

Running head: CLINICAL-DEVELOPMENTAL MODEL OF GUILT

Toward an Integrated Clinical-Developmental Model of Guilt

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### Abstract

An integrated clinical-developmental model is proposed for understanding the development of guilt feelings from early childhood to adolescence. The central goal is to posit a new theoretical framework that expands existing across social-cognitive models, social-domain models, and clinical approaches to the study of guilt [i.e., the Affect-Event Model (Arsenio, Gold, & Adams, 2006) and the Affect-Cognition Model (Malti & Keller, 2010)]. Because guilt feelings are multifaceted and depend on both contextual variation (e.g., moral transgressions or conventional issues) and dispositional guilt proneness, they can be associated with both adaptive and maladaptive outcomes for children and adolescents. The proposed model therefore suggests several clinical effects on adaptive, other-oriented behaviors and maladaptive, externalizing and internalizing symptoms across childhood and adolescence. The available evidence for each of these hypotheses is presented. The developmental model of guilt lays the groundwork for a more complete understanding of adaptive and maladaptive behavior across development and provides new means for developing interventions that will reduce mental health problems and promote adaptive behaviors in children and adolescents. The model assumes that intervention efforts will be effective at producing behavior change when a) they are developmentally sensitive, rather than one-size-fits-all, and b) they acknowledge that both extensively low levels of guilt and extensively high levels of guilt and inappropriate guilt may be pathogenic and need to be targeted.

*Keywords:* guilt, moral emotions, maladaptive guilt, social-cognitive development, developmental psychopathology, clinical-developmental theory, intervention

### Toward an Integrated Clinical-Developmental Model of Guilt

For centuries, themes of guilt, remorse, and self-disesteem have been central to novels exploring inner life and psychological processes. Guilt feelings have also received considerable attention in past psychological theory and research. This is hardly surprising, since they have been considered to be a key element of the human moral and social experience from early on. Historically, psychoanalytic theorizing played a pivotal role in the psychological study of guilt. According to this tradition, guilt feelings are evoked by fear of loss of parental love and built the cornerstone of individuals' conscience, which in turn, is fundamental for civilization and societal functioning at large (Freud, 1930/2002). The study of guilt feelings has recently experienced a revival, as neuroscientists are trying to understand the potentially distinct neural circuits involved in the complex experience of guilt (e.g., Basile et al., 2011).

But despite this renewed interest in guilt, we still do not sufficiently understand when the experience of guilt emerges in humans, its typical and atypical development across the lifespan, as well as implications of insufficient levels of guilt or omnipresent guilt for healthy and maladaptive outcomes. In this paper, we will tackle these complex questions from a clinical-developmental lens, which involves an analysis of the genesis and development of guilt feelings. Specifically, the present article will introduce a new, clinical-developmental approach towards the development of moral guilt and its implications for adaptive and maladaptive behavior across development. Existing empirical evidence for the components of this framework will be reviewed and directions for future research will be discussed.

Although it has been argued that guilt feelings are an important part of why individuals adhere or fail to adhere to their own moral standards (Hoffman, 2000;

Tangney, Stuewig, & Mashek, 2007), there is still no conceptual model that describes the origins and normative development of guilt from early childhood to late adolescence. In addition, although recent research suggests that guilt feelings have important implications for psychopathology and healthy outcomes in children and adolescents (e.g., Malti & Krettenauer, 2013), a systematic analysis of how guilt relates to adaptive and maladaptive social behavior across the lifespan is still missing.

The present article aims to fill these conceptual gaps, in part, by presenting a new integrated theoretical model for understanding guilt feelings. To this end, we integrate across past theoretical traditions and advance novel theoretical components to move the field closer to an integrative clinical-developmental model that incorporates multiple domains of development and (mal)adaptive outcomes. We begin by defining guilt and by providing terminological clarifications. We then review past theory in this area and identify major gaps in this theorizing. Next, we outline our new model, how it resolves previous limitations, and describe what testable research hypotheses it delivers. The next section provides an overview of some central clinical implications of this new integrative model on guilt. Lastly, we draw some preliminary conclusions and provide guidance for future clinical-developmental theory and research in this area.

### **Guilt and The “Moral” Emotions**

Guilt is considered a self-evaluative, self-conscious moral emotion because it is evoked by the individual’s understanding and evaluation of the self (Eisenberg, 2000); it has also been defined as a painful feeling of regret over wrongdoing (Malti & Latzko, 2012). Psychological theories of morality have described guilt as an emotion that is a quintessential part of children’s emerging morality because guilt feelings include self-evaluations and genuinely express the moral orientation of

internalized norms (Kochanska, 1991; Malti & Latzko, 2012). Guilt feelings are aroused when the actor causes or believes to have caused a transgression and accepts responsibility for violating internalized norms (Tangney et al., 2007). For example, intentionally causing pain to another violates the norm against causing harm and may elicit guilt feelings. Thus, guilt feelings are engendered by one's evaluative judgments (Nussbaum, 2001) and are intentional by nature. As such, they strongly depend on one's experiences in the social world (Drummond, 2006). According to Hoffman (1982), guilt comprises an affective and a cognitive component. Specifically, the affective component is a painful feeling of disesteem for the self because one has caused harmful consequences to others (Hoffman, 1982, p. 298). The cognitive component includes awareness of others, an understanding that others' perspectives can differ from one's own, and an understanding of the consequences of an act on others. In addition, it includes an understanding of causality and that they themselves can act as agents of harm or good. While the affective experience of guilt is universal (Eibl-Eibesfeldt, 1971), the cognitive content varies with culture.

In the psychological literature, self-conscious moral emotions (guilt, shame, embarrassment, and moral pride) have been distinguished from other-focused moral emotions (righteous anger, contempt, disgust, elevation, and gratitude; Tangney et al., 2007; Tracy, Robins, & Tangney, 2007). Researchers have also emphasized empathy/sympathy as an other-oriented moral emotion (Eisenberg, 2000). Theoretically, moral emotions can be both negative and positive depending on the action from which they stem (e.g., guilt over a moral transgression, pride over a prosocial action, respectively). Previous developmental research on moral emotions has focused mostly on feelings of empathy and guilt (Eisenberg, Spinrad, & Morris, 2014; Malti & Latzko, 2012). While it has been argued that there is conceptual

overlap, such as between empathy and guilt (e.g., Hoffman, 2000), our research indicates that the development of guilt is qualitatively distinct from other moral emotions (see Malti, Eisenberg, Kim, & Buchmann, 2013).

### **Guilt and The “Basic” Emotions**

Developmental research on children’s moral emotions has focused on their self-reported emotions, which represent relatively finalized emotional states. However, unlike “basic” emotions, which need only automatic information processing mechanisms for their elicitation (Ekman, 1977; see Frijda, 1994; Öhman & Mineka, 2001), moral emotions require a higher degree of cognitive infusion (e.g., Gummerum, Cribbett, Nogueira Nicolau, & Uren, 2013; Malti & Ongley, 2014) and emotional processing. The argument for the distinctiveness of the processes involved in moral and basic emotions has received some support from literature on the neurophysiological correlates of moral and basic emotions. For example, recent neurobiological research indicates that some distinct neural circuits are involved in the expression of guilt feelings compared to basic emotions (Michl et al., 2012). Table 1 provides a summary of the neural correlates and related functions of selected moral (i.e., guilt and empathy) and basic emotions. As can be seen, the moral emotions recruit brain regions implicated in social cognition and social interactions, whereas basic emotions appear less associated with these regions (for recent meta-analytic reviews, see Fan, Duncan, de Greck, & Northoff, 2011; Vytal & Hamann, 2010). Nevertheless, the existing data also speak for overlapping brain regions involved in guilt and the basic emotions. For instance, guilt deficits in children with disruptive behavior have been associated with deficits in amygdala functioning (e.g., Blair, Budhani, Colledge, & Scott, 2005). The amygdala is also believed to play an important role in fear and response to distress-related emotional expressions (Marsh et

al., 2008; see Table 1). Overall, these findings align with theorizing that guilt is rooted in negatively-valenced, basic emotions (e.g., sadness, fear), but should be considered more of a “complex” emotion because it often requires an understanding of the other’s mind and an appreciation of why it is wrong to break moral norms of fairness, justice, and care (Malti & Ongley, 2014; Malti & Keller, 2010).

