Chapter 6
A Multidimensional View of Continuity in Intergenerational Transmission of Child Maltreatment

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Over the past several decades, researchers have reached a relative consensus that while experiencing maltreatment in childhood is a risk factor for maltreating one's own children, this consequence is far from an inevitability. Rates of intergenerational transmission of maltreatment (IGTM) range from 6.7 % to 70 % in the literature. The variability in estimated rates of IGTM mirrors the methodological heterogeneity in maltreatment research (e.g., retrospective vs. prospective designs, inconsistent maltreatment definitions, differing concordance calculation techniques) (see Dixon et al. 2005; Ertem et al. 2000, for review; Kaufman and Zigler 1989). In the absence of fully prospective investigations of IGTM (i.e., where both parent and child experiences are assessed longitudinally), the most comprehensive estimate of the "true" rate of IGTM is ~30 % (Kaufman and Zigler 1989). However, the marked variability across published estimates remains concerning and suggests the need to critically evaluate extant approaches to the conceptualization and investigation of IGTM.

In addition to varying estimates of IGTM, research points to an array of mechanisms underlying maltreatment continuity and discontinuity across generations. For example, younger parenting and parental psychopathology have been implicated in IGTM, whereas, factors supporting desistance of maltreatment across generations include supportive relationships, psychotherapy, and capacities for meaning making and experiential integration (see Dixon et al. 2005; Egeland 1993; Egeland et al. 2002 for more detailed reviews of risk and protective factors; Egeland et al. 1988; Egeland and Susman-Stillman 1996; Kaufman and Zigler 1993). Yet even these risk and protective factors may be qualified by individual and contextual characteristics. Indeed, the most consistent finding across the sizable literature on the manifestations and mechanisms of IGTM is its inconsistency.

In this chapter, we apply key concepts from the integrative paradigm of developmental psychopathology to inform a new approach to IGTM research that will simultaneously facilitate greater sensitivity and specificity in our understanding of patterns of maltreatment continuity and discontinuity across generations. First, we review key models of continuity and discontinuity within the broader framework

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of developmental psychopathology and highlight the added value of extending this framework to IGTM research. Second, we revisit the phenomenology of IGTM with particular emphasis on the information provided by instances of persistence and desistence across different forms of maltreatment. Third, we suggest a new approach to understanding and investigating mechanisms underlying the etiology of IGTM within a developmental psychopathology framework. Fourth, we offer specific recommendations for future research on IGTM and discuss implications for ongoing efforts to prevent it.

A Multidimensional View of Continuity

Developmental psychopathology adopts an organizational view of development, which emphasizes the coherence of adaption over time (Rutter and Sroufe 2000; Sroufe 1990; Sroufe and Rutter 1984; Werner 1957). In this perspective, both continuity and discontinuity in adaptive organization reflect and follow from a fundamentally coherent course of development (Rutter et al. 2006; Sroufe 1979; Sroufe and Jacobvitz 1989). As such, both continuous and discontinuous patterns of adaptation are worthy of study, and both further our understanding of development broadly. In this chapter, we outline a new, multidimensional model of IGTM that is informed by central tenets of organizational theory and developmental psychopathology.

First, given the reciprocally informative relations between studies of continuity and discontinuity, we encourage research focused on processes by which maltreatment persists across generations, as well as on those that precipitate discontinuities and "break the cycle." Patterns of persistence and desistence occur within individual development, as well as across individuals and generations (Rutter 1989). For example, research on parenting practices reveals meaningful continuity and discontinuity across the developmental continuum (Pianta et al. 1989a). Although maternal sensitivity is largely stable across development, parenting behavior cannot be explained fully by this continuity. Pianta and colleagues (1989a) found that discontinuities in maternal sensitivity were equally important for understanding development because they revealed the salience of child and situational factors (e.g., marital relationship quality, child gender). As applied to the study of IGTM, we suggest that principles of continuity and discontinuity operate across generations, and research must attend not only to examples in which the cycle is perpetuated, but also to instances of "lawful discontinuity" (Belsky 1993, p. 416) that break the cycle.

