

To appear in Robert Scott, Stephen Kosslyn, and Marlis Buchmann (Eds.), *Emerging Trends in the Social and Behavioral Sciences*. Hoboken, NJ: John Wiley and Sons.

Social-Emotional Responding:

A Perspective from Developmental Psychology

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Main Text + References: 4,639 words

This is the pre-peer reviewed version of the following article: Malti, T., Sette, S., & Dys, S.P. (2016). Social-emotional responding: A perspective from developmental psychology. *Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource*, 1–15, which has been published in final form at <https://doi.org/10.1002/9781118900772.etrds0415>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions: <http://www.wileyauthors.com/self-archiving>.

Abstract

Social-emotional responding (SER) refers to 1) an individual's awareness and understanding of emotional experiences in the self and others, 2) expression of emotions, and 3) emotion regulation capacities. The normative development of these responses is considered a central component of human development. This is because SER underlies our capacities to express other-oriented behaviors and cope with challenges of everyday life in adaptive and socially responsible ways. The goal of this article is to identify emerging trends in this area of developmental research. We first discuss central conceptual issues in social-emotional development and present a conceptual framework from developmental psychology to study SER. Next, we identify current shortcomings in research on SER. We focus on three central components of SER: self-conscious emotions, other-oriented emotions, and emotion regulation. Based on our analyses of the current gaps, we highlight three promising attempts to solve some of the current shortcomings in this literature: attempts to understand developmental relations between self-conscious emotions, other-oriented emotions, and emotion regulation capacities; attempts to identify psychological, neural, and behavioral mechanisms underlying social-emotional responding, and; the application of this knowledge to interventions that concern children and families.

Keywords: social-emotional responding, social-emotional development, self-conscious emotions, other-oriented emotions, emotion regulation, developmental intervention.

Relevant Disciplines: psychology, public health, biology, education, sociology, social work, neuroscience.

Social-Emotional Responding:

A Perspective from Developmental Psychology

Social-emotional responding is a core dimension of human development. It entails our emotional experiences and reactions that are continuously triggered by interactions between our neurobiological and behavioral systems with social experiences in everyday life. These responses are embedded in a lifelong process of growth, maturation, and change and shape our well-being, the quality of our social relationships, and our productivity. The goal of the current article is to discuss emerging trends in social-emotional development, with an emphasis on the period from early childhood to late adolescence, as this time encompasses key normative developmental transitions in social-emotional responding. We first discuss conceptual issues in social-emotional development and identify three core areas in social-emotional responding: the development of self-conscious emotions, the development of other-oriented emotional responses, and emotion regulation. We then introduce a developmental framework to study these dimensions of social-emotional responding. Next, we discuss selected findings from the recent literature, with a focus on children's development of self-conscious and other-oriented emotions and regulatory capacities in the context of social and moral conflict in everyday life. Based on this review, we highlight emerging trends in this literature and identify promising venues for application of social-emotional development research to public policy concerns.

Social-emotional Development: Conceptual Issues

Social-emotional development is a term used in developmental psychology to describe various processes in the emotional and social domain of human development. Most prominently, it pertains to process of change and maturation in experience, expression, and regulation of emotions in ways that are appropriate for an individual's age and development, across the

lifespan (Saarni, 1999). It is considered central to balancing self-oriented needs and desires with other-oriented responsibilities because it involves understanding of one's own internal affective states, understanding and appreciating the emotional experiences of others, and coordinating and integrating one's own and others' perspectives. Because of this continuous interaction between the self and the social world, there is wide agreement that social-emotional capacities are integral to navigating the conflicts of everyday social and moral life, such as peer exclusion and inclusion, and meaningful contributions to civic society.