One way of empirically examining the micro-level, moment-to-moment “basic” affective processes underlying moral emotions may promote our understanding of their formation and development (Malti & Dys, 2015). In this vein, one recent study has examined the relationship between children’s spontaneous, automatic facial expressions, also known as microexpressions (Ekman, 1992), and their longer-lasting self-reported moral emotions, which are more infused with controlled cognition, in response to hypothetical moral transgressions (Dys & Malti, 2015). Interestingly, findings revealed that spontaneous expressions of fear were related to later moral guilt. One interpretation for this pattern posits that fear, presumably in response to sanctions from authority figures or peers, may serve to activate scripts instilled by caregivers wherein children are prompted to take ownership over their transgressions. Such a connection between one’s self and the consequences of their actions is believed to induce longer-lasting feelings of guilt (Hoffman, 2000).

In sum, self-evaluative moral emotions, such as guilt, are complex emotions and, as such, are conceptually distinct from the “basic” emotions. There also appears to be some empirical evidence for discrete neural correlates of guilt. At the empirical level, however, we clearly expect numerous relations, such as a positive association between self-reported guilt and spontaneously expressed “basic” emotions of sadness or fear (Dys & Malti, 2015). These correlations are likely to be reflected in overlapping neural structures.

**Guilt: Adaptive or Maladaptive?**

Is guilt an adaptive or maladaptive emotional response? The response to this question is, perhaps unsurprisingly, that it depends. Guilt in moral contexts is in stark contrast to clinical conceptualizations of guilt, which conceptualize guilt as an expression of neuroticism and maladaptation (Freud, 1930/2002). While the distinction between moral guilt and neurotic guilt is helpful when discussing its (mal)adaptation, it is important to consider some of the broader issues that contribute to (mal)adaptive outcomes; we will also elaborate further on this distinction when we discuss the clinical implications of our framework later in this paper.

Generally, moral guilt is considered socially adaptive because it helps humans to react in constructive ways to one's own wrongdoing and to attempt to repair the damage done (Hoffman, 2000). In contrast, neurotic (or, in the extreme form, pathologic) guilt is considered maladaptive because it is neither the result of real damage nor real wrongdoing and, as such, is an irrational emotional overreaction (similar to shame). While I agree that moral guilt is for the most part adaptive, clearly, there are exceptions of this rule. For instance, if moral guilt becomes excessive, action becomes a necessity regardless of the cost. Thus, excessive moral guilt can facilitate highly costly other-oriented behavior, where the consequences for others are positive but cause great risks for one's own safety and health. An example would be Kohlberg helping Jewish refugees escape from Romania into Palestine at great personal risk. Other well-known examples for moral, yet potentially maladaptive, guilt are the experience of excessive guilt for living a "privileged" life by people with higher socioeconomic status, or the deeper insight that we are not true to our full human ability of consciousness, which has been described as "existential" guilt by philosophers (Heidegger, 1927; see Hochschild, 1981).

Neurotic guilt describes inappropriate guilt (typically elevated levels that are inappropriate for the context) and has been shown to be associated with maladaptive outcomes in children and adolescents. More specifically, neurotic guilt is not necessarily based on a real danger and/or wrongdoing (or is out of proportion to the wrongdoing). For example, some victims of abuse might feel guilty for provoking their abuser, which would be considered inappropriate guilt in this context. Another example is that some individuals might feel monstrous responsibility for even the most minor event with little or no objective negative consequences of this event, leading to neurotic guilt (Schalkwijk, 2015).

Proneness to (neurotic) guilt has genetic and environmental components. One socialization mechanism that has been shown to contribute to neurotic guilt in children and adolescents is parental depression and associated parental guilt induction. Both can heighten children's over-involvement in family problems and evoke empathy-based feelings of guilt, shame, and personal failure (Zahn-Waxler & Van Hulle, 2012). In these contexts, neurotic guilt and shame are typically closely related and set the breeding grounds for internalizing symptoms, including anxiety, depression, and low self-esteem. This literature has also shown the links between guilt and shame, and both are salient factors in the prediction of depression as well. For example, Luby and colleagues (2009) documented that increased depression severity was related to more frequent experiences of maladaptive guilt feelings and more shame in a sample of preschoolers. We conclude that moral guilt is, for the most part, adaptive, whereas neurotic guilt is mostly inappropriate and, as such, maladaptive.

### **Past Theory**

To date, only few conceptual models exist to advance the study of guilt. In addition, little theoretical work has attempted to integrate any of these frameworks,

and no known model has advanced a comprehensive yet parsimonious explanation for the development of inter-individual differences in guilt and clinically relevant social behavior, such as aggression and violence, as well as adaptive social behavior, such as other-oriented, prosocial behavior. Moreover, the current models fall short in providing testable predictions with respect to developmental relations between guilt and (mal)adaptive behavioral outcomes. The present article attempts to integrate across and improve upon two theoretical models to understand and predict individual effects on the development of guilt and (mal)adaptive behavior outcomes in children and adolescents.

Specifically, we attempt to integrate a situational perspective that recognizes that guilt feelings and related moral evaluations are embedded into, and influenced by, various situational effects (i.e., the Affect Event Model [SIP]; Arsenio et al., 2006; Arsenio & Lemerise, 2004), with an affect-cognition model that has been used to explain the development of self-conscious moral emotions (i.e., Affect-Cognition Model; Malti & Keller, 2010; Malti & Ongley, 2014). Both models have called for an integrative approach to the study of moral emotions and moral cognitions, as well as their emergence in human moral development. This article extends and integrates these recent models by adding a clinical component and introducing a preliminary new, clinical-developmental model of guilt.

### **The Affect-Event Model**

The affect-event model describes how children learn to differentiate various emotions, including guilt, by experiencing situations involving moral transgression. This is based on an understanding of moral emotions as being genuinely social and connected to a child's everyday experiences of conflict. According to Arsenio, Gold, and Adams (2006), the process of how moral affects are linked to events can be

described in a four-step model. The first two steps posit that different types of events have different emotional outcomes, and children's conceptions of these affect-event links reflect these distinctions. For example, stealing another child's chocolate might elicit strong guilt feelings in a child, whereas not wearing a coat on the school yard might not elicit any strong emotions (see Smetana, 2006). Next, children become able to more fully understand and apply these links. In this example, children may learn that they feel guilty when they transgress moral rules, whereas they may learn that they do not feel particularly negative if they do not follow conventions. Finally, children might coordinate their own negative emotional experiences with their observations, and lay a foundation for emerging internalized principles of justice, fairness, and care. In other words, they develop mental structures regarding the boundaries of what is moral and what is social-conventional (Arsenio & Lemerise, 2004). According to this model, children judge moral transgressions negatively because they experience them as emotionally salient, and they associate guilt and related moral emotions with these events. It is likely that with children's increasing moral understanding of events they recognize that moral transgressions are serious, generally wrong, and deserving of punishment. This understanding, in turn, is linked to corresponding, increasingly more consistent, emotional reactions, such as the attribution of guilt. In addition, it is also likely that even within the moral domain there is substantial variability in the intensity of guilt feelings. For example, research has shown that children anticipate more guilt feelings in more severe contexts of transgression, such as physical or psychological harm (e.g., hitting another child) compared to less severe contexts of transgression, such as the omission of prosocial duties (e.g., not helping a child with homework; Ongley & Malti, 2014; Smetana, 2006). This model has important implications for the relationship between social

understanding and emotions, as it emphasizes the necessity to understand other's perspectives and cognitively coordinate these perspectives with one's own.