Second, the fundamental coherence of development rests at the level of function, despite potential variations in form (Rutter 1989; Sameroff and Chandler 1975; Waddington 1940). For example, the ability to seek care when distressed in early childhood engenders a capacity to manage distress independently in later development such that an apparent transition in form (i.e., dependence to independence) belies a fundamental continuity in function (i.e., the capacity to self-regulate in accordance with developmentally salient challenges and resources). Similarly, children with histories of avoidant attachment can display anger in early development and passivity in later development (Sroufe and Jacobvitz 1989), yet this is not an example of inconsistency, but rather reflects changes in the form or expression of continuous maladaptation.

A central premise of this chapter is that, as with development broadly, we may best understand IGTM by attending to the multidimensional nature of continuity in terms of form *and* function. In homotypic continuity, both adaptive form and function are continuous, as when a history of child physical abuse predicts perpetration of child physical abuse on the next generation. In heterotypic continuity, the adaptive form may change while the function remains constant, as when a history of child physical abuse predicts perpetration of child emotional abuse on the next generation. This integrated view of IGTM offers a framework within which both types of continuity are appreciated and acknowledged, but appropriately distinguished such that information can be gained about persistence of form and/or function.

A Multidimensional View of Child Maltreatment

It is important to consider possible differences in the form of IGTM continuity because child maltreatment represents a constellation of related, yet distinct, experiences. Most forms of maltreatment involve acts of commission that inflict direct harm on a child (i.e., child physical abuse, CPA; child sexual abuse, CSA; child emotional abuse, CEA), but others involve acts of omission that deny a child basic developmental needs (i.e., child neglect, CN). Even within the broader category of abuse, there are important distinctions with respect to the target of injury (e.g., physical injury; attack on sense of self; Socolar et al. 1995; Toth et al. 1997) and developmental effects on particular domains of adaptive functioning (e.g., CPA and aggression; CN and impaired social relationships; Briere and Runtz 1990; Hildyard and Wolfe 2002). Individual maltreatment experiences also differ with respect to the severity of the event, the identity of the perpetrator, and ages of onset and offset. Despite robust differences across individuals' experiences of child maltreatment, however, researchers often proceed as though any childhood adversity at the hands of a caregiver is equivalent. As attention to each of these features is appropriately increasing in the maltreatment literature broadly, we believe the study of IGTM will particularly benefit from greater attention to the specific implications of maltreatment subtype.

Consideration of subtypes remains a challenge in broader maltreatment research as well. Given considerable comorbidity across maltreatment experiences (Claussen and Crittenden 1991; Higgins and McCabe 1999; Ney et al. 1994), it is often difficult to identify unique effects associated with each type of exposure. Should one attempt the difficult task of obtaining a sample that has experienced a single type of maltreatment, the sample would likely differ from typically maltreated children, who generally experience multiple subtypes in combination (Claussen and Crittenden 1991). Moreover, there are statistical challenges to obtaining information about individual subtypes in samples that have experienced multiple forms of maltreatment. The dominant homogenized maltreatment model, which was largely born out of necessity, has generated useful information about overall patterns of child maltreatment. However, a shift toward greater specificity has begun to establish a new paradigm, one in which consideration of individual differences in maltreatment experience is paramount. Studies increasingly emphasize the importance of unique effects of single maltreatment types, and, more recently, this work has been extended to successfully reveal unique effects of different combinations of multiple maltreatment subtypes (Berzenski and Yates 2011; Pears et al. 2008). As applied to the study of IGTM, we suggest that a focus on subtype specificity will reveal that, just as the experiences of subtypes of maltreatment have different correlates and consequences, the continuity of these experiences across generations may vary as well.

A Multidimensional View of IGTM Phenomenology

Adopting a nuanced appreciation for meaningful distinctions across forms of continuity (Rutter 1989), as well as forms of maltreatment (Briere and Runtz 1990), we offer a sensitive and specific framework to guide future research on IGTM. Thus far, studies of IGTM have classified caregivers as maltreated if they experienced one or more of any subtype of abuse or neglect, even when some participants experienced one type of maltreatment and other participants experienced different or multiple types. Likewise, researchers typically define maltreatment as continuous across generations if the children of these caregivers experience one or more subtypes of abuse or neglect. While aggregated studies have been the norm, and were perhaps necessary to establish broad parameter estimates of IGTM, the failure of extant research to converge on a coherent model of IGTM suggests that it is time to refine our focus.

