



## ***Antecedents of Empathic Capacity: Emotion Regulation Styles as Mediators between Controlling Versus Autonomy - Supportive Maternal Practices and Empathy***

Maya Kalman-Halevi<sup>1</sup>, Yaniv Kanat-Maymon<sup>b</sup> and Guy Roth<sup>c</sup>

<sup>a</sup>*Western Galilee College, Israel*

<sup>b</sup>*School of Psychology, Reichman University, Herzliya, Israel*

<sup>c</sup>*Ben-Gurion University of the Negev, Israel*

Research suggests that empathy may lead to either sympathy, involving emotional identification with another person, accompanied by caring and concern, or personal distress, that is emotional reaction to another's condition that is aversive and self-centered (Eisenberg et al., 2010). While the former frequently predicts prosocial behavior, the latter is hypothesized to predict it only when helping is the easiest way to alleviate the distress of the helper (Batson, 1991). Drawing on self-determination theory, we hypothesized that autonomy supportive parenting (taking the child's perspective and providing choice) may predict the child's integrative emotion regulation, and this may predict emotional identification with others in need (i.e., sympathy). In contrast, the autonomy suppressive practice of conditional regard may predict dysregulation of emotions, leading to personal distress when facing a close friend's adversity. Participants included 147 college students and 147 close friends. Target participants reported perceptions of their mothers' behaviour and their own emotion regulation styles, while close friends reported perceptions of target participants' sympathy and personal distress responses. Results support the study's hypotheses and provide insights into the socialization of emotion regulation and empathy.

**Keywords:** parental conditional regard, autonomy support, emotion regulation, empathetic capacity

First submission 23<sup>rd</sup> August 2022; Accepted for publication 31<sup>st</sup> January 2023

---

1

Corresponding author. Email address: [Mayah@wgalil.ac.il](mailto:Mayah@wgalil.ac.il)

<https://doi.org/10.56300/YKOL5279>

ISSN 2073 7629

© 2023 CRES

Volume 15, Number 1, April 2023

pp 53

## Introduction

Research indicates that prosocial behavior benefits the well-being of both recipients and helpers (Martela & Ryan, 2015; Meier & Stutzer, 2008; Sheldon et al., 2009; Weinstein & Ryan, 2010). Drawing on cross-cultural evidence, Aknin et al. (2013) even suggested the derivation of adaptive emotions from prosocial behavior is a universal phenomenon. Given the numerous benefits of prosocial behavior, researchers have closely examined its antecedents. An important area of study in this context is empathic emotional response.

Empathy can be specified as an emotional response mirroring what another person is feeling in a specific moment. To put it another way, empathy evokes an affective response, typically either *sympathy* or *personal distress* (Eisenberg et al., 2010). Sympathy is another-oriented emotional response involving concern or sorrow about the condition of another person. Personal distress is a self-centered, aversive emotional response, such as discomfort, to another's condition (Eisenberg et al., 2007, 2010). Sympathy has been associated with altruistically motivated prosocial behavior, while personal distress has been linked with egocentric attempts to alleviate one's own aversive state. This suggests that individuals who experience personal distress may assist others only if offering help seems the easy way to lessen their own distress (Batson, 1991). Given the different consequences of sympathy and personal distress, researchers, especially those concerned with the socialization of prosocial behavior, have naturally considered their antecedents.

To shed light on this issue, we focused on emotion regulation (ER) styles and parenting practices that may predict empathy. Being overwhelmed by negative emotions has been associated with an experience of personal distress when exposed to another's adversity (Eisenberg et al., 2004; Okun et al., 2000). The findings for sympathy are less clear. At times, the ability to maintain one's own negative emotional experience within a tolerable range has been positively related to sympathy (Eisenberg et al., 1996; Taylor et al., 2013), but at other times, it has not (Eisenberg et al., 1994; Okun et al., 2000).

Given the inconsistent findings, we focused on ER styles that may enhance or diminish the tendency for sympathy. We drew on Self-Determination Theory's (SDT) perspective of adaptive ER, or the capacity to explore one's own emotions and to use this sensitivity to drive volitional behavior (Roth et al., 2019). We hypothesized that a necessary condition for the tendency to sympathize with others' adversity is sensitivity to one's own emotional experiences. A tolerant, accepting, and interested attitude towards one's own negative emotions, embraced by the SDT concept of adaptive ER, may be extended to identification with another person's negative emotional experiences (empathy), along with feelings of caring and concern (sympathy) for that person.

### *SDT and Adaptive ER*

SDT's definition of ER styles stems from its motivational distinction of autonomous, controlled, and motivational processes. Apart from varying in their nature and intensity, people also differ in their responses to their emotions. Considerable research has demonstrated the crucial role of autonomous regulation of

emotion for adaptive and growth-promoting functioning (see Ryan & Deci, 2017). While the theory emphasizes the importance of autonomous functioning at both external (external pressures, prompts, temptations) and internal boundaries (inner emotions, impulses, urges; Greenspan, 1979) of the self, empirical research has mostly focused on external boundaries (Ryan & Deci, 2017).

A distinction between integrative emotion regulation (IER) and suppressive emotion regulation (SER) reflects the distinction between autonomous and controlled motivations (Benita, 2020). A related concept, dysregulation, involves an a-motivated stance to regulation (Roth et al., 2019; Roth & Benita, in press). These three styles (IER, SER, dysregulation) differ in their ability to process emotions and their socio-emotional consequences.

### *Integrative Emotion Regulation*

In SDT, IER is the most adaptive form of regulation (Ryan et al., 2016). It involves nonjudgmental, receptive attention to an emotional experience. The experience is attended to without distortion, minimization, or avoidance. Interest in and exploration of the experience are both volitional. Emotions related to it are actively explored to grasp their meaning and importance; once they are recognized, the individual can make informed choices about subsequent actions, such as the volitional expression of emotions (Ryan et al., 2005) or their volitional withholding (Kim et al., 2002). IER relates positively to openness to experience, authenticity, reflection (Roth, 2008), and well-being (Benita et al., 2020; Brenning et al., 2015), as well as to emotional expression and help-seeking in close relationships, and the ability to listen empathically when others reveal negative emotions (Benita et al., 2017; Shahar et al., 2018).