### **The Affect-Cognition Model**

The affect-cognition model interconnects children's moral emotions with their moral reasoning and social understanding (Malti & Keller, 2010). This is based on the theoretical notions that the presence of moral emotions requires some basic social-cognitive skills, and the endorsement of moral norms is enforced through internalized feelings, such as guilt (Gibbard, 1990). The three-step theoretical model connects research on the development of moral emotions with the development of moral reasoning and cognitive coordination skills. Accordingly, moral emotions provide an early foundation for the development of moral awareness because they indicate that the self feels committed to a norm (Malti, Gummerum, Keller, & Buchmann, 2009). Although even young children are genuinely concerned with other's welfare and are able to distinguish moral from conventional matters, they often have difficulties connecting their concern for others' perspectives to their moral emotions and reasoning (Wainryb, Brehl, & Matwin, 2005). The early developmental precursors of morality have been called a "theory of agency," which entail a coordination process about various moral emotions, reasoning, and children's action in relation to others (Sokol, Chandler, & Jones, 2004). This includes sociomoral knowledge about persons, interactions, and norms. Cognitively, children increasingly come to understand the world of others by participating in social interactions. Affectively, based on the consequences of their actions, children increasingly empathize with others (Malti & Keller, 2010). Guilt feelings are in meaningful ways linked to cognitive coordination skills: When children first learn to *distinguish* between the perspectives of the self and of others, the self becomes aware that moral transgressions have negative

consequences for others. However, the self does not take these consequences into account, thus leading to the anticipation of positive, outcome-oriented emotions following transgressions. In the second step, when children learn to *coordinate* the two perspectives, they realize that transgressions not only have negative effects on others but also give rise to the moral emotion of guilt (or, in some circumstances, shame or embarrassment). Third, older children and adolescents develop a generalized third-person perspective. This perspective helps to establish a self-evaluative system that determines how one ought to treat others to establish and maintain relationships built on trust. Feelings of guilt or shame emerge when the person violates this trust. This includes the emergence of “existential guilt,” i.e., guilt feelings of the mature moral self that emerge when one has violated moral ideals (Buber, 1958; Hoffman, 2000). Positive moral feelings, such as pride, develop if the individual acts in accordance with his or her obligations.

This developmental model assumes both normative developmental trends and individual differences in guilt feelings. For example, young children do understand the validity of moral rules yet frequently attribute positive feelings to transgressors. The latter, so called happy-victimizer phenomenon in young children, might be interpreted as resulting from a lack of social-cognitive competence (Harris, 1989). Various social-cognitive prerequisites for the development of guilt have been considered in research, such as an interpretive theory of mind or an understanding of mixed emotions (see Carpendale & Lewis, 2006; Malti et al., 2010).

Likewise, although many children shift from happy attributions to the anticipation of guilt in middle childhood, it has also become clear that the attribution of happy feelings remains well into adolescence, particularly in multifaceted situations of social exclusion (Malti, Killen, & Gasser, 2012), and accounts for

differences in children's and adolescents' prosocial and aggressive behavior (Malti & Krettenauer, 2013). Thus, it is likely that dispositional, inter-individual differences in guilt exist. In summary, this model assumes that guilt depends on the ability to assume, coordinate, and appreciate the perspective of self and other.

### **Limitations and Challenges**

It has become clear that past theory has emphasized that the development of moral guilt feelings depends on a) situational triggers, b) cognitive coordination skills, and c) the function of emotion (anticipatory versus consequential). What is missing thus far is an account that incorporates both situation-affect links and cognitive coordination skills more systematically into one framework, and elaborates on potential implications for adaptive and maladaptive behavior across development. Past theories also failed to consider neurotic guilt, individual differences in guilt proneness (e.g. behavioral inhibition, morally relevant motivational differences and value priorities), and interactions between individual differences with contextual/situational triggers and cognitive development affecting guilt levels. In addition, past theory has often focused on transitions from one to another developmental period (e.g., research on cognitive coordination skills and the anticipation of guilt feelings has mostly focused on the transition from early childhood to middle childhood). What is less understood is how these processes unfold from early childhood to adolescence, and how changes in cognitive functioning and motivations affect the anticipation of guilt feelings. Similarly, research on individual differences in the anticipation of moral guilt has mostly focused on the early to middle childhood years (e.g., see Kochanska & Aksan, 2007). We know much less about how dispositional differences and the development of different motivations and value orientations affect guilt in middle childhood and

adolescence. What also remains open is how differences in the severity of situational triggers affect guilt. The affect-event model has emphasized that different social domains help children distinguish moral and amoral emotions, and much variety exists within the moral domain (e.g., hitting can be considered a more severe transgression than not helping). Lastly, while research has studied the links between moral guilt and (mal)adaptive behavioral outcomes, this research is limited to cross-sectional designs, and very little has been done to test systematic links between the anticipation of guilt, social-cognitive development, individual differences, and situational variation.

Our model is an attempt to overcome these limitations. Past theories did not systematically integrate the developmental links between affect and cognition, and have not examined the role of situational and dispositional antecedents in these links, to understand how these processes affect the emergence and development of guilt, as well as and implications for (mal)adaptation, across childhood and adolescence. We therefore propose a new, integrative framework to address these limitations and provide a comprehensive conceptual frame for future clinical-developmental research.

### **Toward an Integrated Clinical-Developmental Model of Guilt**

The proposed model integrates a number of past theoretical frameworks, but it primarily integrates the affect-event model and the affect-cognition model. We are the first to posit that the affect-cognition model is incorporated in the affect-event model, and that both need to be considered with respect to adaptive and maladaptive behavioral outcomes. This integrative clinical-developmental approach accounts for both cognitive developmental processes and situational variability in children's emerging guilt and thus fills an important gap in past theorizing. Importantly, it adds a dispositional component that has not been considered in the past. However, much

evidence suggests that there is inter-individual variability in guilt proneness across development (e.g., Kochanska & Aksan, 2007; Silfver, Helkama, Lonnqvist, & Verkasalo, 2008). Lastly, our model provides an innovative account on how to use knowledge about normative development in these domains for predicting adaptive and maladaptive behavioral outcomes (for an overview of testable research hypotheses and predictions, see Table 2). To elaborate on clinical implications of inter-individual and intra-individual differences in guilt, our model also includes approaches on the socioemotional causes of maladaptive, aggressive behavior, as well as the development of adaptive, prosocial behavior (Arsenio, 2014; Eisenberg, 2000; Eisner & Malti, 2015; Hoffman, 2000). The model begins with the first steps of the affect-event and affect-cognition models. The first two steps posit that different types of events have different emotional outcomes, and children's conceptions of these affect-event links reflect these distinctions. Beginning at step 1 of our developmental model, children learn to understand that their own perspective is different from others in morally salient situations, which elicit strong negative emotions. For example, hitting another child might elicit strong guilt feelings in a child, whereas not wearing a coat on the schoolyard might not elicit any strong emotions. Thus, children experience different types and intensities of emotions in different domains of social knowledge.

With development, they increasingly come to understand that events in the realm of moral transgression elicit strong emotions, whereas emotions in the social-conventional domain do not (Malti & Ongley, 2014). This is related to their increasing understanding that others may have perspectives that differ from the self (Malti & Keller, 2010). That is, we argue that children come to increasingly understand affect-event links with increasing social understanding, which, in turn, leads to step 2 of the affect-event model, i.e., an increasing understanding that there

are specific affect-event links. At step 2, children are thus able to understand these links. This goes hand in hand with an increasing ability to coordinate one's perspective with those of others, which leads to the anticipation of guilt as the child realizes that his or her actions have negative effects on the others and the self. Repeated experiences with moral transgressions and associated emotional reactions lead to the next steps, which involve the development of scripts. Thus, at the next step, children learn to apply these affect-event links to different situations, that is, the conscious awareness that allows such links to be more fully flexibly deployed (Damasio, 2003). The fourth step is an initial attempt to describe how this affectively charged knowledge could underlie the formation of more general scripts. Thus, children may coordinate their own negative emotional experiences resulting from being unfairly victimized with their observations that others usually feel similarly in the same situation, and in doing so lay a foundation for emerging principles of reciprocity and fairness (Arsenio & Lemerise, 2004, p. 584).

We argue that this development of more general principles goes hand in hand with the development of a third-person perspective, and children might coordinate their own negative emotional experiences with their observations (see Lagattuta & Weller, 2014; Malti & Keller, 2010), which lay a foundation for emerging internalized principles of justice, fairness, and care. In other words, they develop mental structures regarding the boundaries of what is moral and what is social-conventional (Arsenio & Lemerise, 2004). Emotional reactions to moral transgression may become more automatized over time, as scripts are activated in familiar events (Malti & Dys, 2015; Nucci & Gingo, 2011). This process is likely to be closely related to identity formation, including how moral principles of justice, fairness, and care are integrated into more stable, internalized representations of the self in relation

to others. Thus, we argue that the anticipation of guilt involves increasing coordination of affective experiences with specific type of events and increasing cognitive coordination skills. This is supported, in part, by neuroimaging studies that underscore the interactive nature of brain areas responsible for cognitive and affective processes in moral judgment (Blair, 2007). It also comes from evidence from developmental science that emotions and cognitions about morality become increasingly coordinated with age (Decety, Michalska, & Kinzler, 2012).