Kaufman and Zigler (1989) argued that it was *not* important to separately examine subtypes (specifically CPA, CSA, and CN) in research on IGTM "because the intervention implications of these three forms of maltreatment are quite similar" (p. 130). Nearly 25 years ago, this assertion may

have been both useful and appropriate. However, in light of new information regarding the specificity of maltreatment experiences, effects, and intervention efforts (e.g., MacMillan et al. 2009), the utility of this unitary framework has been realized and may, in fact, inhibit progress toward a complete understanding of IGTM. We argue that a more precise paradigm will clarify extant research findings and reveal previously obscured patterns of continuity and discontinuity.

First, greater attention to maltreatment subtypes will contribute to increased clarity in the communication of research findings. Until recently, the majority of studies on IGTM have been done with participants who experienced CPA alone or in combination with other maltreatment subtypes. In fact, there are no known studies with aggregated samples of maltreatment that exclude CPA. Indeed, the entire literature on rates and mechanisms of IGTM might be more accurately described as a compendium on the intergenerational transmission of CPA. At times, even studies exclusively measuring CPA have referred to it simply as 'abuse,' with cursory acknowledgment of the specific content of the experience restricted to the method section (e.g., Pears and Capaldi 2001). In other studies, distinct types of child maltreatment (e.g., CPA and CEA; CPA and CN) are combined into a homogenous construct (i.e., "maltreatment"), even when the heterogeneity of these experiences is acknowledged (Berlin et al. 2011; Cort et al. 2011; Dixon et al. 2005; Egeland and Susman-Stillman 1996; Hunter and Kilstrom 1979). Although some studies have investigated the continuity of particular subtypes of maltreatment, certain types have been investigated more than others (i.e., CPA and CSA more than CEA or CN). Moreover, the field suffers from a lack of integration with respect to information learned from these individual studies. Therefore, it is essential to distinguish research studies that represent findings specific to one type of maltreatment (usually CPA) from those that can be generalized across multiple types of maltreatment, and it is equally important to integrate research on other individual subtypes into this corpus of work.

Second, greater specificity may clarify the meaning of variability in published rates of IGTM across studies and samples. Confounding single and multiple maltreatment experiences may contribute to confusion when trying to compare transmission rates across studies. In addition, attempting to compare separate studies in which different experiences of maltreatment are treated as equivalent (e.g., one study in which participants experienced CPA and CN, and one in which they experienced CPA and CEA) may cause findings to appear inconsistent due to methodological, rather than actual, differences. Parsing experiences of multiple versus unitary maltreatment, and of different types of maltreatment, may uncover previously undiscernable information about each experience and clarify rates of IGTM.

Third, type-specific investigations may reveal important information about mechanisms by which specific maltreatment experiences are transmitted. Certain types of maltreatment may be more vulnerable to particular mechanisms of transmission than others and/or specific mechanisms may operate differently in the context of particular maltreatment subtypes. Although it is less common to experience one type of maltreatment than multiple types, findings regarding independent subtypes may nevertheless shed light on basic developmental processes that underlie the phenomenon of IGTM as a whole. Eventually, this understanding may inform discussions of IGTM patterns and suggest how various mechanisms may interact in the context of each individual's unique experiences. Therefore, we will both review literature that has homogenized the experience of IGTM and integrate studies of individual subtypes of IGTM to elucidate differences and commonalities in the phenomenology and etiology of IGTM.[1]

[1] We examine CPA, CSA, CEA, and CN in this chapter. While exposure to domestic violence (DV) is a pernicious form of child maltreatment, a vast literature exists on the IGT of DV, the exploration of which is beyond the scope of this review. Indeed the entirely separate literature on DV illustrates our concern that research on IGTM has been constrained by a lack of integration of research on unitary experiences, and the exclusion of multiply embedded contexts. Moreover, we specifically examine IGTM in mothers and exclude fathers from this discussion. While there is some research on fathers as perpetrators of maltreatment, this extra dimension is ancillary to our main focus on subtypes of maltreatment in our current discussion. Therefore, when we discuss type-specific transmission of CSA, for example, we will be referring to mothers who experienced CSA and their children who have experienced CSA, even though mothers do not typically perpetrate this type of maltreatment.