### *Suppressive Emotion Regulation*

Emotions can be a source of information, but they may also be seen as pressuring and threatening. In the latter case, individuals may deny or ignore the emotion – or in other words, suppress it (Roth et al., 2009). SER can appear early in an emotional cycle (Gross, 2015). An individual may try to ignore the emotional experience by shifting attention or changing the meaning of the situation. If s/he is successful, the emotions accompanying the experience are not fully accessed or brought to awareness and thus *avoided*. SER can also occur later in the emotional sequence. Here, the emotional experience is already under way, so the individual may simply try to hide the emotions elicited (Gross, 2001). A person who commonly tries to hide the *behavioral expression* of emotions is unlikely to seek emotional support from others (Kim et al., 2002) and will not share personal experiences. Consequently, s/he may be unable to deal with negative emotions in relationships (Roth & Assor, 2012; Shahar et al., 2018). Because s/he does not attend to and deal with the emotional experience, the accompanying emotions may resurface (Thomsen et al., 2011), undermining well-being (Benita et al., 2020) and possibly causing depression (Berenbaum et al., 1999).

### *Emotion Dysregulation*

Dysregulation involves feeling incapable of regulating emotions. Emotions are experienced as overwhelming and/or disorganizing, and their expression may impede functioning. Individuals may have access to their emotions, but these emotions may be expressed in inappropriate ways or withheld. Emotion dysregulation can lead to even greater distress and possibly to self-harming behavior (Emery et al., 2016). Individuals using dysregulation often face peer rejection, because of their emotional outbursts or withdrawal (Shields et al., 1994). Whether expressing or withholding emotions, they have little behavioral choice; this causes tensions in relationships with others and personal ill-being (Roth et al., 2019)

### *Emotion Regulation and Sympathy for Others' Adversities*

Despite the inconsistent findings for antecedents of sympathy, a few studies have found associations between children's *effortful control* and sympathy (Eisenberg et al., 2007; Valiente et al., 2004; Taylor et al., 2015). Effortful control and SDT's definition of IER both overlap and differ. Effortful control involves shifting attention so that dominant responses are inhibited, or/and subordinate responses are initiated (Rothbart & Bates, 2006). SDT does not see emotional integration as establishing appropriate amounts of control, but rather establishing processes and structures that allow choice instead of control. Thus, shifting attention (effortful control) may result from a volitional decision in a specific context or it may reflect a defensive mechanism, enacted consistently and rigidly. Under SDT, volitional effortful control is adaptive (Roth et al., 2019), while defensive control is less adaptive and related to rumination and ill-being (Ford et al., 2017).

Studies report negative relations between effortful control and personal distress, but findings for relations between effortful control and sympathy are inconsistent. Effortful control has been positively related to adults' sympathy (Eisenberg & Okun 1996; Taylor et al., 2015), but in two studies, relations were significant only when individual differences in negative emotionality were controlled (Eisenberg et al., 1994; Okun et al., 2000). The inconsistent findings may be explained by the notion of IER and the difference between defensive and volitional attention shifting. Rigid and defensive effortful control may be negatively related to sympathy because it risks a negative emotional experience that is rigidly and consistently avoided when possible. However, a volitional attempt to shift attention in a specific situation suggests the ability to take an interest in negative emotional experiences in other situations, and the capacity to explore one's own adversities may be expanded to volitional attempts to take an interest in and sympathize with others' adversities.

A few studies have explored the relationship between consistent attempt to minimize negative emotions and sympathy. Halperin and Gross (2011) examined relations between cognitive reappraisal and empathy toward outgroup members in intractable conflicts. Reappraisal is an attempt to reframe an emotionally charged situation in a non-emotional manner, thus minimizing the emotional experience (Gross, 2002). Halperin and Gross (2011) found no relationship between the two. In a subsequent study, Roth et al. (2016) compared the simultaneous associations of reappraisal and IER on sympathy. They hypothesized that

an individual's ability to sympathize with the adversity of outgroup members is based on the ability to contain and explore one's own negative emotions. They found a positive association between IER, sympathy, and support for conciliatory policies toward outgroup members and like Halprin and Gross (2011), no relationship between reappraisal and sympathy. In the context of schools, Benita et al. (2017) found that adolescents' IER predicted sympathy towards classmates, and this predicted prosocial behavior as reported by teachers.

Building on the recent findings on the relationship between IER and sympathy, we explored simultaneously the association between the three types of ER anchored in SDT (IER, SER, dysregulation), sympathy, and personal distress, with special attention to the role of IER and dysregulation. Previous research reports a relationship between IER and sympathy, but ours was the first to simultaneously explore IER, sympathy, and personal distress. This is important because the tendency to take an interest in one's own negative emotional experiences may initially involve higher stress (Shahar et al., 2018), which may lead to distress when facing the adversity of close others. The simultaneous measurement allowed us to test for two processes: first, the inclination to take an interest in one's own emotions may be a precondition for the tendency to identify and sympathize with others' pain; secondly, it may involve personal distress when facing the pain of others.

Shahar et al. (2018) found that eliciting IER involved both higher stress and more adaptive social relations between intimate partners discussing conflictual topics. Thus, participants in the IER group reported that the discussion improved their chances of resolution compared to participants in the SER or control groups. In addition, the instructed IER partners were more engaged in the discussion, showing greater self-reported interest and emotional awareness. Based on Shahar et al.'s (2018) findings, we hypothesized that IER predicts sympathy but not personal distress, as defined above. We also explored the socialization of ER and empathy, hypothesizing that specific maternal practices might differentially predict IER and dysregulation in offspring, and this could predict children's sympathy and personal distress.