On an intrapersonal dimension, social-emotional development also relies on cognitive development, which promote gathering knowledge about others and the world. As children develop cognitive skills, such as an understanding of others' mental states, they can update the ways in which they process and evaluate social conflicts (Killen, Mulvey, Richardson, & Jampol, 2011). These evaluations then color children's social emotional responses to these situations-- a notion reflected in increasing coactivation between brain areas responsible for cognitive and affective processing. Here we focus on three elements of social-emotional development which have been identified as essential components of emotional responding, i.e., self-conscious emotions, other-oriented emotions, and emotion regulation, and their development from early childhood to late adolescence (Malti & Ongley, 2014; Eisenberg, 2000).

Self-conscious emotions have been described as emotional responses to social or moral conflict situations. They have been labeled "self-conscious" because they are evoked by the individual's understanding and evaluation of the self in relation to violating a norm, such as behaving unfairly (Malti, in press). In psychology, self-conscious emotions (e.g., guilt) have been distinguished from other-oriented emotions (e.g., righteous anger) in that the former reflect an evaluation of one's own deeds while the latter involve a focus on other individuals. The most

widely investigated other-oriented emotional responses are empathy and sympathy (Eisenberg, 2000). Empathy has been defined as an affective and cognitive response that stems from the comprehension of another's emotional state, where the affective response resembles the other person's feelings. The cognitive component involves identifying with another person's emotional experience (Eisenberg, Spinrad, & Morris, 2014). Sympathy entails feelings of concern for another that stem from the apprehension of the other's emotional state. Unlike empathy, however, sympathy does not necessarily involve feeling the same emotion that the other person is experiencing. Since the minimum prerequisites for empathy involve only emotional contagion and the ability to differentiate between one's self and other, empathy is sometimes considered "value-neutral", and not directly linked to moral conduct (Eisenberg et al., 2014). Feelings of empathy and sympathy also depend on the evaluations of the context surrounding the distress of an other. If one evaluates an other's emotional distress to be unreasonable given the type (e.g., morally versus issues of personal preference) and severity of the transgression, one is less likely to experience feelings of empathy or sympathy. Emotion regulation has been conceptualized as the "[p]rocesses used to manage and change if, when, and how (e.g., how intensely) one experiences emotions and emotion-related motivational and physiological states, as well as how emotions are expressed behaviorally" (Eisenberg et al., 2007, p. 288). It is considered essential for healthy development and behavioral adaptation.

We focus on social-emotional responding in the context of social and moral conflict. These contexts are typically multifaceted and occur at an intersection between moral, social-conventional, and personal spheres. As such, these situations help us understand how children negotiate and integrate considerations such as fairness, peer norms, and personal desires. Understanding children's responding to these situations is important as they are often their most

common and personally binding conflict experiences. As such, they are central to for studying the development of children’s social-emotional responding.

The development of self-conscious and other-oriented emotional responses and emotion regulation capacities has been shown to promote prosocial, other-oriented behavior, and impede antisocial, selfishly-motivated behavior (Arsenio, 2014; Malti & Krettenauer, 2013).

Furthermore, expressions of these emotions, by way of their communicative properties (e.g., facial expressions, bodily postures, or vocalizations) can themselves serve as prosocial acts by providing support and comfort to others.

Social-emotional Responding: A Conceptual Framework from Developmental Psychology

We have recently described a conceptual framework from developmental psychology to understand the development of the three components of social-emotional responding (SER; Malti, in press). The framework describes the dimensions of SER and their development. We also present a taxonomy of SER, in which the structure and function of SER is described along two core organizational principles: First, the principle of self- and other-orientation. This is an organizational principle to understand whether the component of emotional responding is (more) focused on the self (e.g., self-conscious emotions), an other (e.g., other-oriented emotions such as sympathy or prosocial behavioral tendencies), or both (social understanding requires an understanding of one’s own and others’ perspective) in a way that is adequate for their age and development (Malti, in press). Second, the principle of over- and under-regulation. This organizational principle that helps identify the extent to which the individual is able to regulate and balance his/her own and others’ needs in a manner that is adequate for their age and development (Eisenberg, 2000). Central to this SER framework and taxonomy is first, the integration of others’ and self-perspectives that transcend one’s own standpoint and may

ultimately lead to other-oriented sympathy (Malti, in press; Malti & Ongley, 2014). Second, the taxonomy indicates that there is a basic human need to demonstrate emotional control and flexibility by regulating one's own needs, which leads to optimal balance and resilience. In addition, there is both intraindividual and interindividual variation in these two components of SER reflecting developmental processes of growth, decline, and transformation. Research has been conducted to understand the emergence and development of social-emotional responding. In the following, we critically discuss this literature selectively, with a focus on identifying shortcomings and providing suggestions for emerging trends and future directions in research.

