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## How Do I Feel About Feelings? Emotion Socialization in Families of Depressed and Healthy Adolescents

**Erin C. Hunter,**  
Wells College, Aurora, NY, USA

**Lynn Fainsilber Katz,**  
University of Washington, Seattle, WA, USA

**Joann Wu Shortt,**  
Oregon Research Institute, Eugene, OR, USA, Oregon Social Learning Center, Eugene, OR, USA

**Betsy Davis,**  
Oregon Research Institute, Eugene, OR, USA

**Craig Leve,**  
Oregon Research Institute, Eugene, OR, USA

**Nicholas B. Allen,** and  
University of Melbourne, Parkville, VIC, Australia

**Lisa B. Sheeber**  
1715 Franklin Blvd, Eugene, OR 97403, USA

Erin C. Hunter: ech247@gmail.com; Lynn Fainsilber Katz: katzlf@u.washington.edu; Joann Wu Shortt: joanns@oslc.org; Betsy Davis: betsy@ori.org; Craig Leve: craigl@ori.org; Nicholas B. Allen: nba@unimelb.edu.au; Lisa B. Sheeber: lsheeber@ori.org

### Abstract

Emotional and cognitive changes that occur during adolescence set the stage for the development of adaptive or maladaptive beliefs about emotions. Although research suggests that parents' behaviors and beliefs about emotions relate to children's emotional abilities, few studies have looked at parental socialization of children's emotions, particularly in families with depressed adolescents. The present study examined associations between parent and adolescent meta-emotion philosophies (MEP), defined as thoughts, reactions, and feelings about their own emotions. Additionally, adolescent depressive status was tested as a moderator of relationships between parents' and adolescents' MEP. One hundred and 52 adolescents, aged 14–18 (65.8% female), and their parents (148 mothers, 106 fathers) participated in a study on emotion socialization in families of depressed and healthy adolescents. Depressed adolescents ( $n = 75$ ) and matched healthy adolescents ( $n = 77$ ) were recruited based on research criteria for mental health status. The sample was largely Caucasian (82%) and of middle socioeconomic class status. Results indicated that mothers' and fathers' MEP about their children's emotions were associated with adolescents' MEP, although parents' MEP about their own emotions was unrelated to adolescents' MEP. Fathers' MEP about children's emotions made unique contributions to adolescents' MEP across both adolescent groups. Adolescents' depressive status moderated the relationship between mothers' and adolescents' MEP such that mothers' MEP was particularly relevant for depressed

adolescents. The continued influence of parents in the emotional lives of adolescents is discussed as well as differences in emotion socialization in families with depressed and healthy adolescents.

## Keywords

Depression; Adolescents; Meta-emotion; Parental socialization; MEP; Emotion socialization

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## Introduction

During adolescence, a broad range of emotional and cognitive changes occur that may render adolescence a crucial time for the development of adaptive or maladaptive beliefs, or philosophies, about emotions. With cognitive advances that allow for better organization of thought and increased awareness of emotion (Blakemore and Choudhury 2006; Saarni 1999; Steinberg 2005), it becomes possible for adolescents to thoughtfully reflect on emotion, place value on the acceptability of emotion and its expression, and develop strategies for managing emotion. In other words, adolescents become equipped with the necessary tools for developing an organized set of reactions, thoughts, and feeling about emotion—what may be called a “meta-emotion philosophy” (MEP; Gottman et al. 1997). The quality of the MEP developed by adolescents may have implications for their mental health. In particular, evidence suggests that beliefs about emotion are relevant to depressive disorders, with negative beliefs associated with an increased risk for adolescent depression (for a review, see Jacobs et al. 2008).

Research suggests that parents’ behavior and beliefs about emotion relate to a wide range of emotional abilities in children and adolescents (Eisenberg et al. 1998; Halberstadt 1991; Morris et al. 2007). Compared to research with younger children, less is known about adolescents’ emotion socialization. However, the cognitive and emotional changes described above, as well as evidence that adolescence is a period of heightened emotional vulnerability (Dahl 2001; Steinberg 2005), suggest that it may be particularly important to understand the role of parents in helping adolescents to navigate this challenging emotional time successfully. Adolescents may use their parents as a guide for understanding and determining how to approach emotions (Morris et al. 2007). Research has found that adolescents tend to have fewer emotional and behavioral problems when their parents hold an emotion coaching philosophy, meaning that they discuss and validate children’s feelings in response to emotionally-distressing events and value children’s emotions as opportunities for intimacy and teaching children about emotions (Shortt et al. 2010; Stocker et al. 2007). These findings suggest that parents’ own beliefs about emotions may serve to socialize adolescents’ emerging emotional beliefs.

The process of emotion socialization in adolescents may differ between families with depressed and healthy adolescents. Depressed adolescents experience more intense emotions and have a more maladaptive cognitive style than healthy adolescents (e.g. Jacobs et al. 2008); thus, depressed and healthy adolescents may come to develop different beliefs about emotions. Additionally, families of depressed adolescents have less supportive and more conflictual relationships than families of healthy adolescents (e.g. Sheeber et al. 2007), which may lead to fewer opportunities for depressed adolescents to learn about emotions from their parents. A better understanding of the associations between parent and adolescent emotional beliefs in healthy and depressed adolescents may provide information relevant to both helping families deal with emotional transitions through adolescence and developing interventions for adolescent depression.

## Emotion Socialization

As children mature, they require better skills for understanding, expressing, and regulating emotions in order to adapt to an increasingly complex world. Parents have been identified as central to the socialization of children's experiences with emotions. For example, children whose mothers engage them in more discussion of emotion are more aware of emotion and better able to regulate emotion than are children whose mothers engage in less discussion of emotion (Denham et al. 1992; Ramsden and Hubbard 2002). Additionally, children of mothers who minimize or punish displays of negative emotion tend to have poor emotion regulation abilities (Eisenberg et al. 1996; Smith and Walden 1998). Parents, then, are influential in socializing children's emotional abilities.