As discussed previously, *homotypic IGTM* occurs when a mother who experienced a particular type of maltreatment has a child who experiences the same type of maltreatment (e.g., CPA for the mother and for the child). *Heterotypic IGTM* occurs when a mother who experienced a particular type of maltreatment has a child who experiences a different type of maltreatment (e.g., CPA for the mother and CEA for the child). Despite variation in form, heterotypic IGTM is functionally continuous in that both mother and child are maltreated, albeit in different ways. Of note, studies that aggregate different subtypes of maltreatment experienced by the mother, the child, or both, preclude identification of the specific form of continuity and thus constitute instances of *undifferentiated IGTM*.

Homotypic and Heterotypic IGTM

Adopting a multidimensional view of continuity when studying IGTM opens several promising questions: First, is homotypic continuity more prevalent than heterotypic continuity? A few studies have examined type-specific IGTM to evaluate the hypothesis that homotypic continuity is more common than heterotypic continuity. However, these studies have had mixed results, which may be due to their varying methodological approaches. For example, some comparisons used control groups or otherwise accounted for base rates of maltreatment subtypes (Kim 2009; Ney 1988), yet others did not include these directed comparisons, and subsequently reported less evidence for type-specific IGTM (Pianta et al. 1989b). While second generation maltreatment is often measured as a composite of multiple subtypes, the studies mentioned above, as well as key examples of single subtype investigations, can begin to shed light on the extent of type-specific IGTM for each of the four subtypes of child maltreatment examined here. In so doing, we will address a second question about whether particular types of maltreatment are more vulnerable to homotypic continuity than others.

Child physical abuse. Studies of CPA reveal moderate consistency of transmission rates. Pears and Capaldi (2001) investigated CPA in a sample of at-risk boys and found that 23 % of mothers who had experienced CPA had physically abused their sons, while 10 % of mothers who had not experienced CPA had physically abused their sons. They concluded that CPA increased the odds of second generation CPA by a factor of 2. Even more strikingly, Kim (2009) found that CPA in the first generation increased the odds of CPA in the second generation by a factor of 5, with 15.7 % of CPA mothers' children experiencing CPA, compared to 3.6 % of non-CPA mothers. Moreover, Kim was one of only a few investigators to compare rates of homotypic CPA transmission to those of heterotypic CPA transmission while taking base rates into account. In this sample, 17.6 % of CPA mothers had children with histories of CN, which was similar to the 15.7 % rate of homotypic CPA transmission; however, when compared to the base rate incidence of CN among *non-CPA* mothers, which was 13 %, CPA in the first generation did not significantly increase the likelihood of second generation CN. Taken together, these findings suggest that homotypic continuity for CPA is greater than heterotypic continuity, once base rates are taken into account. Pianta and colleagues (1989b) found a very similar 17 % homotypic transmission rate of CPA by age 6, but this number was not compared to rates among non-CPA mothers. Although Pianta and colleagues (1989b) suggest that their findings did not support type-specific continuity because the same percentage (17 %) of CPA mothers had children with CN, their percentages mirror Kim's (2009) findings, and cannot be interpreted fully in the absence of a base rate comparison. Additionally, Ney (1988) found that the correlations between mothers' CPA and CPA in the next generation were comparable to correlations between CPA and CEA in the next generation, and higher than those between CPA and CN or CSA, which were not significant. However, the absence of base rate comparisons limited the author's ability to interpret these findings with regard to the relative magnitude of homotypic versus heterotypic IGTM. On the whole, research suggests that there is significant homotypic continuity of CPA (see Ertem et al. 2000, for review), but variability in both methodology (e.g., base rate comparisons) and sampling (e.g., documented vs. reported

maltreatment; clinical vs. community samples) precludes any firm conclusions regarding specific rates of IGTM of CPA at this time.

Child sexual abuse. Most studies examining the IGTM of CSA do not compare CSA to other forms of abuse. Although several studies have published rates of homotypic CSA transmission, findings are complicated by the notable discontinuity between victims and perpetrators across generations. While male victims of CSA are often studied as potential perpetrators of CSA in the next generation, female CSA victims may not perpetrate CSA, but still may have children who experience CSA at the hands of their partners or other adults who have access to their children (Glasser et al. 2001). Maternal behaviors that contribute to CSA in the next generation may be better classified as neglect due to failure to protect the child, which makes it difficult to talk about type-specific CSA transmission in consistent terms. As discussed earlier, however, this review focuses on specific maltreatment experiences of mothers and their children irrespective of perpetrator identity. Thus, we define instances when mothers with a history of CSA have children who experience CSA as homotypic IGTM of CSA. This nuanced approach to understanding the IGTM of CSA highlights another advantage of differentiating among subtypes of IGTM, as mechanisms underlying homotypic CSA transmission may differ from instances when a formerly victimized parent becomes the direct perpetrator of the same type of abuse in the second generation.