The Development of Self-Conscious Emotions

One of the most prototypical self-conscious emotion is guilt (Malti, in press). Guilt in the moral domain has been conceptualized as a feeling of regret over wrongdoing (Malti, Gummerum, Keller, & Buchmann, 2009). It reflects a violation of one's personal moral code (Malti, in press). In contrast, neurotic guilt, which arises in response to events beyond our control, is neither the result of real damage nor real wrongdoing and, as such, is an irrational emotional overreaction. The emergence and development of guilt has been studied in developmental psychology. One main purpose of this line of work has been to understand when guilt evolves, how it changes across childhood and adolescence, and what are its implications for adaptive and maladaptive social behaviour. In short, research indicates that children show precursors of guilt, such as an averted gaze, bodily tension, and emotional distress, around 4 years of age (Kochanska et al., 2002). A more fully-fledged form of guilt (such as self reports of guilt, followed by reasons pertaining to fairness, justice, or care) appears at 6 years of age (Malti, in press), which coincides with children's understanding that one may feel multiple, mixed emotions simultaneously. Once children reach 7-8 years of age, they also tend to shift toward

attributing negative (i.e., guilty) emotions to themselves as transgressors (for a review, see Arsenio, 2014). Nevertheless, interindividual differences in the anticipation of guilt remain well into adolescence and beyond. One reason for this may be that differences in guilt in early childhood may, in part, be due to early cognitive constraints, while in late childhood and beyond they may increasingly reflect inter-individual differences in motivations, desires, and beliefs. Future work that investigates this current gap in the literature may clarify why some children report guilt, while others do not. In addition, it also remains to be seen how guilt relates to other types of emotional responses in the context of social and moral conflict, such as sympathy or moral anger. While previous work has proposed the development of guilt to be strongly motivated by sympathy (Hoffman, 2000), emerging research has questioned this notion (Malti & Ongley, 2014). For instance, some research has suggested that different types of emotions can compensate each other in responding adequately to such conflicts (Ongley & Malti, 2014). This may reflect more differentiated antecedents for self-centered and other-oriented emotions-- an idea that is worth pursuing in future work given the various implications for how children are likely to solve such conflicts.

The Development of Other-Oriented Emotions

Again, a bulk of this literature has examined empathy and sympathy, and has focused on identifying developmental trajectories, and, more recently, its emergence. Empathy is believed to emerge in the first year of life, as early as 8 months of age (Davidov, Zahn-Waxler, Roth-Hanania, & Knafo, 2013). Sympathy, which involves feelings of concern for the welfare of others, appears to evolve in the second year of life and is seen as a product between empathic capacities and advancements in cognitive abilities, such as perspective taking (Eisenberg et al., 2014). To at least some degree, infants as young as 8 months seem to react to the distress of

others with resonant negative affect, which may be considered a precursor to empathy.

Nevertheless, the debate on the emergence of empathy and sympathy is far from resolved. For instance, the notion that affective empathy increases with development has been criticized based on recent longitudinal evidence indicating little to no increase in feelings of empathic concern across early childhood (Vaish, Carpenter, & Tomasello, 2009). However, other longitudinal and cross-sectional findings suggest that children increasingly anticipate feelings of concern for others from mid-childhood to early adolescence (Malti, Eisenberg, Kim, & Buchmann, 2013).