Our model argues that deliberate cognitive processes are central to our everyday moral experiences because they allow us to constantly (re)evaluate our moral judgments. Though automatic processes are influential in our moral experiences, deliberate cognitive processes routinely alter our automatic, implicit reactions (Gibbs, 2013) as individuals (re)evaluate external situations in relation to their goals and concerns (see Barrett, Ochsner, & Gross, 2007). The influence of controlled processes on automatic mechanisms can easily be overlooked if one does not consider the progression or development of such automatic reactions. So, while the social information processing model has received much attention, its strong and central assertions about the unilateral influence of automatic processes has severely lacked testing through a developmental lens, which is important for understanding processes of change in morality across the lifespan (Malti & Ongley, 2014).

The model acknowledges the various developmental antecedents and mechanisms that underlie inter-individual and intra-individual variability in both moral and neurotic guilt feelings in childhood and adolescence (see Figure 1). To account for inter-individual variation, we posit to include in our model dimensions of temperament in infants and toddlers as a central component for inter-individual variability in guilt and related (mal)adaptive outcomes, most importantly behavioral

inhibition. There is evidence that toddlers' guilt feelings and effortful control both prevent children from embarking on developmental trajectories of aggression in the preschool period (Kochanska, Barry, Jimenez, Hollatz, & Woodard, 2009). It has also been shown that an early fearless temperament predicts externalizing psychopathology over time (Schwartz, Snidman, & Kagan, 1996) and less observed fearlessness and guilt in toddlerhood (Baker, Baibazarova, Ktistaki, Shelton, & van Goozen, 2012; Kochanska, Gross, Lin, & Nichols, 2002).

To account for intra-individual variability, we argue that variations in individual's motivation and value orientations may play a pivotal role in explaining change in the experience and expression of guilt and related processes of identity development (see Daniel, Dys, Buchmann, & Malti, 2014; Malti & Krettenauer, 2013). Specifically, individuals differ in the extent to which they prioritize moral over nonmoral desires (Frankfurt, 1993). This motivational difference may cause varying levels of guilt across individuals in the same situation, and/or varying levels of guilt within individuals across situations. Thus, our model stresses that the reasons for variability in the anticipation of guilt are likely to be different at different times in development. Thus, in early childhood, cognitive limitations may be causal in the absence of guilt, whereas in adolescence motivational issues and related processes of the formation of a stable sense of (ideal) self may, in part, cause variability (see Gasser & Keller, 2009).

In line with the affect-event model, our model also assumes that situational cues and triggers may account for direct differences in the anticipation of guilt feelings, as well as for indirect effects through individual differences (Figure 1). For example, it is well known that severity of transgression may cause more or less intense guilt and related moral emotions (Arsenio et al., 2006). Furthermore, recent

research on children's guilt feelings has extended previous research that has mostly relied on studying guilt in the context of transgressions. For example, researchers have studied guilt and moral reasoning in contexts of moral decision-making, children's own interpersonal-moral conflicts, and multifaceted contexts of social exclusion (Abrams, Rutland, & Pelletier, 2009; Gasser, Malti, & Buholzer, 2014; Killen, Mulvey, & Hitti, 2013; for a review, see Malti & Ongley, 2014). These lines of work show systematic differences in the anticipation of guilt feelings based on situational features, such as complexity of the situation, characteristics of the involved protagonists (e.g., in-group and out-group members), and peer group effect, situational climate, and affective attributes of protagonists (Lemerise & Maulden, 2010; Roos, Salmivalli, & Hodges, 2011). Our model extends the focus on situational triggers by emphasizing that any situational cue is inevitably embedded in the broader socialization process, including social interactions in the family and peer context, as well as cultural values, practices, and belief systems (Figure 1).

### **Developmental Considerations**

We focus on the period from early childhood to adolescence (approximately 2 to 15 years old) in the present model because of the social-cognitive and social-emotional changes in these developmental periods, which relate to children's increasing moral understanding and further integration of moral cognitions, theory of mind, and emotions into their respective identities (Lagatutta et al., 2015). According to our model, children's guilt feelings are likely to be increasingly linked to their inner worlds of thoughts and emotions with age. Changes in moral understanding are genuinely based in shared social experiences (Carpendale & Lewis, 2006) and relationships with meaningful others, such as peers, close friends, and caregivers (Rubin, Bukowski, & Laursen, 2009). Longitudinal research has supported the role of

important socialization agents and orientations, such as maternal rearing behaviors that deemphasize the use of power, on predicting the development of guilt (Kochanska, 1991). From this perspective, knowledge about the self in relation to others, including emotions in moral encounters, develop through interactions with the social world.

We argue that the increasing moral understanding of the self and other in middle childhood permits greater coordination of perspectives (Malti & Keller, 2010). This developmental process permits the further integration of perspectives, which, in turn, is associated with representations of complex emotions in the self. With the onset of a third-person-perspective in late childhood, it is posited that social-cognitive development will become much less relevant to the anticipation of moral emotions than before. This is because the development of emotions about morality then depends much more strongly on other influences such as, motivation, situational context, and personality characteristics, than on coordination of perspectives and social cognition.

Conceptually, both guilt and other self-conscious moral emotions are inherently associated with social-cognitive development. Specifically, guilt feelings serve important moral functions because they are evoked by self-reflection and self-evaluation (see Lazarus, 1991; Tangney et al., 2007). For example, guilt is recognized as influencing a person's understanding of the prescriptive nature of the norms of fairness and caring (Malti & Keller, 2010). As such, guilt has a cognitive component because these feelings require a basic understanding of the conflict (i.e., the protagonist's situation, actions, and related consequences for self and others; Harris, 1989). These self-evaluative cognitive processes can happen before or after the moral decision-making process and the actual (im)moral act. Individuals can either

anticipate their likely emotional reactions following moral conflict situations (anticipatory guilt), and these may influence moral decision-making, or guilt can act as feedback on actual behavior and/or reasoning about their behavior (consequential emotions). Most existing developmental research has focused on anticipatory guilt (for a review, see Arsenio et al., 2006).

Research has shown that the anticipation of guilt feelings is associated with social-cognitive development and moral reasoning (see Malti & Ongley, 2014). On the one hand, controlled cognitive processes may re-evaluate and refine one's initial emotional response in light of additional cognitive insights (e.g., a theory of agency, moral reasoning; Gummerum et al., 2013; Killen, Mulvey, Richardson, Jampol, & Woodward, 2011) and/or characteristics unique to the situation at hand. On the other hand, research also indicates that basic theory of mind skills are required for the anticipation of guilt. In addition, moral emotions and theory of mind skills get increasingly coordinated in middle childhood (Killen, Mulvey, Richardson, Jampol, & Woodward, 2011; Lagattuta et al., 2015). For example, children often do not understand why they should feel sad when transgressing rules when getting what they want, or why intentionally inhibiting desires to abide by rules should make them feel good below the age of 7 (Lagattuta et al., 2015). In addition, our research indicates that the anticipation of guilt and sadness is increasingly coordinated with moral justifications for why the transgression is wrong from early to late childhood (Malti, Gasser, & Gutzwiller-Helfenfinger, 2010). Thus, while early advances in social-cognitive development are necessary prerequisites and correlates of moral guilt feelings, the integration of affect and cognition in the moral and social domains continues across adolescence, making cognitive contributions to the anticipation of guilt feelings more likely. Nevertheless, by late childhood, it is likely that

motivational factors play an increasingly important role in the anticipation of guilt (Malti & Krettenauer, 2013).