In general, studies of homotypic CSA transmission put rates between 20 % and 30 % (Beltran 2010), but it is difficult to compare these studies methodologically. Many studies on CSA in particular are retrospective, drawing on samples of sexually abused children and inquiring about the maltreatment history of their parents (see Collin-Vezina and Cyr 2003, for review). This method of IGTM estimation provides inflated rates compared to prospective or quasi-prospective studies. Moreover, as noted previously, these studies often do not include control groups with which to look at odds ratios or make base rate comparisons. Two studies on samples of sexually abused children have included control groups, and both find increased rates of CSA among the children of CSA mothers (57 % compared to 44.7 % of controls, Leifer et al. 2004; 74 % compared to 25.8 % of controls, Oates et al. 1998). Still, even with the inclusion of a control group, these studies are not comparable to those adopting quasi-prospective designs to investigate other types of maltreatment, as sampling may be inherently biased in retrospective studies. One study that recruited families for domestic violence, rather than CSA, found an increased risk of CSA of 3.6 times for girls whose mothers had experienced CSA (McCloskey and Bailey 2000). Biased sampling approaches, such as patients who are currently in therapy (Glasser et al. 2001), and the absence of prospective designs limit our understanding of CSA transmission. Indeed, some research suggests that, though moderate homotypic continuity of CSA may exist, rates may be lower than heterotypic relations between CSA and physical CN (Ney 1988), which may be consistent with the categorization of second generation sexual abuse as a "failure to protect" the child on the part of the mother. In sum, relative to the literature on the IGTM of CPA, less is known about transmission patterns of CSA.

Child emotional abuse. There is a very small literature on the IGTM of CEA. This dearth of information is particularly concerning amidst increasing evidence that CEA may be the most pernicious form of maltreatment (Berzenski and Yates 2010, 2011; Kent et al. 1999; McGee et al. 1997; Spertus et al. 2003; Yates and Wekerle 2009). Ney (1988) found that CEA correlated most strongly with CEA in the next generation, with smaller but significant relations with CPA and a non-significant relation with emotional CN in the next generation. Perhaps more than any other subtype, research on CEA is complicated by a lack of definitional clarity, and an underrepresentation of CEA reports in documented maltreatment cases. Therefore, it may be useful to begin studying the IGTM of CEA by examining relations between CEA in the first generation and rejecting or verbally hostile parenting in the second generation. Studies of this nature provide some support for homotypic transmission of CEA (Whitbeck et al. 1992), but there is insufficient research to determine both whether or not CEA evidences higher rates of homotypic continuity, relative to heterotypic transmission patterns (i.e., type-specific transmission), and the specific IGTM rates of each.

Child neglect. As discussed previously, CN differs from other maltreatment types, in that it consists of acts of omission, rather than commission. Therefore, the IGTM of CN may differ from other types of maltreatment. Failure to protect a child by exposing her/him to other types of maltreatment is one area in which CN overlaps with other reported instances of maltreatment, but several other forms of neglect exist. CN may take on physical, supervisory, and/or emotional forms, but the field has not yet parsed the IGTM of CN across those specific categories. Kim (2009) found that 21.1 % of parents who experienced CN had children with CN histories, compared to 9.3 % of parents who did not experience CN (an odds ratio of 2.61). Among parents with a history of CN, 9.9 % physically abused their children, compared to 5.1 % without such histories (an odds ratio of 2.03). However, although both homotypic and heterotypic transmission rates were significant, only mothers' CN (and not mothers' CPA history) predicted CN in the second generation when other factors (e.g., ethnicity, number of children in the household) were controlled. Although they did not report specific IGTM rates for CN, Pianta and colleagues (1989b) observed that the maltreatment of children whose mothers had a history of CN "primarily took the form of neglect" (p. 244). Ney (1988) found that mothers' own physical CN was most strongly related to physical CN of their own children, and, secondarily, to CSA in the next generation. Although these relations are consistent with a model of failure to protect, the obtained correlations were not significant. In contrast, Ney (1988) found that mothers' own history of emotional CN was significantly correlated with their child's emotional CN, as well as with CEA and, to a lesser extent, CPA in the next generation.