Compared to research with children, less is known about adolescents' emotion socialization. As described earlier, during the adolescent period, a range of cognitive and emotional developments take place (e.g. Steinberg 2005), and there are changes in the nature of the parent-child relationship (Eisenberg et al. 1995, 1999; Zeman and Shipman 1997). Despite these changes, evidence suggests that parents continue to play a role in emotional development during the adolescent period. Appropriate maternal responding to adolescent emotional behavior has been related to better adolescent emotion regulation abilities (Sheeber et al. 2000). Additionally, less emotional discussion with parents has been related to higher levels of adolescent emotional problems (Ackard et al. 2006), while parental warmth and positive expressivity has been linked to better emotion regulation abilities and decreased externalizing problems in adolescents (Eisenberg et al. 2005). These findings suggest that parents continue to influence emotional abilities during the adolescent period.

The majority of research has focused on maternal influences in the emotion socialization process. However, evidence suggests both mothers and fathers are involved in children's emotion socialization, and that their approaches to children's emotions may differ. For example, mothers also tend to refer to emotions more frequently and are more likely to discuss causes of emotions than fathers (LaBounty et al. 2008). Additionally, fathers are more likely to use punitive responses to children's negative emotion than mothers (Eisenberg et al. 1996). A similar pattern has been found with adolescents, with mothers more likely to mirror their children's emotion while fathers are more likely to ignore negative emotion in their adolescent children (Klimes-Dougan et al. 2007).

The parental socialization behaviors described above are likely nested in a set of beliefs about the acceptability of emotional experience and expression. Evidence suggests that parents' beliefs about emotions are directly related to their socialization behaviors. Parents with more accepting beliefs about children's negative emotion are more likely to have supportive reactions to children's negative emotion (Wong et al. 2009). Further, research has found associations between maternal modeling of emotions and children's emotion knowledge to be mediated by the extent to which mothers value teaching their children about emotions (Denham and Kochanoff 2002). These findings suggest that studying parents' emotional beliefs is a fruitful area of investigation as it relates to children's emotional development and may underlie parents' emotion socialization behavior.

## Meta-Emotion Philosophy

Meta-emotion philosophy refers to an organized set of reactions, thoughts, and feelings toward emotions (Gottman et al. 1997). Aspects of parents' MEP are related to a number of child outcomes, including peer relations, academic achievement, and emotion regulation (Gottman et al. 1997; Katz and Windecker-Nelson 2004). To date, the most researched aspect of parents' MEP has been the dimension of emotion-coaching. Parents with emotion-coaching philosophies value children's negative emotions as opportunities for intimacy and

for teaching their children about emotions. In contrast, parents with an emotion-dismissing philosophy do not see emotions as important and tend to ignore or deny emotions in their children (Gottman et al. 1997). Children of parents who hold an emotion-coaching philosophy appear to be less vulnerable to emotional problems than are children of parents who hold emotion-dismissing philosophies. For example, children with emotion-coaching parents exhibit fewer behavioral problems, have better physiological emotion regulation, and demonstrate better understanding of emotions than do children of emotion-dismissing parents (Denham et al. 1997; Gottman et al. 1997). Additionally, findings indicate that emotion coaching buffers children from the harmful effects of marital conflict and domestic violence (Katz and Gottman 1997; Katz and Windecker-Nelson 2004, 2006). These findings suggest that parents' beliefs about emotion have important implications for children's emotional well-being.

Initial evidence suggests that aspects of parents' MEP also relates to adolescents' emotional outcomes. Adolescents whose mothers hold emotion-coaching philosophies display less aggressive and dysphoric behavior during mother-adolescent interactions than do adolescents of mothers with emotion-dismissing philosophies (Katz and Hunter 2007). Parents' emotion coaching philosophies are also related to fewer internalizing and externalizing problems in adolescents (Shortt et al. 2010; Stocker et al. 2007). Additionally, adolescents whose mothers are accepting of their own negative emotions reported fewer depressive symptoms, higher self-esteem, and fewer behavior problems than did adolescents whose mothers were dismissive of their own negative emotions (Katz and Hunter 2007). These findings suggest that parents' MEP relates to adolescents' emotional development.

### **MEP and Adolescent Depression**

Given differences in family and adolescent characteristics in families of depressed and healthy adolescents, adolescent depressive status may moderate the degree to which parents' socialization of emotion is related to adolescent's emerging attitudes and beliefs about emotions. Previous studies have reported that families of depressed adolescents are characterized by more negative and conflictual parent-child relationships (Sheeber et al. 2007; Stice et al. 2004). Additionally, both mothers and fathers of depressed adolescents are more likely to have negative interpretations of their children's behavior than parents of healthy adolescents (Sheeber, Allen et al. 2009; Sheeber, Johnston et al. 2009). The high levels of negativity in families of depressed adolescents may create an environment in which adolescents are less likely to turn to their parents for emotional support. To the extent that they keep their emotions to themselves, they may receive less exposure to their parents' beliefs about emotions than healthy adolescents.

Characteristics of the adolescents themselves may also be related to the likelihood of their turning to their parents for support in the face of difficult emotions. For example, the duration, frequency, and intensity of both angry and sad affects are greater in depressed as compared to healthy adolescents (Sheeber, Allen et al. 2009; Sheeber, Johnston et al. 2009). Intense emotional experiences that are frequent and persistent, such as those experienced by depressed adolescents, may be associated with negative and maladaptive beliefs about emotions. Depressed adolescents are also more likely to perceive their parents as rejecting (Magaro and Weisz 2006) and report less confidence in their mothers' ability to help them regulate their emotions than healthy adolescents (Garber et al. 1995). These findings suggest that depressed adolescents may be less likely to turn to their parents for emotional support than healthy adolescents, thus having fewer opportunities to learn from the emotional beliefs of their parents.

## The Current Study

The current study examined relationships between parent and adolescent meta-emotion philosophies in families of depressed and healthy adolescents. As adolescent depression is characterized by disturbances in both sad and angry affect (*DSM-IV-TR*, 2000) and as research has linked dysregulation of sadness and anger to adolescent depression (Galaif et al. 2003); Georgiades et al. 2006), associations between parent and adolescent MEPs toward a general category of negative emotion (involving both sadness and anger) were examined. Although fewer studies on emotion socialization have involved fathers, previous research suggests that mothers and fathers are involved in socializing adolescents' emotions (e.g. Klimes-Dougan et al. 2007) and thus both mothers' and fathers' MEP were examined. Additionally, two broad dimensions of parent MEP, self-directed and child-directed MEP, were explored. Self-directed parent MEP involves parents' attitudes toward their own negative emotion, and addresses the types of attitudes and behaviors that parents models for their adolescent children. Child-directed parent MEP involves parents' attitudes toward their children's negative emotion, and addresses parents' reactions to their children's negative emotion as well as the degree of discussion around emotions that occurs between parent and adolescent. Given findings that parental acceptance of their own emotions is related to adolescent depressive symptoms (Katz and Hunter 2007) and considerable evidence that parental emotion coaching is associated with positive child adjustment (Gottman et al. 1997; Katz and Gottman 1997; Katz and Windecker-Nelson 2004, 2006), it was hypothesized that both self-directed and child-directed parent MEP would positively relate to adolescent MEP.