Our model is consistent with available findings in social-cognitive and affective-moral development fields and provides innovative testable theoretical assertions for future psychological research. For example, our model is theorized to be applicable to children as young as 3 years old, but given limited social-cognitive and cognitive coordination abilities, it is unlikely that our model would apply to children younger than 36 months, as it is unlikely that guilt feelings emerge before that age. That is, it seems that even though there are improvements in social-cognitive capacities between 3 and 5 years of age, there is reasonable evidence to conclude that a rudimentary theory of mind (ToM) is present for typically developing children by 36 months. ToM is likely involved in the onset of complex moral emotions including guilt, because children who understand that others have different perspectives may be able to sympathize with them. This sympathy is likely to promote guilt over the behavior that caused harm. This is supported by recent neuroscience research, which indicates that guilt-specific activity was, among others, observed in a critical theory of mind region, i.e., the paracingulate dorsomedial prefrontal cortex (Wagner, N'Diaye, Ethofer, & Vuilleumier, 2011; see Table 1).

As guilt feelings require an understanding of others' perspectives, we therefore restrict our model to this minimum age range. Nevertheless, it is important to note that developmental research has shown various precursors and skills that lie at the origin of guilt feelings, such as observations of negative affect after damaging a valued object in 33-month-olds (Kochanska & Aksan, 2007; Malti, Dys, & Zuffianò, 2015). There is also evidence that preverbal infants (i.e., 6- and 10-month-olds) prefer individuals who behave prosocially versus antisocially (Hamlin, Wynn, & Bloom,

2007). Although theory of mind is a necessary condition for the anticipation of moral guilt, its presence does not guarantee moral behavior (see Lagattuta & Weller, 2014; Malti, Gasser, & Gutzwiller-Helfenfinger, 2010). In fact, research has shown that young children do not always anticipate guilt feelings following hypothetical moral transgressions, despite having rudimentary ToM skills from early on (Sokol, Chandler, & Jones, 2004). Recent research also indicates that not only young children but even 8-year-olds still show spontaneously happy facial expressions following moral transgressions (Malti & Ongley, 2014).

Moral developmental psychologists have documented that children as young as 36 months understand the validity of moral rules (Turiel, 1983), and they are able to distinguish moral from conventional issues based on several criteria, such as seriousness, rule contingency, and generalizability. Yet, they do not take emotional consequences into account and, as a result, attribute positive emotions to moral transgressions. The attribution of negative emotions, such as guilt, becomes more prevalent when children move from early to middle childhood (Arsenio et al., 2006). These typical developmental changes permit the formation of the self-system (i.e., “I” and “me”): Greater awareness of the self in relation to the other in the context of morality. Yet, the developmental vicissitudes involved in the relations between moral emotions and moral cognition have not been fully conceptualized. For example, young children’s inability to anticipate guilt feelings following moral transgressions might be due to rudimentary developed theory of mind skills and/or an inability to consider alternatives to immoral behavior (Sokol et al., 2004); whereas older children’s anticipation of happiness and amoral emotions may relate to inter-individual differences in the relevance of morality to the self. Interestingly, excessive levels of guilt may also create cognitive biases later in development. For instance,

adolescents with excessive levels of guilt may be less able to distinguish conventional from moral issues, making conventional transgressions appear more severe than they actually are, which may put them at risk for developing internalizing symptoms. Thus, social-cognitive processes have direct implications for our understanding of moral and neurotic guilt feelings and related adaptive behaviors, and they are therefore central components implicated in the clinical-developmental model (please see Table 2).

### **Clinical Implications**

Lastly, we turn our attention to the clinical implications of differences in the anticipation of guilt feelings across childhood and adolescence. In the psychological literature, the existence of moral guilt is generally considered to be adaptive or “healthy” for individuals. Specifically, there is substantial consensus that experiencing feelings of pain and regret after one’s own wrongdoing is positive in that it elicits remorse and creates a desire to punish the self and/or to recompense for the act, e.g. by showing reparative behaviors (e.g., Olthof, Schouten, Kuiper, Stegge, & Jennekens-Schinkel, 2000). Based on these ideas, researchers have also argued that guilt feelings serve to highlight the negative consequences of aggressive behavior and potentially minimize the likelihood of its occurrence and/or recurrence (Arsenio et al., 2006). In other words, guilt feelings are thought to help children anticipate the outcomes of socio-moral events and adjust their behavior accordingly (Tangney et al., 2007). In turn, the absence of moral guilt feelings is thought to underlie maladaptive behavior, such as aggression, bullying, and violence. In contrast, neurotic guilt is conceptualized to be associated with internalizing symptoms, most prominently anxieties and depression. Below, we first describe the conceptual links between guilt and adaptive outcomes across development. Next we illustrate theoretical relations between guilt and maladaptive outcomes. We provide selected empirical evidence for

each of these links.

**Guilt and adaptive outcomes.** In keeping with our model, the anticipation of moral guilt feelings is likely to enact adaptive, other-oriented behavior and gather/retain as much information as possible about the morality of the act in the given social situation. As discussed, over time, we believe the display of guilt will increase the speed of cognitive coordination and processing in future morally relevant situations, which would affect subsequent anticipation of guilt in such situations (see Figure 1). Moreover, in keeping with the affect-cognition link in our model, a feedback loop between the anticipation of guilt and cognitive coordination is implied in making the process more automated across development. Thus, the repeated anticipation of guilt and increasingly more automated affect-cognition links are also likely to predict adaptive behavior, such as prosocial behavior, more consistently in future situations for various reasons. One reason for this assumption is that these affect-cognition links are likely associated with children's advanced understanding of others' beliefs and emotions, which has been associated with cooperative play (Dunn, 2004) and trajectories of socially competent behavior (Kochanska, Koenig, Barry, Kim, & Yoon, 2010). Another reason is that these links are likely to not only motivate individuals within a particular situation to apologize and encourage attempts at reparation (Hoffman, 2000), but also help create and maintain positive relationships. This, in turn, may decrease the likelihood of the person behaving selfishly in the future.

Also, it is likely that these links are, in part, related to one's capacity to sympathize with others. For example, Hoffman (1982) has noted that empathy is frequently aroused in an observer who witnesses someone else in pain and suffering that stems from the observer's harmful actions. When the observer has caused (or thinks that he or she has caused) the pain and recognizes responsibility for the act,

empathic distress with the victim will be transformed into guilt. This empathy-based guilt motivates prosocial acts, including reparative behaviors, comforting, and helping (Hoffman, 2000). This empathy-induced guilt is one way to motivate prosocial behaviors. Although empathy is important in inducing guilt, it is also likely that children can feel guilty without having particularly high levels of empathy/sympathy. Indeed, the existing overt empirical relations between empathy and guilt in child and adolescent populations have been small to modest (Malti & Ongley, 2014).

Interestingly, recent research indicates that there may be two compensatory emotional pathways to prosocial behaviors (e.g., sharing), one via empathy and one via guilt (Carlo, McGinley, Davis, & Streit, 2012; Ongley & Malti, 2014). Guilt is likely to serve appeasement functions in maintaining prosocial, other-oriented behaviors (Vaish, Carpenter, & Tomasello, 2011).

Empirical studies have provided support for the hypothesized link between guilt feelings and prosocial and related adaptive behavior. The majority of this research has been conducted within the happy victimizer tradition (for a review, see Arsenio et al., 2006). In this research paradigm, children and adolescents are presented with hypothetical moral rule violations (e.g., stealing another child's chocolate) and are asked to anticipate the emotion that they would expect the hypothetical victimizer (or themselves in the role of the victimizer) to feel as a result of the transgression. Typically, the attribution of negatively valenced emotions to the self-as-wrongdoer, such as feeling sad, bad, and guilty, is interpreted as an indication of the internalization of moral norms and guilt feelings (Malti et al., 2009). Previous research with children and adolescents has demonstrated direct relations between attributions of guilt and various types of prosocial behavior. For example, Chapman, Zahn-Waxler, Cooperman, and Iannotti (1987) found a positive association between

the attribution of guilt to story characters and engagement in subsequent helping behavior in a sample of elementary school children, and Olthof (2012) showed that guilt predicted 10- to 13-year-olds' peer-rated prosocial behavior. There is also some support for a positive association between guilt and reparative behavior, both in early childhood (e.g., Kochanska, Casey, & Fukumoto, 1995), and in mid-childhood and adolescence (Olthof, 2012). In a meta-analytic review, Malti & Krettenauer (2013) reported a positive link between guilt feelings and prosocial behavior across 13 studies in populations aged 4 to 20, but the effect size was small ( $d = .26$ , 95% CI [.15, .38]). There was also evidence for the moderating role of study design in the relations between guilt and aggression. Specifically, experimental studies showed larger effect sizes than correlational studies. The review also indicated that most of this research has remained cross-sectional thus far, and most studies had been conducted in middle childhood (i.e., 7 to 10 years of age). An exception is a study that investigated 3- to 5-year-olds, in which Gummerum and colleagues (2010) found that guilt feelings assessed in the happy victimizer task significantly predicted sharing in the dictator game. A study by Vaish, Carpenter, and Tomasello (2011) provided evidence that 5-year-old children consider the guilt feelings of others before engaging in prosocial behavior with them. Specifically, they were more willing to give resources to a remorseful transgressor than to a transgressor not displaying guilt.