Summary. Taken together, these findings suggest that type-specific transmission of child maltreatment does exist, such that homotypic continuity of IGTM is more prevalent than heterotypic continuity of IGTM, although the extent and details of this phenomenon remain unclear. In most studies that used odds ratios and base rates, the experience of a type of maltreatment was more likely to relate to that same type of maltreatment in the second generation (i.e., homotypic IGTM) than to other types (i.e., heterotypic IGTM), though other types of maltreatment remain more likely to occur than no maltreatment at all. Such instances of type-specificity (i.e., higher rates of homotypic IGTM relative to heterotypic IGTM) were most pronounced in studies of CPA, however, this is also the area in which the most studies have been conducted. That said, in cases where CPA and CN were examined in the same sample, CPA seemed to evidence more type-specific transmission than CN. More studies of particular subtypes of maltreatment transmission, within sample comparisons of type-specific transmission, and continued comparison and integration of these findings, are essential next steps toward a comprehensive and necessarily multidimensional understanding of IGTM.

Undifferentiated IGTM

Beyond the form of continuity and the relative prevalence of type-specific transmission, a third question informed by this new framework for understanding IGTM asks whether certain subtypes of maternal maltreatment are more vulnerable to IGTM in general than others. Studies measuring undifferentiated IGTM, in which experiences in the second generation are aggregated across type, are best suited to address this third question. In one sample of maltreated mothers, for example, mothers who had specifically experienced CPA had children who had been maltreated 68.1 % of the time, compared to 61.7 % of non-CPA mothers, while mothers who had experienced CSA had maltreated children 71.6 % of the time compared to 59.1 % of non-CSA mothers, and mothers who had experienced CN had maltreated children 63.7 % of the time, compared to 64.2 % of non-CN mothers (Zuravin et al. 1996). Although these rates of undifferentiated IGTM are fairly comparable, the authors note that there was a trend for CSA to increase the risk of second generation maltreatment marginally more than the other two types of maltreatment. Similarly, Pianta and colleagues (1989b) found a rate of

60 % transmission from mothers with a history of CPA to any type of maltreatment by age 6, a 69.2 % rate in mothers with a history of CSA, and a 44.4 % rate in mothers with a history of CN. Spieker and colleagues (1996) compared odds ratios in a logistic regression predicting aggregated child maltreatment and found that CPA and CSA had similar weights, with CSA yielding an odds ratio of 2.6 for second generation maltreatment, while CPA was slightly lower at 2.3. Lastly, Berlin and colleagues (2011) found that 16.7 % of mothers who had experienced CPA had maltreated children, compared with 7.1 % of controls, whereas 9.4 % of mothers who had experienced CN had maltreated children, which was a non-significant difference compared to 7.7 % of controls with maltreated children. Additionally, although Ney (1988) analyzed subtypes of maltreatment independently, he found higher correlations between mothers' own CPA, CEA, and emotional CN experience and maltreatment of their own children, than between mothers' own history of physical CN or CSA in and maltreatment of their children.

Summary. Evidence as to whether specific types of maltreatment in one generation differ in their likelihood of predicting any maltreatment in the next generation remains equivocal. There seems to be trend suggesting that CSA may evidence slightly higher rates of undifferentiated continuity, followed by CPA, and then CN. This lack of clarity may follow from the varied methodological and definitional challenges researchers face when studying any particular maltreatment type. Moreover, other aspects of the maltreatment experience may affect IGTM rates, and may differ systematically between subtypes. For example, severity of maltreatment is associated with higher rates of IGTM (Collin-Vezina and Cyr 2003; Crouch et al. 2001; Leifer et al. 2004; Spieker et al. 1996; Zuravin et al. 1996), and certain types of maltreatment may average higher severity rates than others. Alternately, certain forms of maltreatment may evidence greater comorbidity with other maltreatment types, which, in turn, is associated with higher rates of IGTM (Kim 2009). Albeit mixed, the extant evidence base highlights the need for ongoing research efforts, and illustrates how a multidimensional model of continuity in research on IGTM can further these efforts.