The study also examined the extent to which adolescent depressive status would moderate associations between parents' and adolescents' MEP. Based on the evidence presented earlier regarding characteristics of depressed adolescents and their families, it was hypothesized that associations between parents' and adolescents' MEP would be weaker in families with depressed adolescents than healthy adolescents.

## Methods

### Participants

One hundred and 52 adolescents, aged 14–18 years old, and their parents (148 mothers, 106 fathers) participated in the study. Adolescents were placed in the Depressed ( $n = 75$ ) or Healthy group ( $n = 77$ ) according to research criteria described below (see procedures section). The majority of the sample identified as middle class (annual household income \$30,000–60,000). To the extent possible, adolescents in the healthy and depressed groups were matched on gender, age, ethnicity, and school. Demographic data are presented in Table 2.

### Procedures

Depressed and healthy adolescents and their parents were recruited from local public high schools. Recruitment and assessment was conducted in three stages. First, adolescents participated in an in-school screening of depressive symptoms. Next, adolescents participated in an in-home diagnostic interview. Finally, adolescents and their families participated in a laboratory-based assessment of family functioning and emotional processes.

**School Screening**—Students ( $N = 4182$ ) from area high schools completed the Center for Epidemiological Studies-Depression Scale (CES-D, Radloff 1977) and a demographic data form during class. Approximately 70% of eligible students participated. CES-D cut-off scores for selecting potential participants were based on the distribution of scores obtained in an earlier screening of high school students ( $N = 4495$ ) in the same area (Sheeber et al.

2007). Relatively high scores ( $\geq 31$  for males and  $\geq 38$  for females) were selected to maximize the positive predictive power of identifying depressive disorders in the adolescent sample. Approximately 8% of the adolescents scored above these cut-offs. The pool for the healthy control group was composed of those adolescents no more than half SD above the mean ( $< 21$  for males and  $< 24$  for females) on the CES-D.

**In-Home Diagnostic Assessment**—Adolescents with elevated CES-D scores were administered the Schedule of Affective Disorders and Schizophrenia-Children's Version (K-SADS, Orvaschel and Puig-Antich 1994). Following these interviews, families of adolescents meeting research criteria for placement in the Depressed group (current Major Depressive Disorder, without co-morbid externalizing, psychotic, or substance use disorders) were invited to participate in the lab-based assessment. Once a depressed adolescent completed the lab assessment, a healthy, demographically matched participant was recruited and interviewed. Placement in the healthy group required that adolescents did not meet criteria for any Axis 1 disorder and had no history of treatment for mental health disorders. Approximately 9% of families contacted by phone were not eligible to participate (e.g., did not live with a parent/permanent guardian). Of families invited to participate, approximately 26% declined. Rates of decline did not vary as a function of pre-interview group status (i.e., elevated or healthy CES-D score), age, or race, although more males than females declined (31.6% vs. 23%),  $\chi^2(1, n = 498) = 4.57, p < .05$ . Of adolescents with elevated CES-D scores, 38% met criteria for MDD. Of adolescents with CES-D scores in the healthy range, approximately 76% met criteria for inclusion.

**Lab Assessment**—Following the diagnostic interview, families meeting research criteria were invited to participate in the lab assessment. Approximately 4% of families declined participation at this stage of the study. The decline rate did not vary as a function of group status, age, race, or gender. In approximately 93% of two-parent families, both parents participated. As part of the lab assessment, adolescents and parents completed questionnaires and were administered a semi-structured interview on emotions.

## Measures

**Parent and Adolescent Depressive Symptoms**—The CES-D (Radloff 1977) is a widely-used, 20 item self-report measure of depressive symptomatology. Participants rate each item on a 0–3 scale indicating how frequently they have experienced that symptom over the past week (0 = “rarely or none of the time;” 3 = “most or all of the time”). Sample questions include “I felt depressed” and “I thought my life had been a failure.” Total scores on the CES-D range from 0 to 60, with higher scores indicating more severe depressive symptoms. The CES-D is well established as a screener for depressive symptomatology in adolescent samples (e.g., Asarnow et al. 2005; Sheeber et al. 2007). Adolescents, mothers, and fathers separately completed the CES-D regarding their own depressive symptoms.

**Adolescent Diagnostic Classification**—The K-SADS-E (Orvaschel and Puig-Antich 1994) is a semi-structured interview based on DSM-IV criteria that measures current and lifetime psychiatric diagnoses in children and adolescents aged 6–18. Interviews were administered with the adolescents by trained individuals with experience regarding the DSM-IV diagnostic system. Adolescent-only diagnostic interviews have been used successfully in past research (e.g., Lewinsohn et al. 1993; Sheeber et al. 2007). A randomly selected 20% of interviews were coded by a second interviewer in order to estimate inter-rater reliability. Agreement, calculated on agreement/disagreement on each item in the interview, was  $\kappa = .94$ .