Noteworthy, previous researchers found differential developmental trajectories of sympathy across childhood. For example, Kienbaum (2014) found mean level stability of observed sympathy from teachers' reports and increase of sympathy for self- and parent-reports in a sample of children aged 5- to 7-years old. These discrepancies in findings likely reflect the unique perspective and context of observation that each informant shares with the child. As a whole, however, these inconsistencies make it somewhat more difficult to discern normative patterns of sympathetic responding, how they change with age, and how they relate to other components of social-emotional responding.

The Development of Emotion Regulation

The ability to regulate emotions has been shown to increase from infancy to adolescence. Specifically, infants progress rapidly from external (e.g., parental care) to internal (e.g., self-soothing) sources of regulation to distress in the first year of life, and these abilities increase considerably in the first few years of life (Eisenberg et al., 2010). Substantial developments continue in early- to middle- childhood, For example, children's ability to inhibit or control their motor behavior improves from 3 to 6 years, especially when children spend most of their time in the preschool/kindergarten context, in which specific behavioral regulations are requested.

Moreover, older children are more able to adopt cognitive strategies to control their emotions. For example, the ability to direct attention away from an attractive toy may help children in regulating their own emotions when a peer is playing with the same attractive toy. Such cognitive strategies may help him or her to not respond with socially inappropriate behaviors (e.g., pushing the peer to get the attractive toy) but rather use more constructive strategies to handle the social situation, such as playing with another toy.

Other regulatory capacities, such as effortful control, delay of gratification, and attentional control have also been intensely studied in the developmental literature. It has been shown that these capacities increase from early childhood to adolescence as well (Eisenberg et al., 2010). Nevertheless, there is also evidence for stability of effortful control from early childhood to adolescence, which has been interpreted as an indicator that effortful control is a trait-like characteristic (Rothbart & Bates, 2006). What is less understood is if and how the various regulatory capacities underlie children's self-conscious and other-oriented responses to social and moral conflict. For instance, it remains unclear which components of effortful control are most necessary to promote the emergence of self-conscious and other-oriented emotions and whether certain components are more important for either type of emotion.

Emerging Trends

Developmental Relations Between Components of Social-emotional Responding

Because of an increasing interest in deriving overt indices of social-emotional functioning, one emerging trend in the literature is to explore developmental relations between central components of social-emotional responding. While links between regulation and sympathy have been studied (Taylor, Eisenberg, & Spinrad, 2015), little research has explored cross-sectional relations between self-conscious emotions, other-oriented emotions, and emotion

regulation, and even less is known about dynamic relations between these components of social-emotional responding over time. However, it is likely that they do not develop independently, and that the way they influence each other over time predicts adjustment and behavioral outcomes. For instance, across development, increases in regulation may promote sympathy, as well-regulated children are less likely to experience self-focused over-arousal and more likely to feel concern for others after apprehending their emotional state (Eisenberg & Eggum, 2009). This, in turn, may help them to anticipate guilt feelings over own wrongdoing. Vice versa, in conjunction with children's advancing cognitive skills, feelings of sympathy can increasingly exert their force by promoting other components of morality in childhood and adolescence, for instance by promoting feelings of guilt (Daniel, Dys, Buchmann, & Malti, 2014).

There is also some emerging evidence that high levels of self-conscious emotions, such as guilt, can compensate for, in part, the absence of other-oriented emotional responses, such as sympathy, in predicting prosocial, other-oriented behaviors (Ongley & Malti, 2014).

Interestingly, there is also some first evidence that the well-known link between anger and aggression in childhood and adolescence can be mitigated if high levels of self-conscious or other-oriented emotions exist (Colasante, Zuffiano, & Malti, 2015). Future research is warranted to more fully understand how one distinct emotion can buffer the absence of another, both cross-sectionally and across development, and how this is related to children's and adolescents' capacities to regulate emotions. This may not only advance our knowledge of similarities and differential developmental pathways in social-emotional responding, but eventually bear important implications for intervention practices that aim at promoting prosocial behaviors in children and adolescents.