#### *Parental Practices: Socialization of ER and Empathy*

To understand the socialization of empathy and prosocial behavior, researchers have explored parental practices that focus on children's emotional experience and expression (Eisenberg et al., 1998). More specifically, validating children's emotions, encouraging their expression (Taylor et al., 2013), and taking children's perspective (Vinik et al., 2011) have been related to children's sympathy. These emotion-related socialization practices may allow children to deal constructively with emotions by legitimizing them and offering modelling strategies to regulate and express them (Eisenberg et al., 2010). Having a constructive ER capacity may allow the experience of sympathy rather than personal distress (Spinard & Gal, 2018).

Some researcher suggest that children's regulatory skills mediate the relationship between parental socialization practices and empathy-related responses and prosocial behavior. In Davidov and Geusec's (2006) study, children's regulation ability mediated the association between mothers' responsiveness to children's distress and empathy and prosocial behavior. Other research showed that when children are offered a material

reward for prosocial behavior, they are less likely to comply if the reward is not presented (Fabes et al., 1989; Warneken & Tomasello, 2008). Spinard and Gal (2018) suggested that the use of material rewards to promote helping and sharing is likely to undermine children's intrinsic motivation for prosocial behavior. The differentiation between parental practices – taking the child's perspective and validating and legitimizing the child's experience versus offering rewards – reflects the SDT distinction between autonomy supportive and controlling parental practices (Miklikowska et al., 2011; Soenens & Vansteenkiste, 2010).

In controlling parental practices, parents force a child to behave in certain ways, while in autonomy supportive practices (ASP), parents encourage the child's self-initiation and self-expression (Ryan & Deci, 2017). ASP involves parental attempts to take the child's perspective; doing so allows the provision of meaningful rationales for expectations, along with relevant choices. The attempt to take the child's perspective includes encouragement of criticism and independent thinking (Marbell-Pierre et al., 2019; Roth, 2008; Texiera et al., 2020). Controlling parenting involves rewards and sanctions delivered in various ways, some quite visible and others, like guilt induction and conditional regard, more subtle (Grolnick, 2003; Roth et al., 2009). Unlike controlling parenting, ASP is a consistent predictor of a child's empathic ability and prosocial behavior because of the higher level of internalization it allows (see Ryan & Deci, 2017).

SDT differentiates between less-than-optimal levels of internalization in which processes of ego involvement and impression formation drive behavior, and more adaptive levels in which a behavior is based on identification with its value or on interest and enjoyment derived from it (Ryan & Deci, 2017; Roth et al., 2006). Roth (2008) demonstrated that parental ASP predicts offspring's identification with the value of acting prosocially towards others, whereas the controlling practice of parental conditional regard (PCR) predicts a sense of internal compulsion to enact prosocial behavior – in other words, less-than-optimal internalization (Assor et al., 2004; Roth et al., 2009). PCR involves the provision of more affection than usual when the child meets parental expectations and/or withdrawing affection when s/he fails to do so (Roth & Assor, 2012). Roth (2008) demonstrated that the level of internalization (identification and choice versus compulsion) mediated the relationship between parental practices (ASP, PCR) and the quality of prosocial behavior. Thus, ASP predicted other-oriented, prosocial helping (helping others in the way those others wish) through a sense of choice. On the other hand, the autonomy suppressive practice of conditional regard predicted self-focused, prosocial behavior (helping others to boost self-esteem) through a sense of internal compulsion to enact prosocial behavior. Otherwise stated, the quality of internalization predicts the quality of behavior (Weinstein & Ryan, 2010).

Autonomy supportive and suppressive parental practices are hypothesized to predict the type of ER used by children. Brenning and colleagues' (2015) longitudinal study found that ASP was positively related to adolescents' IER and negatively related to their suppressive regulation. In another study of adolescents, Roth et al. (2009) found that the relationship between ASP and IER was mediated by a sense of choice in reactions to a negative emotional experience. In addition, PCR predicted both suppressive regulation and dysregulation in adolescents, and these relationships were mediated by less-than-optimal internalization

reflected in a compulsion to suppress the emotional experience. Thus, PCR seems to interfere with the child's experience and expression of negative emotions. Roth et al. (2009) argued the judgmental experience of being loved by parents only when suppressing negative emotions may result in the child's distorted emotional experience. A distorted experience and compulsion to respond to emotions in specific ways may involve the internalization of judgmental attitudes to negative emotions. Thus, the child may perceive specific emotions as illegitimate and forbidden, making him/her more likely to ruminate (Nolen-Hoaksmá et al., 2008) and to experience meta-emotional reactions, such as guilt about feeling angry (Mitmansgruber et al., 2009).

Based on the forgoing discussion and drawing on research showing that children's regulation ability mediates the relationship between parental practices and empathy (Davidov & Grusec, 2006), we hypothesized that PCR would predict children's personal distress through dysregulation, and ASP would predict their sympathy through IER. To the best of our knowledge, this is the first study to simultaneously explore the relationships among parental practices, SDT's types of ER, sympathy, and personal distress. While SDT's conceptions provide clear expectations of the role of IER and dysregulation in relation to sympathy and personal distress, expectations of the role of SER are less clear. Although it seems likely that SER impedes sympathy, the relationship to personal distress is less evident. Therefore, we included SER in our analyses but did not formulate a specific hypothesis on relationship to dysregulation. Similarly, our inclusion of the cognitive dimension of empathy, perspective-taking, was explorative. We focused on ER and emotional empathic responses, but because such responses often result from taking the other's perspective, it seemed valuable to investigate this as well.

## **Method**

### *Participants and Procedure*

This study focused on college students' self-reports of their perceptions of parental practices and their own types of ER and peer reports on target participants' sympathy and personal distress. Like other studies in the field, our sample comprised community college students (Hayes & Turner, 2021; Kim & Rohner, 2003; Konrath et al., 2011; Schaffer et al., 2009). Students in a psychology course were offered extra credit in exchange for participation. Each participant requested a friend who had known him/her for at least six months to participate. Data were collected directly from the friends by the research team. We had 173 potential participants; 26 could not provide contact information of a friend and were not included. Ultimately, 147 students and their friends participated. The average age of target participants was 25.7 years (72.79% females). The average age of the friends was 26.63 (71.5% females). The community college serves a middle and lower middle-class population. A consent form was signed and participants could withdraw at any time.