Taken together, there is strong theoretical support for a link between moral guilt and adaptive, prosocial behavior outcomes. The empirical support stems predominantly from research in the happy victimizer tradition and has mostly relied on cross-sectional samples in middle childhood. In addition, most of this research has either focused on overt prosocial ratings or one specific subtype of prosocial behavior, e.g., cooperation, reparation, or helping. Nevertheless, we do acknowledge that

excessively high levels of moral guilt, such as existential guilt, may become maladaptive. While high levels of moral guilt are still likely going to increase other-oriented, prosocial behavior, they may simultaneously become more risky and increase the likelihood of putting one's own safety and health at risk.

**Guilt and maladaptive outcomes.** In contrast to moral, “healthy” guilt, neurotic guilt is generally considered to be maladaptive and “unhealthy” (Oakley, Knafo, Madhavan, & Wilson, 2012). Neurotic guilt refers to feelings of disesteem for the self although the person has not violated any moral norms. It is generally considered maladaptive because it prevents individuals from thriving (Maslow, 1967). It also refers to cases where the intensity of the affective experiences is disproportionate to what the person has actually been doing wrong (if anything) and/or where the individual takes responsibility for something that is out of his or her control. Thus, external but irrelevant rules are internalized (Koestenbaum, 1979). Clinical psychologists have identified neurotic guilt as an emotional mechanism associated with psychopathology from early on, both in the psychoanalytical tradition and in recent cognitive-behavioral accounts. In philosophy, the Freudian notion of guilt, based on internal conflicts, has been distinguished from existential guilt, which is based on actual harm done to others (Buber, 1958).

Recent research on neurotic and/or overtly intense guilt has identified it as causing anxiety and depression in children and adolescents, as it can generate dysfunctional self-related evaluations and self-defeating behaviors (Zahn-Waxler & van Hulle, 2012). Studies have documented cross-sectional links between excessive guilt and depression in children and adolescents (e.g., Tilghman-Osborne, Cole, & Felton, 2012). Research has also shown that guilt-inducing parent-child interactions, which involve emotional manipulation, increase children's distress and anger (see

Grusec, 2011). There is also evidence that shame appears to overlap with guilt in children and adolescents. For example, one study found that guilt and shame are related in a non-clinical sample of children aged 8 to 13 years, but only shame predicted anxiety symptoms when controlling for the overlap between shame and guilt (Muris, Meesters, Bouwman, & Notermans, 2014; see Tilghman-Osborne, Cole, Felton, & Ciesla, 2008; Webb, Heisler, Call, Chickering, & Colburn, 2007).

Just as empathy can induce moral guilt, there is also evidence that empathy can induce pathogenic guilt and shame, which in turn may cause anxieties, depressed mood, and low self-esteem (O'Connor, Lynn, Berry, Lewis, & Stiver, 2012).

Importantly, researchers have argued that there is a close link between the absence of moral guilt and aggression, violence, and antisocial conduct, both in the normative and clinical range. Conceptually, the association between children's and adolescents' guilt feelings, or lack thereof, with anti-social, aggressive behavior is hardly surprising (Eisner & Malti, 2015). This understanding is reflected in the inclusion of guilt in diagnostic classifications of externalizing disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; APA, 2013), such as Conduct Disorder (CD). As recommended by Frick and Moffitt (2010), the presence of callous-unemotional (CU) traits has been included as a specifier for the diagnosis of CD in the DSM-5. The CU specifier designates a subgroup of children with CD who demonstrate particularly severe aggressive behavior. To be assigned this specifier, children must exhibit two of the following four callous-unemotional (CU) traits in the year leading up to assessment: *Lack of remorse or guilt*, *callous-lack of empathy*, *unconcerned about performance*, and *shallow or deficient affect*. Thus, children with CD who lack guilt, among other criteria, will be ascribed the CU specifier.

In line with this theorizing and clinical classification, an absence of moral guilt has been associated with increased aggression in community-based cross-sectional and longitudinal samples ranging from early childhood to early adulthood. For example, Kochanska, Barry, Aksan, and Boldt (2008) found that children's conscience (including guilt feelings) at 52 months predicted lower disruptive behavior rated by mothers and fathers at 67 months. In addition, low guilt has been found to predict increased oppositional defiant disorder symptomatology in 4- and 8-year-olds (Dinolfo & Malti, 2013). In a Swiss sample of 6- to 8-year-olds, aggressive behavior rated by teachers was associated with less anticipated guilt feelings following hypothetical moral transgressions. Similarly, Arsenio and colleagues (2009) found, in a low socioeconomic-status sample of 13- to 18-year-olds, that less aggression-related guilt was associated with increased levels of proactive (i.e., instrumental) aggression. In a study by Tangney and colleagues (1996) using various non-clinical populations across the lifespan, it was found that there was a significant negative association between guilt and aggression (independent of age) in both child and adolescent populations (see Muris & Meesters, 2013). In a recent systematic review of 42 studies covering 8,009 participants from predominantly non-clinical community samples (ages 4-20), Malti and Krettenauer (2013) documented a negative, modest relation between guilt and aggression. Together, these findings underscore the importance of guilt in predicting aggressive conduct in normative samples throughout development.

Low moral guilt has also been associated with elevated levels of aggression in clinical samples of children and adolescents. For example, in an earlier study, Blair (1997) found that 13-year-old adolescents with psychopathic traits (e.g., lack of guilt, remorse, and empathy) were less likely to attribute guilt to story protagonists who violated moral standards with aggressive acts. More recently, Orobio de Castro, Merk,

Koops, Veerman, and Bosch (2005) found that boys aged 7 to 13 with clinically-elevated levels of aggression attributed less guilt than comparison boys in response to vignettes depicting unprovoked aggression. In a review paper, Frick and White (2008) discuss a subgroup of aggressive children who possess callous-unemotional (CU) traits, which include a marked absence of guilt feelings. Such children have been shown to exhibit particularly severe and stable patterns of aggressive behavior across development (e.g., Burke, Loeber, & Lahey, 2007).

In conclusion, the effect sizes between moral guilt and aggression are small to moderate. Future research is needed to examine potential mechanisms and developmental processes that may link guilt to aggression.

Lastly, features of the culture, family, peer context, and/or social situation may serve as mechanisms that link low guilt to aggression. For example, related research has shown that aggressive children show biased emotion processes when asked about a provocateur's emotions and reasoning but not when this child is a mutual friend and when the surroundings are relaxed and positive.

### **Developmental Considerations in Clinical Implications of Guilt**

While our knowledge on developmentally differential relations between guilt and (mal)adaptive outcomes is still very limited, there is some meta-analytic evidence that the link between moral guilt and aggression is not age-specific. For example, two reviews did find an overt negative relation between guilt and aggression across childhood and adolescence, independent of age (Malti & Krettenauer, 2013; Tangney et al., 1996). Similarly, neurotic guilt appears to be associated with internalizing symptoms, although sometimes indirectly through shame, across age groups (Kim, Thibodeau, & Jorgensen, 2011). Nevertheless, it is fundamental to place our model within the context of typical emotional development processes. The literature on

emotional development in general and on moral emotions in particular (especially empathy/sympathy) has been reviewed extensively in the past, so that is not our present goal (for comprehensive reviews, see Eisenberg et al., 2014). Here, our goal is therefore to briefly discuss if and how normative developmental processes in guilt may affect its links to (mal)adaptation. First, it is clear that guilt feelings are complex emotions that develop later than basic emotions. Second, as we elaborated in the beginning, there are important developmental changes in both the understanding and anticipation of guilt from early childhood to adolescence, which are closely tied to progressions in social-cognitive development. Importantly, then, because the experience and expression of guilt feelings differ at each developmental phase and within each developmental phase to varying extent (i.e., early childhood, middle childhood, adolescence), these patterns may affect links with (mal)adaptive behavioral outcomes. We argue that inter-individual variability in guilt is likely to increase with development because the absence of guilt is less likely going to be a (purely) cognitive deficit but rather associated with a broad range of factors, such as decision-making processes, motivational factors, and situational triggers. While our present model acknowledges the role of development and changes in guilt across time, prospective research is needed to fully decipher the mechanisms by which these changes affect (mal)adaptation.