**Adolescent Meta-Emotion Philosophy**—Adolescent meta-emotion philosophy (MEP) was assessed using the Child and Adolescent Meta-Emotion Interview (CMEI; Katz and Windecker-Nelson 2002). The CMEI is a semi-structured interview asking adolescents about their experiences, thoughts, and feelings around sadness and anger. The same interview questions were repeated for each emotion. Sample questions included, “What does it look like when you’re angry?” and “Can you give me a recent example of a time when you were sad?” Interviews generally lasted between 30 and 50 min and were tape-recorded for later coding. The CMEI was coded using a checklist rating system called the Child and Adolescent Meta-Emotion Coding System (CAME; Hessler et al. 2005), which was adapted from the Parent Meta-Emotion Interview Coding System (Katz et al. 1994). Items were coded on a Likert-type scale with 5 = “strongly agree” to 1 = “strongly disagree” and 0 = “not enough information to code” in accordance with adolescent responses to interview questions. Scores were created by summing items within each coding dimension (see Table 1 for sample items within each dimension). Adolescents’ global MEP scores for each emotion (sadness and anger) were then calculated by summing across four dimensions: (1) awareness (12 items), (2) expression (6 items), (3) regulation (10 items), and (4) remediation (14 items). Given that adolescents’ global MEP scores for sadness and anger were highly correlated ( $r = .91$ ) and the goal of the current study involved capturing adolescents’ overall attitudes toward negative emotion, sad and angry global MEP scores were summed together to create a general measure of adolescents’ MEP toward negative emotion (referred to as adolescent MEP from here on out in this article). Higher MEP scores indicate that adolescents possess proactive and detailed philosophies toward negative emotion, while lower MEP scores indicate that adolescents lack a thorough understanding of their experiences with negative emotion. Both internal reliability (Cronbach’s  $\alpha = .84$ ) and inter-rater reliability (average  $r = .75$ , with a range of .65–.84) were adequate. Recent findings have revealed that individual dimensions of adolescents’ MEP are related to adolescent behavioral problems, drug use, and sexual behavior (Hessler and Katz 2010).

**Parent Self-Directed Meta-Emotion Philosophy**—Parents’ self-directed meta-emotion philosophy (MEP) was assessed using the Parent Meta-Emotion Interview (PMEI; Katz and Gottman 1986). As with the CMEI, the PMEI is a semi-structured interview asking parents about their experiences, thoughts, and feelings around sadness and anger. The same questions were repeated for each emotion. Sample interview questions included: “What is it like for you to be angry?” and “Can you give me a recent example of a time when you were sad?” Mothers and fathers were interviewed separately. Interviews, typically lasting 45–60 min, were audio-taped and later coded using a specific checklist rating system, the Revised Meta-Emotion Coding System (RPME; Hunter et al. 2006). Items were coded on a Likert-type scale with 5 = “strongly agree” to 1 = “strongly disagree” and 0 = “not enough information to code” in accordance with parent responses to interview questions. Scores were created by summing items within each coding dimension (see Table 1 for sample items within each dimension). For each emotion, parents’ self-directed MEP total scores were created by summing across three coding dimensions: awareness (8 items), acceptance of expression (8 items), and regulation (5 items). As our aim was to assess overall attitudes toward negative emotion, and as sadness and anger variables were significantly correlated (Pearson correlations ranging from .42 to .51 for mothers and ranging from .42 to .77 for fathers), parents’ self-directed MEP total scores for sadness and anger were summed to create an overall score of parents’ self-directed MEP toward negative emotion for each parent. Higher self-directed MEP scores indicate that parents possessed clear, detailed, and accepting attitudes toward their own negative emotion, while lower MEP scores indicate that parents lack a thorough understanding of their experiences with negative emotion. Parents’ self-directed MEP was found to have adequate internal reliability (Cronbach’s  $\alpha = .76$  for mothers and .73 for fathers). Inter-rater reliability, calculated on 34% of the sample, and was

also found to be reliable (average  $r = .69$  for mothers, with a range of  $.62-.80$ ; average  $r = .66$  for fathers, with a range of  $.62-.70$ ).

**Parent Child-Directed Meta-Emotion Philosophy**—Scores for parents' child-directed MEP were also based on responses to the PMEI and coded using the RPME coding system (see above for description and Table 1 for items within each dimension). Sample interview questions included: "Can you tell when [your child] is angry?" and "What do you want to teach [your child] about sadness?" A total of four dimensions per emotion (sadness and anger) related to parents' child-directed MEP: awareness (7 items), acceptance (4 items), coaching (7 items), and child regulation (4 items). Sadness and anger dimensions were again summed to create an overall score for each parents' child-directed MEP. Higher scores indicate that parents are more descriptive, accepting, and coaching of their children's negative emotion, while lower scores indicate that parents do not have a thorough understanding of their children's negative emotion. Parents' child-directed MEP had adequate internal reliability (Cronbach's  $\alpha = .83$  for mothers and  $.89$  for fathers). Inter-rater reliability, calculated on 34% of the sample, was also adequate (average  $r = .72$  for mothers, with a range of  $.53-.81$ ; average  $r = .64$  for fathers, with a range of  $.49-.77$ ). Reliabilities were lowest for parent acceptance of child sadness due to low number of items in that individual scale ( $N = 4$ ). Evidence of external validity of parents' MEP has been found, with both parent socialization behaviors and child emotional outcomes associating with parents' MEP (Cleary and Katz 2008).

## Results

### Preliminary Analyses

**Imputation of Missing Items**—Data was coded as 'missing' for a given item when the Meta-Emotion Interview did not provide enough information for the item to be coded. Only those items which had data for 70% or more of the individual cases were included in the scales used in analyses. For items meeting this criteria, missing data was imputed. Maximum likelihood estimation analyses were conducted for each MEP scale, with mother and father missing values estimated separately. Missing values were estimated using the Missing Values Analysis Expectation Maximization (EM) function in SPSS, Version 15.0 (see Rubin 1976; Allison 2002). In the EM algorithm, missing values are estimated in a two-step iterative procedure, first imputing missing values through a series of regression equations (the E step) and then obtaining an updated estimate of the covariance matrix and mean vector (the M step). This process was run for a maximum of 25 iterations with the goal of minimizing the differences between covariance matrices.

**Descriptive Statistics and Correlations Among Variables**—Descriptive statistics for both adolescent groups as well as for the total sample are presented in Table 2. Consistent with theory and past research (Jacobs et al. 2008), adolescents in the depressed group and those with higher depressive scores were less likely to have proactive and detailed philosophies of negative emotion ( $r = .40, p < .001$  and  $r = -.51, p < .001$ , respectively). Interestingly, mothers' depressive scores were related to their self-directed ( $r = -.28, p < .001$ ), but not to their child-directed MEP ( $r = -.13, ns$ ). Fathers' depression scores were unrelated to either their self-directed or child-directed MEP ( $r = -.16, ns$  and  $r = -.10, ns$  respectively). Demographic data, including adolescent ethnicity, and family structure, was unrelated to child or parent MEPs ( $r_s = .00$  to  $-.13, ns$ ).