### *Measures*

The study consisted of two sets of questionnaires, one for target participants and one for their friends, filled out online using Qualtrics. Power analysis (Cohen et al., 2003) revealed a power level of .97.

*Demographic Information.* This included information on gender, age, mother tongue, and duration of friendship.

*Emotion Regulation.* Nineteen items examined participants' personal characteristics of ER – IER, SER, dysregulation – in the context of anxiety and stress. The items were adopted from Roth and colleagues (2009). Sample items include: 'I seriously examined my anxiety or stress in order to understand their sources' (IER); 'Usually, I ignore my anxiety or stress' (SER); 'When I feel anxious or stressed, I can't concentrate on other things I have to do' (dysregulation). Participants used a 7-level Likert-type scale (from 1, strongly disagree, to 7, strongly agree) to complete the questionnaire. Cronbach's alphas were .77, .92, and .93, for IER, SER, and dysregulation, respectively.

*Perception of ASP.* The questionnaire included eight items adopted from Grolnick et al. (1991) to measure participants' perception of the extent to which their mothers provided ASP. Sample item: 'My mother listens to my opinion or perspective when I've got a problem.' Cronbach's alpha was .90

*Perceptions of Parental PCR.* The 20-item scale adopted from Roth and colleagues (2009) distinguished between positive and negative PCR in the context of regulation of stress and anxiety. Eleven items referred to negative PCR (e.g., 'If I show my anxiety or stress, my mother will express less warmth toward me for a while.' Nine items referred to positive PCR ('If I am anxious or stressed but do not express my anxiety, my mother will express more love for me'). Cronbach's alpha was .96

*Social Desirability.* Six items from a 15-item questionnaire measuring social desirability developed by Crowne and Marlowe (1964) were included to control for social desirability. Sample item included 'It's not important for me to know what other people really think of me.' Cronbach's alpha was .82.

*Peers' Reports of Target Participants' Empathy.* Peers reported the extent to which target participants responded to others with sympathy, personal distress, and perspective-taking. We used the 21-item measure of Davis's Interpersonal Reactivity Index (1983). Seven items measured *empathic concern* (e.g., 'She/he often has tender, concerned feelings for people less fortunate than her/him'); seven measured *personal distress* ('In emergency situations, she/he seems to feel apprehensive and ill-at-ease'); and the final seven measured *perspective-taking* ('She/he tries to look at everybody's side of a disagreement before she/he makes a decision'). Peers scored how each item applied to target participants on a 7-level Likert scale. Cronbach's alphas were .63, .74, and .81 for empathic concern, personal distress, and perspective-taking, respectively.

### *Analysis*

Analysis constituted three stages, namely descriptive statistics, including correlations among study variables; structural equation modeling (SEM) with latent variables to simultaneously inspect hypothesized associations among parental practices, ER types, sympathy, and personal distress; and a comparison of the relative fit of partial and full mediation models to test for mediation.



## Results

### *Preliminary Analysis*

Table I presents descriptive statistics and correlations among the study variables. Social desirability did not correlate with any variable and was excluded from the analysis. As expected, the correlations of perceived ASP, IER, and sympathy were positive and significant. Similarly, the correlations between perceived PCR, dysregulation, and personal distress were positive and significant. We did not formulate specific hypotheses for SER besides the assumption that higher SER would not correlate positively with sympathy. In line with this expectation, the correlation between the two was negative. Interestingly, the pattern of SER with the three dimensions of empathy was similar to the pattern of dysregulation, although the magnitude of the correlations was smaller. Thus, like dysregulation, the correlations between SER and sympathy and perspective-taking were negative, and those between SER and personal distress positive. This suggested that it might be useful to include SER in the SEM analysis and test its simultaneous relations to parenting practices and the dimensions of empathy. However, considering the sample size and the *subject-to-variable ratio*, along with concerns about inflating parameters (Wolf et al., 2013), we were cautious about adding estimation of more latent variables. Nevertheless, before moving to SEM analysis, we conducted two multiple regression analyses, regressing sympathy and personal distress on the three ER styles. The unique effects (beta coefficients) appear in Table II. When we simultaneously controlled the three variables and let them compete for variance on the empathy dimensions, the unique effects of SER on personal distress and sympathy were small and insignificant, but the beta coefficients of the other two regulation types remained significant. Therefore, the multiple regression results suggested that the inclusion of SER in the final SEM model was not critical.

Table I. Descriptive Statistics and Correlations of the Research Variables

		M	SD	1	2	3	4	5	6	7	
1	ASP	5.41	1.30	--							
2	Self-report	PCR	2.57	1.35	-0.51**	--					
3		IER	5.27	1.04	0.40**	-0.28**	--				
4		Dysregulation	3.92	1.73	-0.39**	0.46**	-0.10	--			
5		Suppression	4.03	1.65	-.23**	.35**	-.06	.33**	--		
6		Sympathy	5.93	0.81	0.22**	-0.30**	0.37**	-0.25**	-.21*	--	
7	Peer-report	Personal Distress	3.75	0.97	-0.42**	0.37**	-0.21**	0.52**	.38**	-0.16*	--
8		Perspective-taking	5.24	0.97	.39**	-.42**	.32**	-.42**	-.32**	.59**	-.47**

Note: \* \* p < 0.01; ASP=autonomy supportive parenting; PCR=parental conditional regard; IER=integrative emotion regulation.