### **Implications for Developmentally Sensitive Assessment and Intervention**

The integrated clinical-developmental model has two central implications for assessment and intervention practice. First, our model implies that there is a need to consider any intervention strategy to promote moral guilt and adaptive outcomes in the context of human development. Thus, timing issues are crucial in both assessment and treatment planning. For example, the absence of moral guilt in a 3-year-old child

might be due to cognitive constraints, while the absence of moral guilt in a 15-year-old adolescent might be likely attributed to motivational deficits. These differences require a developmentally tailored intervention approach, including screening and assessment tools that include developmental considerations, such as the inclusion of developmentally expected correlates of guilt in different developmental periods (e.g., ToM measures in early to middle childhood versus motivational measures in adolescence) and a focus on both challenges and strengths, as research indicates that a combined approach is more effective in promoting child and adolescent mental health outcomes, including prosocial and antisocial behaviors (Malti, Chaparro, Zuffiano, & Colasante, 2015). Similarly, it is important to understand and identify the amount of developmentally normative, adaptive levels of guilt, as well as atypical, maladaptive levels of guilt, as only a more complete understanding of the functional and dysfunctional amounts of guilt at a given time in development can help to plan appropriate intervention strategies. For instance, a 7-year-old with normal, adaptive levels of moral guilt but elevated levels of maladaptive, neurotic guilt and shame may need an entirely different intervention compared to a 7-year-old with maladaptive levels of moral guilt but typical (or even low) levels of neurotic guilt.

It is important to note that existing curricula to promote prosociality and reduce aggression and antisocial conduct in children and adolescents have mostly focused on empathy-related responding (see Malti, Chaparro, Zuffiano, & Colasante, in press). This is somewhat surprising, given the well-known evidence for the role of moral guilt in prosocial and antisocial behavior from basic developmental research. To increase effectiveness of the current curricula, researchers and practitioners alike may therefore broaden the current frameworks and incorporate assessments and interventions that target guilt and related self-conscious emotions.

Second, our model suggests that it is important to understand the severity of the maladaptive problem behavior and adjust the number and type of intervention strategies accordingly, using developmental principles and developmentally sensitive assessment tools. Similarly, the empirical evidence clearly suggests that very low levels of moral guilt and disregard for others are positively associated with aggression and antisocial conduct (Hyun Rhee et al., 2013; Malti & Krettenauer, 2013). Similarly, excessively high levels of neurotic guilt may be directly or indirectly related to internalizing symptoms via shame. Thus, any treatment planning to reduce or prevent aggression and antisocial conduct or depression and anxieties, respectively, needs to consider the degree to which moral guilt is absent or neurotic guilt elevated to inform the intensity of the intervention. For example, it is likely that extremely high levels of aggression are associated with an absence of guilt in adolescents, and elevated levels of aggression may well be associated with deficits in some domains, but not others. This suggests the need for an assessment of guilt across various situations, as well as dispositional levels of guilt proneness.

Vice versa, extensive levels of neurotic guilt may be highly maladaptive and relate to internalizing symptoms across childhood and adolescence, such as to feelings of hopelessness, low self-efficacy, and self-depreciation (Oakley et al., 2012). However, the strength of the link between neurotic guilt and depressive symptoms is likely going to change across development. For instance, clinical studies with adolescent and adult samples have found that shame is more directly and strongly associated with internalizing symptoms than guilt (for a meta-analytic review, see Kim et al., 2011). Nevertheless, a study by Luby and colleagues (2009) documented that both shame and maladaptive guilt were associated with parent-reported depression in 3-year-olds. Thus, while shame and guilt may be related to depression

directly at an early age (e.g., due to inter-individual differences in behavioral inhibition), the developmental trajectories of shame and guilt may become more distinct during middle childhood and onwards (e.g., due to differences in cognitive development and/or the increasing influence of situational variables and gene X environment interactions). These distinct developmental trajectories with onset in middle childhood may relate to depressive symptoms in more multifaceted ways compared to infancy and early childhood. Therefore developmental assessment tools that incorporate both shame and neurotic guilt may inform diagnostic decision-making, treatment planning, and intervention of internalizing symptoms in children and adolescents.

### **Conclusions and Future Directions**

In conclusion, this article aimed to propose an integrated clinical-developmental model of guilt feelings from early childhood to adolescence. The central goal was to posit a new theoretical framework that integrates components of, and expands on, existing social-cognitive, social-emotional, and clinical approaches to the study of guilt feelings. There are several other theoretical models that have been used to test important hypotheses concerning the development of moral emotions, mostly empathy/sympathy and guilt. The introduction of the present integrative model builds on this prior tradition but also suggests the fruitfulness of future attempts to integrate other seemingly disparate theoretical frameworks and for providing an explanatory framework for the development of guilt feelings, as well as implications for children's and adolescents' social functioning. Although evidence for the clinical effects is still relatively preliminary, there are several novel testable hypotheses that are derived from the present clinical-developmental model (see Table 2).

Future research that systematically tests the theory-driven hypotheses will help to move this scientific field forward. Promising future directions for research include the longitudinal study of differential developmental trajectories of emotions about morality. We already know that empathy and sympathy develop earlier than guilt feelings, but does the developmental course of these moral emotions differ as well, and what are the clinical implications at different developmental phases? This type of research can not only inform our understanding of the development of guilt but also of the distinct and overlapping trajectories of related moral and social emotions, most prominently shame, empathy, and moral anger. We also know that multiple deficits in social emotions, such as low levels of empathy and high levels in anger or shame, put children at risk for aggression (Schultz, Izard, & Bear, 2004). How do children's multifaceted emotional experiences change over development and affect maladaptive behavior outcomes?

Although our model has focused on cognition-affect-event links and associations with (mal)adaptive behavior, it is important to emphasize that situational triggers of guilt can be single events or real-time dynamic processes. Research has suggested that both the type of events as well as microsocial interactions cause differences in emotional and behavioral response (e.g., Snyder & Stoolmiller, 2002). Most research thus far has not included real-time processes but has rather identified event-related differences, e.g., how guilt and other emotions are experienced across domains of social knowledge (Smetana, 2006). This research is highly significant for understanding the large-scale normative development of guilt feelings from early childhood to adolescence. However, on the microlevel, linking proximal real-time processes with emotional responses is important to further understand affect-event links and how they affect children's and adolescents' (mal)adaptive outcomes.

We also urge researchers to use multiple methods to assess guilt and its cognitive and non-cognitive correlates in children's everyday life in a longitudinal framework. Specifically, in addition to interview methods, the use of naturalistic observations, measures of physiological responses, genetics, and individual temperamental and motivational differences may be beneficial to more fully understand the emergence, precursors, basic affective correlates, and developmental course of guilt (see Malti, Colasante, Zuffianò, & de Bruine, in press). Moreover, the use of neurocognitive assessments and measures of electrocortical activity (e.g., event-related potentials [ERPs]) may help to further understand the microprocessing of guilt. The use of ERP studies of moral guilt and psychopathology may have particular utility, given the temporal resolution of these assessments (Stanford, Houston, Villemarette-Pittman, & Greve, 2003) for testing hypotheses related to latency of processing and (mal)adaptive behavioral response. However, this finding is preliminary and more research is needed to deepen our understanding of the moment-to-moment processes underlying the formation of guilt.

Obviously, social emotions are inevitably embedded in social interactions with others. As such, future research needs to test more systematically the roles of friendship, peers, family, and culture in the emergence and development of guilt, as well as its effects on adaptive behavior and psychopathology across development.