Developmental Mechanisms Underlying Social-emotional Responding

While components of social-emotional responding and their normative development have been studied, much less is known about the developmental mechanisms that underlie social-emotional responding. Recent work in developmental science has shed some light on potential biological and psychological mechanisms underlying the formation of empathy and sympathy. In terms of eliciting other-oriented emotions, behavioral synchrony, the temporal coordination of biological events or social behavior, has been identified as a key mechanism. Synchrony between mothers and their infants, as well as infants and others, has been linked to children's empathy (Feldman, 2007), and prosociality (Cirelli, Einarson, & Trainor, 2014).

Because emotional experiences are dynamic processes, an emerging body of research has also explored the dynamic nature of children's emotional responding to social conflict situations, and the potential physiological and attentional mechanisms that may contribute to inter-individual and intra-individual differences in social-emotional responding. For example, in a study examining children's heart rate variability before and during the presentation of moral transgressions, we found that children who showed more heart rate deceleration, which has been linked to outward, sustained attention, reported stronger feelings of guilt (Malti, Colasante, Zuffianò, & de Bruine, 2015). Thus, differences in physiological responding, contribute to inter-individual variability in the expression of the self-conscious emotion of guilt and related negatively valenced emotional responses (such as sadness) following one's own wrongdoing (Figure 1). What still needs to be investigated is if and how emotion regulation skills affect links between physiological arousal and self-reported feelings of guilt or sympathy, respectively. It is likely that emotion regulation affects the ways children respond to moral transgressions over time, for instance, by helping them channel their arousal into constructive emotional responses. Vice versa, dysfunctional emotion regulation may contribute to lowering links between arousal

and the experience of self-conscious emotions, for instance, by diverting the child's focus toward the negative consequences of a transgression for another rather than the short term benefits of violating a norm.

Similarly, children's spontaneous emotional expressions may reveal the underlying spontaneous reactions that are associated with the anticipation of self-conscious and other-oriented emotional responses. We have recently conducted a series of studies in which we observed their brief facial reactions to moral transgression stories. We found that spontaneous reactions of fear, perhaps in response to social sanctions (e.g., fear of consequences from peers or authority figures) were related to children's self-reported guilt (Dys & Malti, 2016). Despite much emphasis on guilt rooted in other-oriented concern (Hoffman, 2000; Malti et al., 2009), these findings suggest that there may be another qualitatively different form of guilt, rooted in concern over social sanctions related to one's transgression (Malti, in press).

Lastly, another promising potential mechanism underlying the formation of self-reported emotions of guilt is attention allocation during moral transgression stories. It may be the case, for instance, that children who do not experience moral emotions fail to sufficiently visually process the emotional state of the victim, impeding an affective-moral response. Future research is warranted to explore the links between attention allocation and the anticipation of self-conscious and other-oriented emotional responses, respectively.

Application of Knowledge on Normative Social-emotional Responding to Practice

Over the past decade, researchers have increasingly acknowledged that it is time to apply the extensive knowledge on children's and adolescents' normative social-emotional development to refine the existing practices, as well as generate new developmentally tailored educational strategies aimed at promoting the healthy development of children and adolescents. For example,

a practitioner's understanding of normative development of sympathy can help determine if, and by how much, a child (or a classroom) is developmentally normative, delayed, or advanced in sympathy (Malti, Chaparro, Zuffianò, & Colasante, in press). Interestingly, many existing evidence-based programs that aim to promote social-emotional development in school settings include some degree of between-grade differentiation in their curricula (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). However, the degree to which age-graded tailoring is needed remains to be determined given mixed findings regarding their effectiveness (Malti et al., in press). Importantly, most programs do not adjust their curricula for possible developmental differences in social-emotional responding *within* grades. This is surprising because there is much variability between children of the same chronological age. Therefore, future interventions should explain how normative social-emotional development is translated into specific intervention strategies within each developmental level.