Table II. Multiple Regression of Sympathy and Personal Distress on the Three Emotion Regulation Styles

Predictors	Sympathy			Personal distress		
	Beta	T	Sig	Beta	t	Sig
IER	.35**	4.62	.00	-.15	-2.35	.20
Dysregulation	-.17	-1.93	.05	.59**	8.02	.00
Suppression	-.09	-1.03	.30	.05	.71	.48
Note: ** p < 0.01; IER=integrative emotion regulation						

*Structural Equation Modeling*

We used AMOS 5.0 (Arbuckle & Wothke, 2003) with maximum likelihood estimation to simultaneously examine the following hypotheses: perception of ASP would predict sympathy through IER; perception of PCR would predict personal distress through dysregulation. The items for IER and dysregulation were used as indicators of the latent variables. Because of the length of the measures of parental practices (ASP, PCR) and the two dimensions of empathy (sympathy, personal distress), we used a parceling procedure. Parceling creates several measures for each latent construct, thereby lowering measurement error and risk of false correlations, while increasing scale points (Little et al., 2002). For parental practices, parcels were founded on two indicators based on items’ content analysis (Kanat-Maymon et al., 2021). For PCR, one indicator included items of conditional negative regard (provision of less affection than usual when the child does not meet parental expectations) and the other included items of conditional positive regard (provision of more affection than usual when the child meets parental expectations; see Roth et al., 2009). For ASP, the items were divided into two autonomy supportive practices: taking the child’s perspective and providing choice. For sympathy and personal distress, items were assigned to parcels using Little et al.’s (2002) procedure. A single unidimensional factor was extracted from scale items using exploratory factor analysis. Then, the items were divided up according to their factor loading, so that parcels had similar numbers of items and similar mean loadings. None of the parcels was severely non-normally distributed (Lei & Lomax, 2005).

We assessed the Model fit using the ratio of chi-square to degrees of freedom ( $\chi^2/df$ ), comparative fit index (CFI; Bentler, 1990), incremental fit index (IFI; Bollen, 1989), and root-mean-square error of approximation (RMSEA; Browne & Cudeck, 1993). Results are in Figure 1 show that all path coefficients were significant and in the expected directions. Fit indices were sufficient:  $\chi^2/df=1.578$ ,  $\chi^2_{(202)} = 318.720$ ,  $p < 0.01$ . CFI, IFI, and RMSEA values were satisfactory: 0.937, 0.939, and 0.063, respectively. Therefore, the results supported the study’s hypotheses.

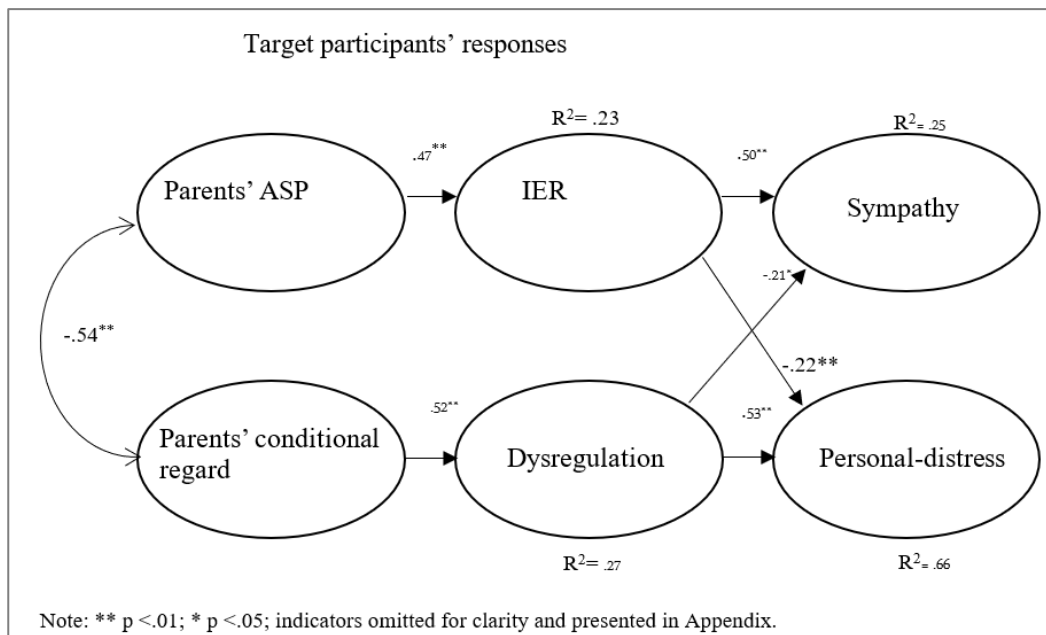


Figure 1. IER and Dysregulation as mediators of the relationship between Parental Practices and Empathic Responses.

#### *Comparing Relative Fit of Partial and Full Mediation Models*

To compare the goodness-of-fit of nested models, we added each direct path from ASP and PCR to the outcomes separately. The additional paths did not result in reduction of more than 3.84 in chi-square. Therefore, full mediation models were preferred in all cases.

#### **Discussion**

We explored the antecedents of two empathic responses, sympathy and personal distress. Past research has associated the experience of being overwhelmed by negative emotions with personal distress (Okun et al., 2000). Thus, our finding that dysregulation and PCR predicted personal distress corroborated previous work. However, research on the antecedents of sympathy is limited and less consistent. Ours is not the first study to support the hypothesis that ASP and IER are related to sympathy, but it was the first to test their relationship to sympathy and personal distress simultaneously. It extends past research by revealing that ASP and IER positively predict sympathy but not personal distress.

#### *ER and Responses to Another's Adversity*

The relationship we found between dysregulation and personal distress replicates past findings (Eisenberg et al., 2004). Participants who reported difficulties regulating negative emotions and who experienced flooding and paralysis in situations eliciting negative emotions, appeared to respond with personal distress when facing a close friend's expression of adversity. However, the tendency to take an interest in their own emotional experience with an attempt to explore its sources, was negatively related to personal distress and positively to

sympathy. Hence, it seems that the tendency to take an interest in one's own emotional experience may involve the capacity to take an interest in another's adversity and to comfort him/her.

Following Shahar et al. (2018), we speculated that taking an interest in one's own negative emotional experience might involve elevated stress that, in addition to eliciting sympathy, might lead to personal distress when facing another's adversity. The results did not support this assumption. It seems that IER does not predict self-focused aversive emotional reactions, but others-oriented caring and concern.

The results shed light on the inconsistent findings on effortful control as a predictor of sympathy. Effortful control is operationalized as controlling behavior by shifting attention to inhibit dominant responses. However, an individual may shift attention volitionally as a result of his/her exploration of an emotional experience and its contextual demands, but shifting attention may also occur defensively because the experience may risk evoking a negative emotion s/he consistently and rigidly tries to avoid. Our findings suggest volitional effortful control may consistently predict sympathy whereas defensive effortful control may not. Future research needs explore this question more directly.