In order to reduce possible confounds in analyses and to better identify relationships between parent and adolescent MEP, several covariates were explored. Since findings have related heightened emotionality to puberty and cognitive advancements to adolescent age



(Steinberg 2005), both adolescent age and pubertal status were considered as potential covariates. However, neither variable was significantly related to adolescent or parent MEP ( $r_s = .00$  to  $-.13$ , *ns*), and thus neither was used as a covariate in analyses. Since previous studies have also found differences in parent socialization of emotion based on child gender (Brody and Hall 2000; Zeman and Shipman 1997), adolescent gender was explored as a moderator of associations between adolescent and parent MEP. No significant moderation was found for either mothers ( $R^2 = .07$ ,  $\Delta R^2 = .00$ ,  $F(1, 143) = .63$ , *ns* for mother self-directed MEP;  $R^2 = .10$ ,  $\Delta R^2 = .00$ ,  $F(1, 143) = .23$ , *ns* for mother child-directed MEP) or fathers ( $R^2 = .14$ ,  $\Delta R^2 = .03$ ,  $F(1, 101) = 2.98$ , *ns* for father self-directed MEP;  $R^2 = .23$ ,  $\Delta R^2 = .01$ ,  $F(1, 143) = 1.15$ , *ns* for father child-directed MEP). Parental depression was also explored as a potential confound, as research has found depressed parents to have negative parenting styles (Lovejoy et al. 2000), and for adolescents with a depressed parent to be more likely to be depressed themselves (e.g. Essau 2004). Mothers' and fathers' depressive scores were negatively associated with adolescent MEP ( $r = -.17$ ,  $p < .05$  and  $r = -.25$ ,  $p < .01$ , respectively); thus parents' depressive scores were controlled for in later analyses.

Correlations among parent MEP variables were also explored. Within-parent measures of MEP were significantly related. Mothers' self-directed MEP was positively correlated with mothers' child-directed MEP ( $r = .40$ ,  $p < .01$ ). Fathers' self-directed MEP was also positively correlated with fathers' child-directed MEP ( $r = .58$ ,  $p < .01$ ). In general, measures of parents' MEP were also positively correlated across parent. Mothers' self-directed MEP was associated with both fathers' self-directed MEP ( $r = .24$ ,  $p < .05$ ) and fathers' child-directed MEP ( $r = .20$ ,  $p < .05$ ). Mothers' child-directed MEP was associated with fathers' child-directed MEP ( $r = .28$ ,  $p < .01$ ), but unrelated to fathers' self-directed MEP ( $r = .19$ , *ns*).

### Relationships Between Parent and Adolescent MEP

In order to examine relationships between parent and adolescent MEP, partial correlations were conducted between parent and adolescent MEP controlling for parent depressive symptoms. Analyses were conducted separately for mothers and fathers. Contrary to hypotheses, self-directed PMP was not related to adolescent MEP for either mothers ( $r = .06$ , *ns*) or fathers ( $r = .09$ , *ns*). However, for both mothers and fathers, child-directed MEP was associated with adolescent MEP ( $r = .22$ ,  $p < .01$  and  $r = .34$ ,  $p < .001$ , respectively).

Post-hoc multiple regressions were then conducted to explore the unique contributions of each parent on adolescent MEP. Two stepwise hierarchical regression analyses were conducted; one for parents' self-directed MEP and one for parents' child-directed MEP (see Table 3). Mothers' and fathers' depression scores were entered into the first step of each regression equation. The independent variables (either parents' self-directed or child-directed MEP) were entered into the second step of the regression equation. The model examining parents' child-directed MEP accounted for 20% of the variance in adolescents' MEP scores. In this model, both fathers' child-directed MEP and fathers' depressive score predicted adolescent MEP (see Table 3). Neither mothers' depressive score nor mothers' child-directed MEP significantly predicted adolescents' MEP in this model.

### Adolescent Depression as a Moderator of Relationships Between Parent and Adolescent MEP

To test whether adolescent depressive status moderated relationships between parents' and adolescents' MEP, a series of stepwise hierarchical multiple regressions were conducted based on Baron and Kenny (1986) recommendations for moderation analyses. A total of four regression analyses were conducted, two for each parent (see Table 4). Parental depression was entered into the first step of each regression equation. The independent

variable (parent MEP) was entered into the second step of the regression equation, along with the moderator (Adolescent Diagnostic Group). The interaction term between the parents' MEP score and adolescent diagnostic group was entered as the third step.

Adolescent depressive status functioned as a moderator only for relationships between mothers' child-directed MEP and adolescent MEP. Following recommendations by Aiken and West (1991), simple regression lines were plotted for those analyses in which adolescent depressive status significantly moderated relationships between parent and adolescent MEP variables. Predictors were centered by subtracting the mean from the raw scores and calculations were then conducted to plot the adolescent MEP variables at high and low levels of the parent MEP variables for the depressed and healthy adolescents. Finally, the slopes of the depressed and healthy regression lines for the plots of the adolescent MEP variables were separately tested for statistical significance. The simple slope of the depressed group was significant,  $t(144) = 2.97, p < .01$ , while the simple slope of the healthy group was not significant,  $t(144) = -.54, p = .59$ . These results indicate that amongst adolescents in the depressed group, mothers' insightful, accepting, and coaching attitudes towards their children's negative emotions were associated with the adolescents having more detailed and proactive philosophies about their own negative emotion (see Fig. 1).

## Discussion

Cognitive and emotional changes that occur during the adolescent period provide adolescents with the necessary abilities to develop a meta-emotion philosophy (MEP), or an organized set of reactions, thoughts, and feelings about emotion. The current study examined socialization processes in families of depressed and healthy adolescents in an attempt to better understand associations between parents' and adolescents' MEP. Associations were found between adolescents' beliefs about emotions and those of their parents, suggesting that parents' beliefs about emotions contribute to adolescents' approaches to negative emotion. However, findings suggest parental influence may differ based on the gender of that parent.

In particular, the results partially supported the hypothesis that parents' MEP would positively correlate with adolescents' MEP. For both mothers and fathers, child-directed but not self-directed MEP was associated with adolescents' MEP. This indicates that adolescents are more likely to have detailed and proactive beliefs about negative emotion when their parents have insightful, accepting, and coaching approaches to their children's emotions. Parents' approaches to their own emotions, on the other hand, do not appear to relate to adolescents' approaches toward emotions. This finding contrasts with the results of previous work in which aspects of mothers' self-directed MEP were more strongly associated with adolescent emotional outcomes than were aspects of mothers' child-directed MEP (Katz and Hunter 2007). However, the previous finding involved a sample of younger adolescents (average age of 13 years old), while the current sample is in middle adolescence (average age of 16 years old). It may be that earlier in adolescence, children look more directly to their parents as models for approaching emotions. As adolescents get older and have more developed abstract abilities, they may move from using their parents as models to using their parents for support in forming their own beliefs about emotions. In this way, the influence of parents' meta-emotion philosophy may change over the course of adolescence. Directly comparing associations between the emotional beliefs of older and younger adolescents and their parents within the same study would allow for better understanding of the changing influence of parents over the adolescent period.