Other, related open questions concern the issue of how many (and which) dimensions of social-emotional responding should be targeted, as well as when, and how. In a recent review, we found that evidence-based programs targeting higher numbers of social-emotional development constructs were more effective in mitigating conduct problems and promoting academic functioning. This finding suggests that it may be beneficial to target various components of social-emotional responding as they may work in concert to improve children's and adolescents' positive outcomes. Similarly, intervention timing and duration need to be explored further. For instance, there is some evidence to suggest that social-emotional interventions that commence earlier in development (e.g., during preschool and kindergarten) were more effective in promoting social-emotional development (Malti et al., in press). What remains to be seen is if and how developmentally tailored interventions in other critical periods

of social-emotional development (e.g., puberty) compare to early childhood interventions in terms of effectiveness. In sum, future work is needed to promote the translation of social-emotional development research into practice, enhance practitioners' understanding of normative development, integrate social-emotional knowledge and assessment into the eventual selection and use of intervention strategies both between and within age groups.

Conclusion

In this essay, we have identified current shortcomings in social-emotional development research with a focus on three core components of social-emotional responding: self-conscious emotional responses, other-oriented emotional responses, and emotion regulation capacities in the context of everyday moral conflict and social exclusion. Based on this analysis, we have identified promising trends and central areas for future work. We have shown that research has been devoted to our understanding of the emergence and development of distinct self- and other-oriented emotions (most prominently empathy/sympathy and guilt). Yet, much less is known about their conjoint and differential developmental trajectories, and if and how the development of one type of emotion affects the development of other emotions and related behavioral outcomes. Moreover, we have underscored the importance of examining specific mechanisms underlying the formation of self- and other-oriented emotions. For instance, further research unraveling the roles of cognitive and affective mechanisms such as attention and synchrony can provide further direction for intervention programs aimed at optimizing children's and adolescents' social-emotional responding.

Emerging evidence suggests that we humans are equipped with cognitive and behavioral mechanisms that support the development of social-emotional responsiveness. Translational research is needed to implement knowledge on normative social-emotional development into

practice, including the use of screening and assessment tools to understand child and adolescent social-emotional development, the refinement of existing educational practices, and the development of new developmentally tailored practices to promote social-emotional growth. In addition, we have argued for the need to generate more differentiated intervention programs which account for children's developmental stage, in lieu of a blanket approach to treating all children of the same age. Still, research that can inform this differentiated approach is nascent and constitutes an emerging trend in developmental science.

Going forward, it will be important to understand how an increasingly complex, changing, globalized world with economic challenges, and exposure to increasingly diverse communities and societal change at large affect child and adolescent social-emotional development and its biological, psychological, and behavioral underpinnings. Given the importance of good social-emotional responding for raising healthy, productive, and responsible future generations, understanding and promoting these developmental processes in the best ways possible will be one of the most important endeavors for the behavioral, neural, and social sciences in the next decade.