While we had a specific hypothesis on the relationship between IER and dysregulation and emotional empathic responses, we were more cautious predicting associations with SER. SDT and past findings support the assumption that SER will hamper the tendency to sympathize with others' adversities; however, the relationship between SER and personal distress is less clear. Interestingly, the pattern of association between SER and sympathy, personal distress, and perspective-taking was similar to that for dysregulation, that is, a negative relationship with sympathy and perspective-taking, and a positive relationship with personal distress. It seems reasonable that the attempt to avoid one's own negative emotional experience would be negatively related to emotional identification with others' adversities and with the attempt to take their perspective, because in this situation, taking the other person's perspective risks eliciting negative emotions. However, the positive association with personal distress is less obvious.

Research suggests that emotional distancing and reappraisal (Gross, 2002) reduce emotional arousal, but expressive suppression involves higher stress (Butler et al., 2003; Gross, 2013). According to Gross's (2013) process model, reappraisal reduces emotional arousal because it intervenes early in the emotion generation process, while expressive suppression occurs later when the emotional experience is already underway. Our measure of SER did not differentiate between avoiding the emotional experience and avoiding its behavioral expression. Thus, future research needs to test the consequences of each phenomenon separately. A straightforward hypothesis (based on the process model) suggests the alleviation of the emotional experience may result in less personal distress, together with less sympathy, whereas expressive suppression may result in personal distress. A more complex hypothesis suggests that persons who socialize to avoid negative emotional experiences may fail to do so at times (e.g., when the other's pain is too strong). They may suppress the emotional expressive behavior and thus experience distress.

We focused on the socialization of ER and empathic emotional responses and thus perspective-taking, the cognitive component of empathy, was not a central concern of the study. But since the empathic emotional

responses (sympathy, personal distress) may result from taking perspective (Eisenberg et al., 2010), we included it in data collection. The pattern of correlations of this measure resembled the pattern for sympathy, namely it was positively related to ASP and IER and negatively related to PCR and dysregulation. Future research needs to explore the role of perspective-taking as a mediator or/and moderator of the association between socialization of ER and empathic emotional responding.

### *Socialization of ER and Empathy*

Past research has found ASP predicts IER whereas PCR predicts maladaptive types of ER, such as dysregulation and SER (Brenning et al., 2015; Roth et al., 2009; Roth & Assor, 2010, 2012). In addition, positive associations have been reported between ASP, empathy, and prosocial behavior (Gagné, 2003; Roth, 2008, Ryan & Deci, 2017), but PCR predicts less-than-optimal empathy and prosocial behavior (Assor et al., 2004; Roth, 2008; Roth & Assor, 2010, 2012). Our study extends past research by providing the first indication that IER and dysregulation mediate the relationship between parental practices and children's empathic responses. The socialization of qualities of ER seems to predict the quality of the responses to others' emotional expressions. This conclusion should be made with caution, however, because the study's method does not allow causal inferences. Future research needs explore this question longitudinally.

The findings have practical implications for therapists and educators working with parents. The focus on specific capacities of ER as a predictor of empathy may draw practitioners' attention to adaptive ER and its socialization. The core definition of IER is the non-judgmental attention to negative emotion and the capacity to use the experience as a resource for volitional behavior. Thus, working with parents on practices that convey legitimization of negative emotions seems important. ASP that involves parental non-judgmental responses to a child's expression of negative emotions may allow the child's non-judgmental attention and the exploration of her/his own negative emotions, which in turn, may allow the child to express sympathy with another's adversity.

### *Limitations and Suggestions for Future Research*

One of the strengths of the study is the use of multiple informants, namely close friends, to measure the extent to which the target participants responded with sympathy or distress. In addition, the empathy responses were measured concretely within the specific relationship between the target participant and a close friend, unlike the reports of participants in past research using general measures (eg. Davis. 1983). There is still the possibility, however, of bias in these reports.

The study's design was cross-sectional; thus, causal inferences cannot be made. Moreover, the sample was homogenous (college students), and the majority of participants were female. In order to generalize findings to a wider population, populations with a higher proportion of male participants and diverse age groups are necessary.

Finally, the research emphasizes the role of the quality of ER as a predictor of adaptive and maladaptive empathy responses to another's adversity. The findings support the assumption that emotional identification with others in need is predicted by the tendency to take an interest in one's own negative emotions. Importantly, the tendency to explore one's own negative emotional experience does not seem to be associated with personal distress. Corroborating past research, these findings support the socialization of IER and sympathy: parental behaviors supporting a child's autonomy allow the child to explore his/her own negative emotions and those of others.

## Disclosure

The authors confirm that they do not have any conflict of interest in this article.

## References

- Aknin, L., Dunn, E. W., Sandstrom, G. M., & Norton, M. I. (2013). Does social connection turn good deeds into good feelings? On the value of putting the "social" in prosocial spending. *International Journal of Happiness and Development, 1*, 155–171.
- Arbuckle, J. L., & Wothke, W. (2003). *Amos 5.0 Users Guide*. Small Waters.
- Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of parents' conditional regard: A self-determination theory analysis. *Journal of Personality, 72*(1), 47-88.6
- Batson, C. D. (1991). *The altruism question*. Erlbaum.
- Benita, M. (2020). Freedom to feel: A self-determination theory account of emotion regulation. *Social and personality psychology compass, 14*(11), e12563.
- Benita, M., Benish-Weisman, M., Matos, L., & Torres, C. (2020). Integrative and suppressive emotion regulation differentially predict well-being through basic need satisfaction and frustration: A test of three countries. *Motivation and Emotion, 44*, 67-81.
- Benita, M., Levkovitz, T., & Roth, G. (2017). Integrative emotion regulation predicts adolescents' prosocial behavior through the mediation of empathy. *Learning and Instruction, 50*, 14-20.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238 –246
- Berenbaum, H., Raghavan, C., Le, H. N., Vernon, L., & Gomez, J. (1999). Disturbances in emotion. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 267–287). New York: Sage.
- Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods Research, 17*, 303–316.
- Brenning, K., Soenens, B., Van Petegem, S., & Vansteenkiste, M. (2015). Perceived maternal autonomy support and early adolescent emotion regulation. *Social Development, 24*(3), 561-578.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136 –162). Sage.

- Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion, 3*(1), 48-67.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Lawrence Erlbaum.
- Crowne, D. P., & Marlowe, D. (1964). *The approval motive*. Wiley.
- Davidov, M., & Grusec, J. E. (2006). Untangling the links of parental responsiveness to distress and warmth to child outcomes. *Child Development, 77*(1), 44-58.
- Davis, M. H. (1983). Measuring individual differences in empathy. *Journal of Personality and Social Psychology, 44*, 113-126.
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*(4), 241-273.
- Eisenberg, N., Eggum, N. D., & Di Giunta, L. (2010). Empathy-related responding. *Social Issues and Policy Review, 4*(1), 143-180.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., Murphy, B. C., Poulin, R., & Shepard, S. (1996). The relations of regulation and emotionality to problem behavior in elementary school children. *Development and Psychopathology, 8*, 141-162.
- Eisenberg, N., Fabes, R. A., Murphy, B., Karbon, M., Maszk, P., Smith, M., O'Boyle, C., & Suh, K. (1994). The relations of emotionality and regulation to dispositional and situational empathy-related responding. *Journal of Personality and Social Psychology, 66*, 776-797.
- Eisenberg, N., Michalik, N., Spinrad, T. L., Hofer, C., Kupfer, A., Valiente, C., Liew J., Cumberland A., & Reiser, M. (2007). The relations of effortful control and impulsivity to children's sympathy. *Cognitive Development, 22*(4), 544-567.
- Eisenberg N., & Okun M. A. (1996). The relations of dispositional regulation and emotionality to elders' empathy-related responding and affect while volunteering. *Journal of Personality, 64*, 157- 83.
- Eisenberg, N., Smith, C. L., Sadovsky, A., & Spinrad, T. L. (2004). Effortful control. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation* (pp. 259-282). Guilford.
- Emery, A. A., Heath, H. L., & Mills, D. J. (2016). Basic psychological need satisfaction, emotion dysregulation, and non-suicidal self-injury engagement in young adults: An application of Self-Determination Theory. *Journal of Youth and Adolescence, 45*, 612-623.
- Fabes, R. A., Fultz, J., Eisenberg, N., May-Plumlee, T., & Christopher, F. S. (1989). Effects of rewards on children's prosocial motivation. *Developmental Psychology, 25*(4), 509.
- Ford, B. Q., Lam, P., John, O. P., & Mauss, I. B. (2017). The psychological health benefits of accepting negative emotions and thoughts. *Journal of Personality and Social Psychology*, Advance online publication.
- Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial behavior engagement. *Motivation and emotion, 27*, 199-223.

- Grolnick, W. S. (2003). *The psychology of parental control*. Erlbaum.
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement. *Journal of Educational Psychology*, 83(4), 508-517.
- Gross, J. J. (2001). Emotion regulation in adulthood: Timing is everything. *Current directions in psychological science*, 10(6), 214-219
- Gross, J. J. (2002). Emotion regulation. *Psychophysiology*, 39, 281-291.
- Gross, J. J. (2013). Emotion regulation. *Emotion*, 13, 359–365.
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological inquiry*, 26(1), 1-26.
- Halperin, E., & Gross, J. J. (2011). Emotion regulation in violent conflict. *Cognition & Emotion*, 25, 1228–1236.
- Hayes, K., & Turner, L. A. (2021). Helicopter parenting predicts empathy and bystander intervention. *Journal of Interpersonal Violence*, 1-18.
- Kanat-Maymon, Y., Yaakoby, E., & Maaravi, Y. (2021). Organizational support, legitimacy, and workplace outcomes. *Journal of Theoretical Social Psychology*, 00, 1-9.
- Kim, Y., Deci, E. L., & Zuckerman, M. (2002). The development of the self-regulation of withholding negative emotions questionnaire. *Educational and Psychological Measurement*, 62, 316–336.
- Kim, S. I., & Rohner, R. P. (2003). Perceived parental acceptance and emotional empathy among university students in Korea. *Journal of Cross-Cultural Psychology*, 34(6), 723-735.
- Konrath, S. H., O'Brien, E. H., & Hsing, C. (2011). Changes in dispositional empathy in American college students over time. *Personality and Social Psychology Review*, 15(2), 180-198.
- Lei, M., & Lomax, R. G. (2005). The effect of varying degrees of nonnormality in structural equation modeling. *Structural Equation Modeling*, 12(1), 1–27.
- Little T. D., Cunningham W. A., Shahar G. & Widaman K. F (2002). To parcel or not to parcel. *Structural Equation Modeling*, 9, 151–173.
- Marbell-Pierre, K. N., Grolnick, W. S., Stewart, A. L., & Raftery-Helmer, J. N. (2019). Parental autonomy support in two cultures. *Child Development*, 90(3), 825–845.
- Martela, F., & Ryan, R. M. (2015). The benefits of benevolence: Basic psychological needs, beneficence, and the enhancement of well-being. *Journal of Personality*, 84, 750–764.
- Meier, S., & Stutzer, A. (2008). Is volunteering rewarding in itself?. *Economica*, 75(297), 39-59.
- Miklikowska, M., Duriez, B., & Soenens, B. (2011). Family roots of empathy-related characteristics. *Developmental Psychology*, 47(5), 1342-1352.
- Mitmansgruber, H., Beck, T. N., Höfer, S., & Schüßler, G. (2009). When you don't like what you feel. *Personality and Individual Differences*, 46(4), 448–453.
- Nolen-Hoeksema, S., Wisco, B. E. & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3, 400-424.