Current findings also suggest that fathers make unique contributions to adolescents' beliefs about negative emotion. Post-hoc analyses indicated that fathers' child-directed emotional

beliefs predicted adolescents' emotional beliefs even when controlling for depressive symptoms in both parents and for mothers' emotional beliefs. Further, these post-hoc analyses revealed that mothers' child-directed MEP failed to predict adolescent MEP once fathers' MEP was included in the analysis. These results suggest that fathers may be uniquely positioned to positively shape their adolescents' experiences with negative emotion. These findings are consistent with previous research findings that the quality of the father-adolescent relationship is associated with adolescent well-being (Reeb and Conger 2009; Sheeber et al. 2007). On the surface, this finding may appear to contradict previous research suggesting that mothers are more supportive of adolescent emotion than fathers (Stocker et al. 2007). However, in the current study, mothers were also found to have more accepting and supportive approaches to adolescents' negative emotion. In predicting adolescents' approach to negative emotion, it may not be the level of support, but rather the gender of the parent providing that support that is particularly important. As fathers are generally not as emotionally supportive of their adolescents, it may be that when fathers are able to provide that emotional assistance that the benefits are only that much greater.

Given that mothers' and fathers' beliefs about their children's negative emotion were associated, it may also be that having an emotionally supportive father is a sign that emotional support and acceptance is available from both parents. If an adolescent had emotional support and acceptance from both his/her mother and father, the double support would likely enhance that adolescent's understanding of and adaptive approach to negative emotion. Continued research is necessary to better understand the role of fathers and of co-parenting in the emotional development of adolescents. Additionally, further exploration of bidirectional effects in adolescent emotion socialization is warranted to better understand interactions between adolescent and parent characteristics in both mothers and fathers.

The second aim of the current study was to examine whether the associations between parents' and adolescents' MEP varied as a function of adolescent depression. We first examined main effect differences, which indicated that depressed adolescents were less likely to have detailed and proactive philosophies toward their negative emotion than were healthy adolescents, suggesting that they may not understand their emotional experiences or be as aware of effective strategies for managing their emotions as healthy adolescents. This explanation is consistent with results of a recent meta-analysis showing that depression is associated with greater use of maladaptive emotion regulation strategies, such as avoidance, rumination, and suppression of emotions, and less frequent use of adaptive emotion regulation strategies, such as problem solving (Aldao et al. 2010). Reliance on maladaptive strategies for dealing with emotions, such as avoidance of emotions, may prevent depressed adolescents from having opportunities to thoughtfully reflect upon their emotional experiences and develop an organized and proactive approach for dealing with emotions based on those reflections.

With regard to moderation effects, the findings indicate that associations between adolescents' and mothers' MEP (although not fathers' MEP) varies as a function of adolescent depressive status. Contrary to our hypotheses, the emotional beliefs of adolescents and their mothers are more strongly associated in families of depressed than healthy youth. More specifically, the quality of MEP in depressed adolescents was more insightful and proactive when their mothers had more insightful and coaching philosophies toward their children's negative emotion. This finding suggests that mothers' beliefs about emotion are particularly relevant to the formation of adaptive emotional beliefs in depressed adolescents.

Evidence suggests that depressed adolescents experience negative emotion more frequently and with higher intensity than healthy adolescents (Sheeber, Allen et al. 2009; Sheeber,

Johnston et al. 2009), indicating that depressed adolescents may require more emotional support from their parents because there are higher demands on emotion regulation abilities in depressed than healthy adolescents. Additionally, as depressed adolescents are more likely to perceive their parents as rejecting (Magaro and Weisz 2006) they are less likely to seek out parental support of their own accord. When mothers are more emotionally insightful and accepting, it may help to counter adolescents' negative perceptions and foster a family environment that helps adolescents better understand their experiences with negative emotion. A mother with an insightful, accepting, and coaching approach toward her child's negative emotion may also be able to identify early signs when her child is struggling and be able to approach the adolescent in an empathetic manner that decreases the adolescent's experience of loneliness and rejection. As healthy adolescents are less likely to require additional support around their experiences with negative emotion than depressed adolescents, high levels of emotional insight and coaching by mothers may not be as critical for their competent emotional development.

It may not be surprising that adolescent depressive status failed to moderate associations between fathers' child-directed MEP and adolescents' MEP. Previous research has found mothers to be more generally aware of children's emotions than fathers (Gottman et al. 1997). Additionally, depressed adolescents are more likely to perceive their parents as rejecting (Magaro and Weisz 2006). Perceived parental rejection in depressed adolescents, combined with evidence that fathers are less likely to notice emotions in their children than mothers, suggests that there may not be many opportunities for fathers to provide emotional support and guidance to their depressed adolescent children. The lack of opportunity for interaction around emotions between fathers and their depressed adolescents may occur either because depressed adolescents fail to seek out their fathers for emotional support or because mothers, who are more aware of their children's emotions, may intervene before fathers have the chance for that emotional interaction.

The current study had a number of limitations. As only one-third of the sample was male, the findings may not generalize as broadly to depressed male adolescents as depressed female adolescents. Although previous findings suggest that parent-child interactions vary as a function of child and parent gender (e.g., Brody and Hall 2000; Zeman and Shipman 1997), associations between parent and adolescent meta-emotion philosophy did not differ based on adolescent gender. However, differences based on adolescent gender and diagnostic status were not explored, and there may be important differences in emotion socialization between depressed adolescent females and depressed adolescent males. Future studies should recruit a larger sample, particularly of adolescent males, to address how gender relates to parental emotion socialization in families with depressed and healthy adolescents.

