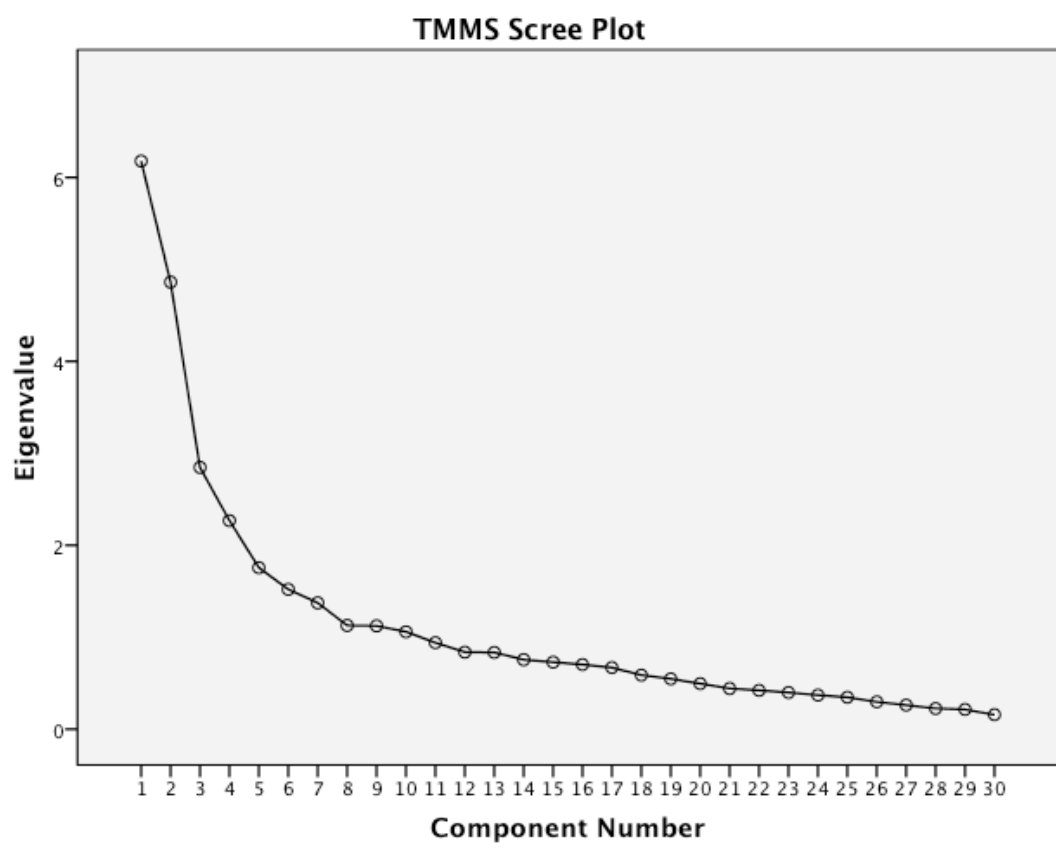
Appendix I: Factor Loadings & Scree Plot for Trait Meta Mood Scale

Table

Varimax rotation factor loadings with standardised regression coefficients, showing three-factor solution for TMMS in an adolescent sample. [Salovey et al., (1995) original subscale shown and reverse item in parenthesis]. Italicized items indicate coefficients below .40.

| Item | Clarity | Attention | Repair |
|--|---------|-----------|--------|
| 16. I am usually confused about how I feel [Clarity (R)] | .81 | | |
| 22. I can't make sense out of my feelings [Clarity (R)] | .79 | | |
| 5. Sometimes I can't tell what my feelings are [Clarity (R)] | .72 | | |
| 30. I almost always know exactly how I am feeling [Clarity] | .67 | | |
| 11. I can never tell how I feel [Clarity (R)] | .63 | | |
| 25. I am usually very clear about my feelings [Clarity] | .61 | | |
| 28. I usually know my feelings about a matter [Clarity] | .61 | | |
| 20. I feel at ease about my emotions [Clarity] | .57 | | |
| 6. I am rarely confused about how I feel [Clarity] | .48 | | |
| 15. I am often aware of my feelings on a matter [Clarity] | .46 | | |
| 9. When I am upset I realise that the "good things in life" are illusions [Repair (R)] | .41 | | |
| 14. My belief and opinions always seem to change depending on how I feel [Clarity (R)] | | | |
| 4. I don't usually care much about what I'm feeling [Attention (R)] | | .77 | |
| 23. I don't pay much attention to my feelings [Attention (R)] | | .72 | |
| 21. I pay a lot of attention to how I feel [Attention] | | .66 | |
| 18. I never give into my emotions [Attention (R)] | | .64 | |
| 24. I often think about my feelings [Attention] | | .64 | |
| 29. It is usually a waste of time to think about your emotions [Attention (R)] | | .62 | |
| 3. I don't think it's worth paying attention to your emotions or moods [Attention (R)] | | .59 | |
| 17. One should never be guided by emotions [Attention (R)] | | .59 | |
| 7. Feelings give direction to life [Attention] | | .45 | |
| 10. I believe in acting from the heart [Attention] | | | |
| 27. Feelings are a weakness humans have [Attention (R)] | | | |