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Table 1

*Neural Correlates and Related Functions of Moral Versus Basic Emotions*

Emotions	Neural Correlates	Related Functions
<b>Moral</b>		
Guilt	<i>Frontal</i> (dorsomedial prefrontal cortex*, supplementary motor area) <i>Temporal</i> (amygdala*, left posterior superior temporal sulcus) <i>Limbic</i> (anterior cingulate cortex) <i>Insular</i> (anterior insula*)	Theory of mind, emotion perception, social cognition, emotion recognition, integration of cognitive and affective components, processing norm violations
Empathy	<i>Frontal</i> (dorsomedial prefrontal cortex*, supplementary motor area) <i>Temporal</i> (amygdala*, inferior*/superior temporal cortex) <i>Limbic</i> (dorsal anterior cingulate cortex) <i>Insular</i> (anterior insula*)	Theory of mind, emotional contagion, emotional salience tagging, sensitivity to social cues, face processing motivating social interactions, self-awareness, pain Perception
<b>Basic</b>		
Fear	<i>Temporal</i> (amygdala) <i>Insular</i> (right insula) <i>Subcortical</i> (right cerebellum)	Emotional learning, emotional conditioning Anticipation and recognition of aversive stimuli Fear memory, emotional learning
Anger	<i>Frontal</i> (left inferior frontal gyrus, lateral orbitofrontal cortex) <i>Limbic</i> (right parahippocampal gyrus)	Inhibitory control, conflict resolution, stress reactivity Recognizing subtle communication cues
Disgust	<i>Insular</i> (insula) <i>Subcortical</i> (basal ganglia, globus pallidus)	Anticipation and recognition of aversive stimuli Disgust recognition, disgust sensitivity
Sadness	<i>Frontal</i> (medial frontal gyrus, dorsomedial prefrontal cortex) <i>Limbic</i> (anterior cingulate cortex) <i>Subcortical</i> (left caudate head)	Mood regulation, sadness recognition, approach behavior, attachment behavior
Happiness	<i>Temporal</i> (superior temporal gyrus, dorsomedial prefrontal cortex) <i>Limbic</i> (anterior cingulate cortex)	Happiness recognition, sensitivity to happiness, anxiety reduction

*Note.* \* Child and adult samples. See Fan, Duncan, de Greck, & Northoff (2011; Moral); Frick & White (2008; Moral); Vytal & Hamann (2010; Basic).

Table 2

*Key Hypotheses for the Integrated Clinical-Developmental Model and its Dimensions, with their Assumptions and Testable Predictions*

		Guilt				
		Development	Cognitive skills	Individual differences	Situational triggers	(Mal)adaptive outcomes
Assumptions	Precursors of guilt emerge in early childhood	Cognitive skills influence the anticipation of guilt feelings, especially in the early and middle childhood years	There are inter-individual differences in guilt proneness There is continuity of inter-individual variability in guilt proneness across the lifespan	Social context (culture, family, peers) influences guilt across the lifespan Situational triggers affect guilt feelings across development	Normative levels of moral guilt are associated with adaptive outcomes The absence of moral guilt is associated with externalizing symptoms Neurotic guilt is, in part, related to internalizing symptoms	
	Guilt develops between the early and middle childhood years and becomes more stable then					
	While the development of guilt overlaps with other social emotions, it follows distinct trajectories					
Predictions	There should be an increase in guilt from early to middle childhood, followed by relative stability	Theory of mind skills should affect the anticipation of guilt Cognitive skills are central predictors of guilt feelings in early and middle childhood but should become less central from late childhood and onwards	Differences in dispositional behavioral inhibition should relate to the development of guilt Differences in morally relevant motivations and orientations, such as justice motivation, should predict the development of guilt	Cultural differences should affect the development of guilt Situational triggers (e.g., harm versus social exclusion, characteristics of victim, e.g., in-group vs. out-group member) should affect anticipation and intensity of guilt	Moral guilt from middle childhood and onwards should be related to prosocial behavior The absence of moral guilt from middle childhood and onwards should be related to externalizing symptoms Neurotic guilt should correlate with internalizing symptoms across the lifespan but less consistently than shame	
	Overt levels of guilt remain					
	The development of guilt should follow distinct trajectories					

Figure Captions.

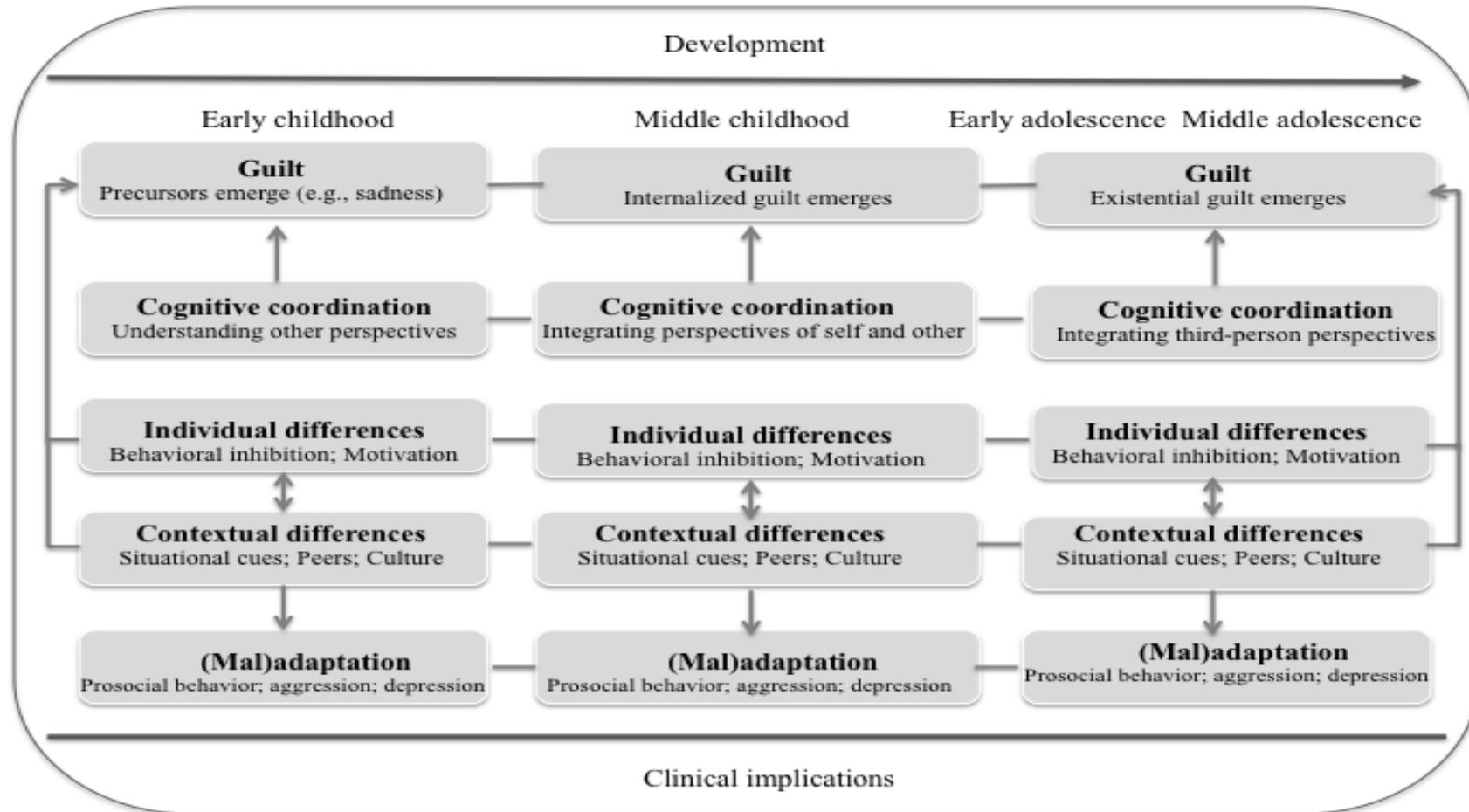


Figure 1. A simplified clinical-developmental model of social-cognitive, dispositional, and contextual influences on guilt and (mal)adaptive outcomes across early childhood to adolescence.