Another limitation of the current study is that the majority of the sample was Caucasian, and the current findings may not be applicable to minority populations. As cultural norms around the acceptance and expression of emotions are not universal (Cole et al. 2006), aspects of the socialization process may be unique to particular ethnic groups. To date, only one known research project on meta-emotion philosophy has been conducted with different ethnic groups, comparing the philosophies of European American and Korean American parents. European American parents were found to be more accepting and coaching of their children's emotions than Korean American parents (Nahm 2007). It will be crucial for future studies to investigate parent socialization of adolescent emotions in more diverse samples, as well as to address the socialization process in specific ethnic minority groups.

Future studies on the process of socializing adolescents' emotions should also explore potential mediators of associations between parents' and adolescents' emotional beliefs.

Although adolescent depressive status was explored as a moderator of associations between parents' and adolescents' MEP in the current study, it is also possible that adolescents' MEP may serve to mediate associations between parents' MEP and adolescent depression. For example, if a parent believes that sadness is unacceptable in their child, that adolescent may begin to believe that they should not feel sadness or that sadness should be suppressed. These maladaptive beliefs about emotion may then make adolescents more vulnerable to developing depression. Alternatively, parents' beliefs about emotions may influence adolescents' emotional beliefs indirectly through actual parenting behaviors. As research suggests links between parents' beliefs and behaviors (Cleary and Katz 2008), future research should examine parenting behavior as a mediator of associations between parents' and adolescents' emotional beliefs.

Another limitation is that the direction of effects cannot be established in a cross-sectional study. It is likely that adolescent attitudes and behavior also influence parent attitudes and behavior. For example, evidence has found that adolescents perceive reduced parental support and increased peer support during the adolescent period (Helsen et al. 2000). The changes in perceived social support may make adolescents less likely to use their parents for support and guidance. Over time, because their children have utilized them less, parents may in turn decrease the amount of support offered to adolescents. Future studies should investigate longitudinal associations between parent socialization attitudes and behaviors on children's emotional development, from childhood through the adolescent period. Examining relationships between parent and child emotional attitudes and behaviors longitudinally will provide a better understanding of the bidirectionality of socialization effects.

Overall, the current findings suggest that parents' emotion socialization efforts influence adolescents' approaches to negative emotion. Additionally, the patterns of association between parent and adolescent emotional philosophies differ for depressed and healthy adolescents. Although all adolescents appear to benefit when their fathers have insightful, accepting, and coaching approaches to their children's negative emotion, depressed adolescents may require the additional emotional support of having mothers with insightful, accepting, and coaching approaches to their children's negative emotion. This finding has implications for therapy with depressed adolescents. While it may not be uncommon for parents to be involved in the treatment of their depressed adolescents, therapy typically focuses on adolescents' behavior and attitudes and less focus is placed on parent's behavior and attitudes. The current findings suggest that it may be worthwhile to develop parenting programs aimed at training the parents of depressed children how to be more aware, accepting, and coaching of their children's negative emotion to help their depressed children develop more insightful and proactive attitudes toward negative emotion.

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## Biographies

**Erin C. Hunter** obtained her Ph.D. in Child Clinical Psychology at the University of Washington and is currently a Visiting Professor of Psychology at Wells College. Her research interests involve identifying family and peer factors associated with emotional development in at-risk youth.

**Lynn Fainsilber Katz** is a Research Professor in the Department of Psychology at the University of Washington. Her areas of expertise include adolescent depression, social psychophysiology, and family interaction patterns. She is a co-author of the meta-emotion interview (MEI) that was used in the original study.

**Joann Wu Shortt** is a Research Scientist at OSLC. She has extensive background in the study of both emotion physiology and family process related to child and adolescent psychopathology.

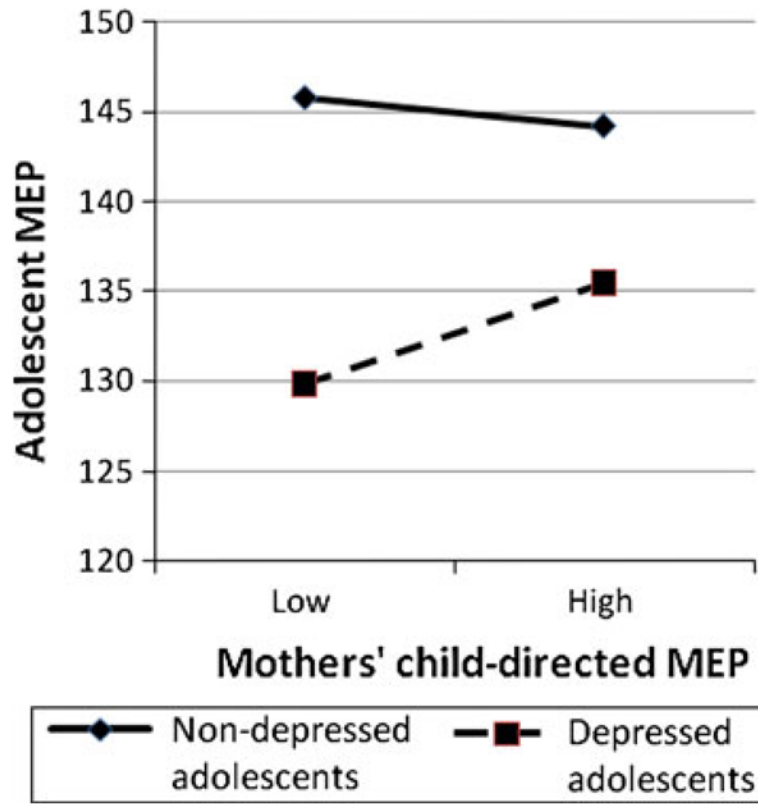
**Betsy Davis** is an Associate Scientist at ORI. She has particular expertise in the areas of multivariate analysis, analysis of sequential observational data, and structural equation modeling. She has extensive background in educational psychology, research methodology and statistics, with over 15 years of research experience in family process and intervention implementation related to child and adolescent behavioral and educational difficulties.



**Craig Leve** is a Data Analyst at ORI. He has extensive expertise in conducting confirmatory factor analyses, as well as other SEM models in AMOS and EQS, longitudinal data analyses, and missing data techniques.

**Nicholas B. Allen** heads the Affective Neuroscience Laboratory at the University of Melbourne. His areas of expertise include unipolar depression in adolescents and adults and methodological and analytic techniques for examining parasympathetic arousal (i.e., brief phasic changes in respiratory sinus arrhythmia), and the psychophysiological measurement of autonomic cardiac control.