- Okun, M. A., Shepard, S. A., & Eisenberg, N. (2000). The relations of emotionality and regulation to dispositional empathy-related responding among volunteers-in-training. *Personality and Individual Differences, 28*(2), 367-382.
- Roth, G. (2008). Perceived parental conditional regard and autonomy support as predictors of young adults' self-versus other-oriented prosocial tendencies. *Journal of Personality, 76*(3), 513-534.
- Roth, G., & Assor, A. (2010). Parental conditional regard as a predictor of deficiencies in young children's capacities to respond to sad feelings. *Infant and Child Development, 19*, 465-477.
- Roth, G., & Assor, A. (2012). The costs of parental pressure to express emotions. *Journal of Adolescence, 35*(4), 799-808.
- Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The emotional and academic consequences of parental conditional regard. *Developmental Psychology, 45*(4), 1119-1142.
- Roth, G., & Benita, M. (In press). Integration versus minimization of emotional experiences. In R. M. Ryan (Ed.) *The Oxford handbook of self-determination theory*. Oxford University Press.
- Roth, G., Kanat-Maymon, Y., Assor, A., & Kaplan, H. (2006). Assessing the experience of autonomy in new cultures and contexts. *Motivation and Emotion, 30*, 365-376.
- Roth, G., Shane, N., & Kanat-Maymon, Y. (2016). Empathising with the enemy. *Cognition and Emotion, 31*, 1511-1524.
- Roth, G., Vansteenkiste, M., & Ryan, R. M. (2019). Integrative emotion regulation. *Development and Psychopathology, 31*(3), 945-956.
- Rothbart, M. K., & Bates, J. E. (2006). Temperament. In W. Damon & R. M. Lerner (Eds.), *Social, emotional, and personality development* (pp. 99-166). Wiley.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory*. Guilford.
- Ryan, R. M., Deci, E. L., Grolnick, W. S., & La Guardia, J. G. (2006). The significance of autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology* (pp. 295-849). Wiley.
- Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy disturbances in self-development and psychopathology: Research on motivation, attachment, and clinical process. *Developmental psychopathology, 1*, 385-438.
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and cultures. *Personal relationships, 12*(1), 145-163.
- Schaffer, M., Clark, S., & Jeglic, E. L. (2009). The role of empathy and parenting style in the development of antisocial behaviors. *Crime & Delinquency, 55*(4), 586-599.
- Shahar, B. H., Kalman-Halevi, M., & Roth, G. (2018). Emotion regulation and intimacy quality. *Journal of Social and Personal Relationships, 36*(11-12), 3343-3361.

- Sheldon, K. M., Boehm, J. K., & Lyubomirsky, S. (2009). Variety is the spice of happiness: The hedonic adaptation prevention (HAP) model. In I. Boniwell & S. David (Eds.), *Oxford handbook of happiness* (pp. 901–914). Oxford University Press.
- Shields, A., Cicchetti, D., & Ryan, R. M. (1994). The development of emotional and behavioral self-regulation and social competence among maltreated school-age children. *Development and Psychopathology*, *6*, 57–75.
- Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control. *Developmental Review*, *30*(1), 74-99.
- Spinrad, T. L., & Gal, D. E. (2018). Fostering prosocial behaviour and empathy in young children. *Current Opinion in Psychology*, *20*, 40-44.
- Taylor, Z. E., Eisenberg, N., Eggum, N. D., Sulik, M. J., Spinrad, T. L. (2013). The relations of ego-resiliency and emotion socialization to the development of empathy and prosocial behavior across early childhood. *Emotion*, *13*, 822-831.
- Taylor, Z. E., Eisenberg, N., & Spinrad, T. L. (2015). Respiratory sinus arrhythmia, effortful control, and parenting as predictors of children’s sympathy across early childhood. *Developmental Psychology*, *51*(1), 17–25.
- Taylor, Z. E., Eisenberg, N., Spinrad, T. L., Eggum, N. D., & Sulik, M. J. (2013). The relations of ego-resiliency and emotion socialization to the development of empathy and prosocial behavior across early childhood. *Emotion*, *13*(5), 822.
- Teixeira, P. J., Marques, M. M., Silva, M. N., Brunet, J., Duda, J. L., Haerens, L., La Guardia, J., Lindwall, M., Lonsdale, C., Markland, D., Michie, S., Moller, A. C., Ntoumanis, N., Patrick, H., Reeve, J., Ryan, R. M., Sebire, S. J., Standage, M., Vansteenkiste, M., & Hagger, M. S. (2020). A classification of motivation and behavior change techniques used in self-determination theory-based interventions in health contexts. *Motivation science*, *6*(4), 438–455.
- Thomsen, D. K., Tønnesvang, J., Schnieber, A., & Olesen, M. H. (2011). Do people ruminate because they haven’t digested their goals? The relations of rumination and reflection to goal internalization and ambivalence. *Motivation and Emotion*, *35*, 105-117.
- Valiente, C., Eisenberg, N., Fabes, R. A., Shepard, S. A., Cumberland, A., & Losoya, S. H. (2004). Prediction of children's empathy-related responding from their effortful control and parents' expressivity. *Developmental Psychology*, *40*(6), 911–926.
- Vinik, J., Almas, A., & Grusec, J. (2011). Mothers' knowledge of what distresses and what comforts their children predicts children's coping, empathy, and prosocial behavior. *Parenting: Science and Practice*, *11*(1), 56-71.
- Warneken, F., & Tomasello, M. (2008). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Developmental psychology*, *44*(6), 1785-1788.

Weinstein, N., & Ryan, R. M. (2010). Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, 98(2), 222–244.

## Appendix

Indicator loadings for IER and Dysregulation as mediators of the relationship between Parental Practices and Empathy

Variable	Indicator loading
Autonomy support	
As_tp	.94
As_c	.88
Conditional regard	
Negative_cr	1.01
Positive_cr	.67
IER	
Int1	.81
Int2	.69
Int3	.59
Int4	.58
Int5	.49
Int6	.44
Dysregulation	
Dis1	.89
Dis2	.88
Dis3	.85
Dis4	.83
Dis5	.83
Dis6	.75
Sympathy	
Spar1	.83
Spar2	.79
Spar3	.66
Personal distress	
Pdpar1	.85
Pdpar2	.84
Pdpar3	.80