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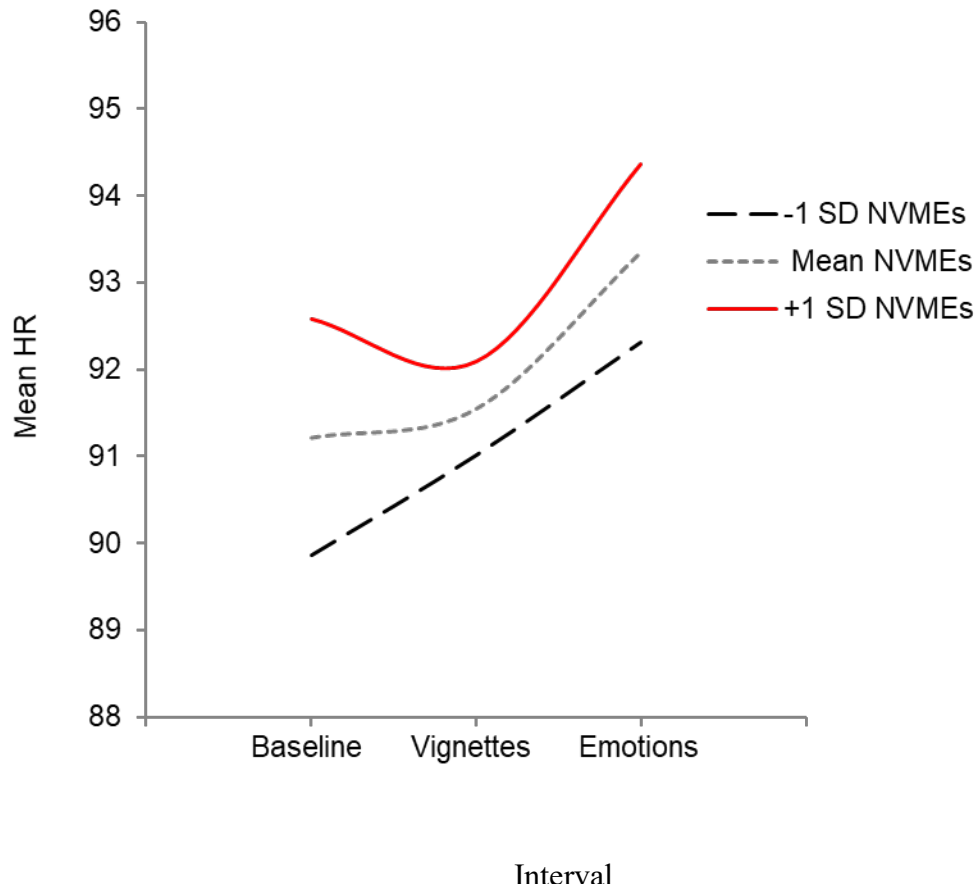


Figure 1. HR reactivity at low (-1 SD), medium, and high (+1 SD) levels of NVMEs.
Note. HR = heart rate. NVMEs = negatively-valenced moral emotions.
Taken from Malti et al. 2015, *Journal of Experimental Child Psychology*.

References

- Arsenio, W. (2014). Moral emotion attributions and aggression. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd edition, pp. 235-255). New York: Taylor & Francis.
- Cirelli, L. K., Einarson, K. M., & Trainor, L. J. (2014). Interpersonal synchrony increases prosocial behavior in infants. *Developmental Science, 17*(6), 1003-1011.
- Colasante, T., Zuffianò, A., & Malti, T. (2015). Do moral emotions buffer the anger-aggression link in children and adolescents? *Journal of Applied Developmental Psychology, 41*, 1-7.
- Daniel, E., Dys, S., Buchmann, M., & Malti, T. (2014). The development of moral emotions, moral reasoning, and social justice values from childhood to early adolescence. *Journal of Adolescence, 37*(7), 1201-1214.
- Davidov, M., Zahn-Waxler, C., Roth-Hanania, R., & Knafo, A. (2013). Concern for others in the first year of life: Theory, evidence, and avenues for research. *Child Development Perspectives, 7*(2), 126–131.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Development, 82*, 405-432.
- Dys, S. P., & Malti, T. (2016, under review). It's a two-way street: Automatic and controlled processes in children's emotional responses to moral transgressions.
- Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology, 51*(1), 665-697.

- Eisenberg, N., & Eggum, N. D. (2009). Empathic responding: Sympathy and personal distress. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 71- 83). Cambridge, MA: The MIT Press.
- Eisenberg, N., Spinrad, T. L., & Morris, A. (2014). Empathy-related responding in children. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 184-207). New York: Psychology Press.
- Feldman, R. (2007). Parent-infant synchrony and the construction of shared timing; physiological precursors, developmental outcomes, and risk conditions. *Journal of Child Psychology and Psychiatry*, 48, 329-354.
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. New York: Cambridge University Press.
- Killen, M., Mulvey, L. K., Richardson, C., Jampol, N., Woodward, A. (2011). The accidental transgressor: Morally-relevant theory of mind. *Cognition*, 119(2), 197-215.
- Kienbaum, J. (2014). The development of sympathy from 5 to 7 years: increase, decline, or stability? A longitudinal study. *Frontiers in Psychology*, 5, 1-10.
- Kochanska, G., Gross, L. N., Lin, M. H., Nichols, K. E. (2002). Guilt in young children: development, determinants, and relations with a broader system of standards. *Child Development*, 72(2), 461-482.
- Malti, T. (in press). Toward an integrated clinical-developmental model of guilt. *Developmental Review*.
- Malti, T., Chaparro, M. P., Zuffianò, A., & Colasante, T. (in press). School-based interventions to promote empathy in children and adolescents: A developmental analysis. *Journal of Clinical Child and Adolescent Psychology*.