**Lisa B. Sheeber** is a Senior Scientist at ORI. Her research interests have focused on dysphoria in childhood and adolescence, prevention of depression in adolescence, family processes in adolescent depression, emotional regulation, and cognitive-behavioral therapy interventions for the treatment of adolescent and maternal depression. Recently, her work on adolescent depression has taken on an increasingly large biological component.



**Fig. 1.** Adolescent depressive status as a moderator of relationships between mothers' child-directed MEP and adolescents' MEP

**Table 1**

Sample items from parent and adolescent meta-emotion philosophy (MEP) measures

<b>Dimension</b>	<b>Sample items</b>
Adolescents' MEP	
Awareness	Is descriptive of his/her experience of this emotion Knows causes of emotion
Expression	Expresses emotion (alone or with others) Others can tell when child is experiencing emotion
Regulation	Has difficulty regulating intensity Has difficulty getting over emotion
Remediation	Can use family members to help cope with emotion Can use friends to help cope with emotion
Parents' self-directed MEP	
Awareness	Descriptive of experience of this emotion Aware of process for coping with emotion
Acceptance of expression	Accepts this emotion (believes it has value, is part of life) P feels comfortable with their expression of this emotion
Regulation	Has difficulty regulating intensity Has difficulty getting over emotion
Parents' child-directed MEP	
Awareness	Descriptive of child's experience of emotion Knows cause of child's emotion
Acceptance	Seems comfortable with child's emotion and expression Empathizes with child's emotion
Coaching	Seems involved in child's experience of this emotion Has given thought and energy to what child knows of emotions
Regulation	Concerned about child's experience or expression Child has difficulty regulating this emotion

**Table 2**

Demographic and descriptive information for the sample

	Depressed (n = 75)		Healthy (n = 77)		Total (n = 152)	
<i>Demographic variables (nominal)</i>						
Adolescent gender						
Male	23		29		52	
Female	52		48		100	
Family structure						
Two-parent	47		60		107	
Single-parent/other	28		17		45	
Ethnicity						
Caucasian	49		57		106	
African American	2		2		4	
Asian	0		1		1	
Native American	1		0		1	
Bi- or Multi-racial	18		15		33	
Unknown	5		2		7	
<hr/>						
	M	SD	M	SD	M	SD
<i>Demographic variables (interval and ratio)</i>						
Adolescent age	16.22	1.11	16.14	1.05	16.18	1.08
Adolescent pubertal development	3.51	.53	3.39	.50	3.45	.52
Adolescent depressive score <sup>a</sup>	27.40	12.24	7.34	5.45	17.24	13.77
Mother depressive score <sup>a</sup>	15.26	11.17	9.38	7.50	12.24	9.88
Father depressive score <sup>a</sup>	13.22	11.38	9.87	7.51	11.38	9.56
<i>Key variables</i>						
Adolescent MEP <sup>b</sup>	144.66	10.60	152.88	8.47	148.83	10.40
<i>Mother MEP<sup>b</sup></i>						
Self-directed	149.68	8.70	151.46	7.25	150.59	8.01
Child-directed	158.74	8.18	162.34	8.13	160.59	8.33
<i>Father MEP<sup>b</sup></i>						

	Depressed ( <i>n</i> = 75)	Healthy ( <i>n</i> = 77)	Total ( <i>n</i> = 152)
Self-directed	142.46	142.18	142.30
Child-directed	153.75	155.71	154.82
			12.03

<sup>a</sup>Score from the Center for Epidemiological Studies-Depression Scale (CES-D)

<sup>b</sup>Meta-Emotion Philosophy (MEP)

**Table 3**

Hierarchical regression analyses of parents' self-directed and child-directed MEP

Step and procedures	$R^2$	$\Delta R^2$	$\Delta F$	$\beta^a$
Adolescent MEP <sup>b</sup>				
1 Mother depressive score	.07	.07	3.62*	.04
Father depressive score				-.26*
2 Mother Self-directed MEP <sup>b</sup>	.08	.01	.61	.07
Father Self-directed MEP <sup>b</sup>				.07
Adolescent MEP <sup>b</sup>				
1 Mother depressive score	.07	.07	3.62*	.04
Father depressive score				-.23*
2 Mother Child-directed MEP <sup>b</sup>	.20	.17	7.75**	.16
Father Child-directed MEP <sup>b</sup>				.28**

 $N = 99$ \*  $p < .05$ .\*\*  $p < .01$ <sup>a</sup>Standardized regression weight<sup>b</sup>Meta-Emotion Philosophy (MEP)

**Table 4**

Hierarchical regression analyses testing adolescent depression as a moderator of relationships between parents' and adolescents' MEP

Step and procedures	$R^2$	$\Delta R^2$	$\Delta F$	$\beta^a$
Adolescents' MEP <sup>b</sup>				
1 Mothers' depressive score	.03	.03	4.23*	-.17*
2 Mothers' self-directed MEP <sup>b</sup>	.16	.14	11.61***	.05
Adolescent Dx Group				.38***
3 Mothers' self MEP <sup>b</sup> × Adolescent Dx Group	.17	.00	.35	-.90
Adolescents' MEP <sup>b</sup>				
1 Mothers' depressive score	.03	.03	4.23*	-.17*
2 Mothers' child-directed MEP <sup>b</sup>	.18	.16	13.61***	.15*
Adolescent Dx Group				.35***
3 Mothers' child MEP <sup>b</sup> × Adolescent Dx Group	.21	.03	4.97*	-3.44*
Adolescents' MEP <sup>b</sup>				
1 Fathers' depressive score	.06	.06	6.47*	-.24*
2 Fathers' self-directed MEP <sup>b</sup>	.18	.12	7.17**	.11
Adolescent Dx Group				.33***
3 Fathers' self MEP <sup>b</sup> × Adolescent Dx Group	.18	.00	.03	.30
Adolescents' MEP <sup>b</sup>				
1 Fathers' depressive score	.06	.06	6.47*	-.24*
2 Fathers' child-directed MEP <sup>b</sup>	.26	.20	13.95***	.31***
Adolescent Dx Group				.31***
3 Fathers' child MEP <sup>b</sup> × Adolescent Dx Group	.26	.00	.01	.08

Each dependent variable was examined in a separate regression equation

\*  $p < .05$ ,

\*\*  $p < .01$ ,

\*\*\*  $p < .001$

<sup>a</sup> Standardized regression weight

<sup>b</sup> Meta-Emotion Philosophy (MEP)