| | |
|--|-----|
| 2. People would be better off if they felt less and thought more [Attention (R)] | |
| 26. No matter how badly I feel, I try to think about pleasant things [Repair] | .84 |
| 1. I try to think good thoughts no matter how badly I feel [Repair] | .73 |
| 8. Although I am sometimes sad, I have a mostly optimistic outlook [Repair] | .68 |
| 13. When I become upset I remind myself of all the pleasures in life [Repair] | .66 |
| 19. Although I am sometimes happy, I have a mostly pessimistic outlook [Repair (R)] | .45 |
| 12. The best way for me to handle my feelings is to experience them to the fullest [Attention] | |



Appendix J: Factor Loadings and Scree Plot for Coping with Children Negative Emotions Scale- Adolescent Perspective

Table

Varimax rotation factor loadings with standardised regression coefficients, showing two-factor solution for CCNES-Adolescent Perspective. Italicized items indicate coefficients below .40.

| Item | Supportive | Unsupportive |
|------------------------------|------------|--------------|
| Emotion-Focused Reactions 9A | .776 | |
| Problem-Focused Reactions 2E | .766 | |
| Problem-Focused Reactions 5F | .757 | |
| Emotion-Focused Reactions 5C | .754 | |
| Emotion-Focused Reactions 6F | .746 | |
| Problem-Focused Reactions 6E | .717 | |
| Expressive Encouragement 5B | .716 | |
| Problem-Focused Reactions 9B | .699 | |
| Emotion-Focused Reactions 1C | .695 | |
| Emotion-Focused Reactions 7D | .694 | |
| Expressive Encouragement 6D | .683 | |
| Emotion-Focused Reactions 3C | .676 | |
| Problem-Focused Reactions 1F | .653 | |
| Expressive Encouragement 2C | .651 | -.467 |
| Emotion-Focused Reactions 2B | .642 | |
| Expressive Encouragement 9E | .623 | |
| Expressive Encouragement 8B | .611 | |
| Emotion-Focused Reactions 8C | .599 | |
| Distress Reactions 9D | -.575 | .525 |
| Expressive Encouragement 4F | .563 | |
| Problem-Focused Reactions 8F | .556 | |
| Emotion-Focused Reactions 4A | .552 | |
| Problem-Focused Reactions 4B | .541 | |
| Problem-Focused Reactions 3A | .530 | |
| Expressive Encouragement 3E | .528 | |

| | | |
|------------------------------|-------|------|
| Problem-Focused Reactions 7A | .507 | |
| Minimization Reactions 5D | .414 | |
| Expressive Encouragement 7E | | |
| Expressive Encouragement 1B | | |
| Minimization Reactions 9F | | .723 |
| Punitive Reactions 2F | | .714 |
| Minimization Reactions 3D | | .700 |
| Punitive Reactions 6C | -.409 | .677 |
| Punitive Reactions 9C | | .648 |
| Punitive Reactions 5E | | .647 |
| Minimization Reactions 8D | | .613 |
| Punitive Reactions 3B | | .593 |
| Minimization Reactions 7C | | .590 |
| Punitive Reactions 8E | | .588 |
| Minimization Reactions 2A | | .583 |
| Minimization Reactions 6A | | .562 |
| Distress Reactions 5A | | .560 |
| Minimization Reactions 1D | | .547 |
| Punitive Reactions 1E | | .542 |
| Minimization Reactions 4E | | .520 |
| Punitive Reactions 4C | | .497 |
| Punitive Reactions 6B | | .468 |
| Distress Reactions 2D | | .451 |
| Distress Reactions 4D | -.439 | .449 |
| Punitive Reactions 7B | | .428 |
| Distress Reactions 8A | | .413 |
| Distress Reactions 3F | | .408 |
| Distress Reactions 7F | | .407 |
| Distress Reactions 1A | | |

CCNES: Scree Plot