- Malti, T., Colasante, T., Zuffianò, A., & de Bruine, M. (2016). The physiological correlates of children's emotions in contexts of moral transgressions. *Journal of Experimental Child Psychology, 142*, 372-381.
- Malti, T., Eisenberg, N., Kim, H., & Buchmann, M. (2013). Developmental trajectories of sympathy, moral emotion attributions, and moral reasoning: The role of parental support. *Social Development, 22*(4), 773-793.
- Malti, T., Gummerum, M., Keller, M., & Buchmann, M. (2009). Children's moral motivation, sympathy, and prosocial behavior. *Child Development, 80*(2), 442-460.
- Malti, T., & Krettenauer, T. (2013). The relation of moral emotion attributions to prosocial and antisocial behavior: A meta-analysis. *Child Development, 84*(2), 397-412.
- Malti, T., & Ongley, S. F. (2014). The development of moral emotions and moral reasoning. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 163-183). New York: Psychology Press.
- Ongley, S. F., & Malti, T. (2014). The role of moral emotions in the development of children's sharing behavior. *Developmental Psychology, 50*(4), 1148-1159.
- Rothbart, M. K., & Bates, J. E. (2006). Temperament. In W. Damon & R. M. Lerner (Series Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 99-166). New York, NY: Wiley.
- Saarni, C. (1999). *The development of emotional competence*. New York: Guilford Press.
- 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.

Vaish, A., Carpenter, M., and Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental Psychology*, 45(2), 534–543.

Biography

Tina Malti is an Associate Professor of Developmental Psychology at the University of Toronto. She obtained her Ph.D. in Developmental Psychology from the Max Planck Institute for Human Development and Free University Berlin, and a postgraduate M.A. and licensure in Clinical Child Psychology from the University of Fribourg. Her research interests are children's and adolescents' emotional responses to everyday social conflict, trajectories of aggressive behavior, and the development of prosocial orientations from early childhood to adolescence. In addition, she pursues a line of research on the ways in which social-emotional development research can improve practices and policies that affect children's behavioral health, social inclusion, and learning. Tina Malti is a Fellow of the Association for Psychological Science and a Fellow of the American Psychological Association (Division 7, Developmental Psychology). She is an Associate Editor of *Child Development* and currently serves as the Membership Secretary of the International Society for the Study of Behavioural Development.

Stefania Sette is a post-doctoral fellow in the Department of Developmental and Social Psychology at Sapienza, University of Rome. She obtained a PhD in Developmental Psychology at Sapienza University of Rome and is a licensed clinical child psychologist. Her research focuses on the role of socio-emotional development and the quality of the teacher-child relationship on peer relationships and social behavior in the early years. She also has an interest in the development and evaluation of assessment tools to measure preschoolers' social and emotional competencies. Currently, she is collaborating with the Social-Emotional Development and Intervention Laboratory at the University of Toronto in a research project on children's social-emotional development in contexts of peer exclusion and victimization.

Sebastian P. Dys is a PhD Student in the Developmental Sciences program at the University of Toronto. His research focuses on the cognitive and affective mechanisms underlying the formation of children's social and moral emotions. In this work he employs a multi-method approach, using automated emotion recognition technology, eye tracking, physiological instruments, and interviews. His overarching goal is to provide direction to educators, program developers, and parents interested in specific strategies and practices aimed at promoting social-emotional and behavioral development.