A Multidimensional View of IGTM Etiology

As with rates of transmission, the mechanisms by which maltreatment in the first generation influences the prevalence and form of maltreatment in the second generation may vary by subtype. In studies that have examined specific types of maltreatment, it is possible to examine the mechanisms associated with each type to inform an integrated view of if and how these mechanisms may vary across different forms of maltreatment. Given the lack of clarity in aggregated research studies, we focus our discussion of IGTM etiology on studies of specific maltreatment subtypes. Mechanisms of IGTM fall into three categories when viewed from the multidimensional perspective: those that are specific to particular subtypes (e.g., only explain transmission of CPA but not other types of maltreatment), those that appear to be common to all subtypes, and those that are present across multiple types of maltreatment but operate differently depending on the subtype.

IGTM Mechanisms Specific to Subtypes

Several mechanisms for IGTM have been identified specifically in studies of CPA, including parents' use of and attitudes toward discipline, and the depth of parents' social networks. Consistency of parental discipline in the second generation has been supported as an explanatory mechanism underlying the IGTM of CPA, with research suggesting that lower levels of disciplinary consistency are

associated with higher rates of homotypic IGTM (Pears and Capaldi 2001). Similarly, social learning theory and mechanisms suggest that parents' aggressive behavior toward their children may be a learned behavior stemming from observing their own parents' aggressive disciplinary styles, particularly for understanding IGTM in the related domain of corporal punishment (Muller et al. 1995). Crouch and colleagues (2001) suggest that social support may influence CPA transmission. By assessing mothers' retrospective perceptions of early social support in their own childhood, they determined that mothers' own CPA experiences were associated with less perceived early support, less current social support, and increased risk of CPA for their own children. These findings illustrate the power of social relationships and are consistent with well supported models of undifferentiated IGTM, which indicate that social isolation contributes to IGTM (Berlin et al. 2011), whereas stable adult relationships are a key factor in breaking the abuse cycle (Egeland et al. 1988).

Mechanisms that have been specifically noted in studies of other types of maltreatment include a high rate of substance abuse with homotypic CSA transmission (Leifer et al. 2004; McCloskey and Bailey 2000) and low marital quality with rejecting parenting behaviors in parents who experienced CEA (Belsky et al. 1989). However, given the dearth of studies examining transmission of specific maltreatment types apart from CPA and CSA, it is premature to draw conclusions about IGTM mechanisms that are specific to particular maltreatment subtypes. These mediators may need to be tested in studies focused on other types of IGTM. For example, research on the sequelae of CN suggests that it predicts social withdrawal (Hildyard and Wolfe 2002) and that social withdrawal in turn is a risk for perpetrating CN (Coohey 1996). Based on these associations, it stands to reason that social isolation may be a mediator of CN transmission, but this link has yet to be tested directly. Additionally, there may be other as yet unexplored mechanisms of transmission that are subtype-specific.

IGTM Mechanisms Common Across Subtypes

Insecure attachment has been implicated in the IGTM of several maltreatment subtypes, including CPA and CSA, as well as in studies of undifferentiated continuity (Collin-Vezina and Cyr 2003; Egeland et al. 2002, 1988; Leifer et al. 2004; Rodriguez and Tucker 2011; Zuravin et al. 1996). Difficulty forming healthy attachments has been identified as a consequence of multiple types of child maltreatment, as each type interferes in some way with the perception of caregivers as reliable sources of security. Attachment theory proposes that the nature of the early relationship between the primary caregiver and the child influences and shapes the child's construction of beliefs and expectations about how s/he will be treated by significant others (Bowlby 1982). At an early age, the child constructs a cognitive model that best fits the reality of her/his experience. This model is maintained largely outside of awareness and greatly influences how an individual perceives and interprets the behavior of others (Weinfield et al. 1999). A young child who is exposed to sensitive, emotionally responsive, and consistent care develops beliefs that others will be available, supportive, and can be counted on in times of distress. Physically abused children develop beliefs and expectations that others are likely to reject them, will respond in a hostile fashion, and cannot be trusted or counted on for support. Neglected children expect others to be unresponsive, unavailable, and/or unwilling to meet their needs. Given the pernicious impact of malevolent caregiving on attachment, it is not unexpected that insecure and/or disorganized attachment organizations are a shared mechanism underlying IGTM across multiple maltreatment types. Difficulties forming and maintaining positive relationships are also implicated in undifferentiated IGTM research (Egeland et al. 1988; Leifer et al. 2004; Lunkenheimer et al. 2006) and further support the salience of attachment organization as a subtype-general mechanism of IGTM.

IGTM Mechanisms That Operate Differently Depending on Subtype

Lastly, common factors have been implicated in the IGTM of multiple types of maltreatment, but these same factors may operate in unique ways to foster or hinder the transmission of a particular maltreatment type. For example, parental psychopathology consistently emerges as a probable mechanism of transmission in a variety IGTM studies, yet the specific influence of particular forms of psychopathology on the transmission of specific maltreatment subtypes may vary. In the case of CPA, both depression and posttraumatic stress disorder (PTSD) have been shown to *reduce* the likelihood of IGTM (Pears and Capaldi 2001). However, regarding CSA, depression and PTSD have been shown to *increase* the likelihood of IGTM (Leifer et al. 2004). Evaluating yet another type of psychopathology, research has shown that dissociation predicts increased IGTM of *both* CPA and CSA (Collin-Vezina and Cyr 2003; Leifer et al. 2004; Narang and Contreras 2000), as well as undifferentiated IGTM (Egeland and Susman-Stillman 1996). Indeed in one instance, when aggregating experiences of CPA and CN in the same study, psychopathology did not emerge as a significant mediator of IGTM (Berlin et al. 2011). This may reflect effects in opposite directions for CPA and CN simply cancelling each other out. This study is yet another indicator that aggregation may obscure important findings specific to individual subtypes, and that mediation analyses should be specific to both types of maltreatment and types of psychopathology.

One possible explanation for this particular discrepancy is that CPA involves a direct act against a child, which may be less likely to be carried out if highly symptomatic mothers disengage with the parenting task. In contrast, CSA may become more likely in the context of maternal disengagement, which may follow from high levels of internalizing problems and is consistent with the previously described "failure to protect" model of CSA transmission. This would leave the child vulnerable to CSA by other perpetrators, while actually acting as a protective factor against active CPA by the parent. However, it is also worth acknowledging that depending on the nature of the analysis it could be that parents who perpetuate the CSA cycle experience more psychopathology in the aftermath of this occurrence rather than before it, due to the difficulty in dealing with their child having gone through the same experience as they had (Oates et al. 1998). Furthermore, dissociation, which mediates both types of abuse continuity, may be the exception to this disengagement model because it may be indicative of more severe disturbances in coherent understanding of the abuse experience and ability to integrate it. This finding is consistent with research demonstrating both integration of experience, and the related factor of extended experience in therapy, are predictors of breaking the abuse cycle (Egeland et al. 2002, 1988).

In addition to factors that differentially increase or decrease the likelihood of IGTM, other factors may be universally protective, but differ in the mechanism by which they operate. For example, awareness and coherent understanding of one's childhood experiences, which has been implicated in many types of IGTM (Egeland et al. 1988), may protect children against maltreatment transmission for different reasons depending on the subtype. For CPA transmission, it may be important in helping a mother with a history of CPA in her childhood to be more forgiving of her child's missteps and less prone to CPA in disciplinary contexts. Alternatively, for CSA transmission, awareness of one's own past may help a mother identify with her child's vulnerability and recognize a need for protection from potential CSA perpetrators. Once again, more detailed investigations of IGTM pathways, focusing on particular subtypes, are indicated in further understanding these mechanisms. Furthermore, no known studies of IGTM of CEA or CN exclusively have been identified. Therefore, discussions of mechanisms of transmission in these particular subtypes at this point would be purely speculative.

Future Directions and Recommendations

Growing evidence suggests there is a significant degree of homotypic IGTM. However, there is a need for substantially more evidence from comparative studies, as well as from independent studies of specific types of maltreatment, to solidify the interpretations offered here. Particularly in the case of

CPA, where the most work has been done, a maternal history of CPA appears to be associated with an increased risk of CPA in the next generation (i.e., homotypic IGTM), though it is also less robustly linked with other types of maltreatment (i.e., heterotypic IGTM). Definitional and methodological issues pervade all maltreatment research, but the lack of evidence is particularly troublesome in the case of CEA and CN. Although we do not propose that IGTM is by any means exclusively homotypic, the preponderance of evidence suggests that there is at least a modicum of type-specific IGTM such that, by and large, rates of homotypic IGTM exceed those of heterotypic IGTM across maltreatment subtypes.

In terms of undifferentiated IGTM, studies that aggregate maltreatment subtypes in the second generation suggest that each subtype of parent's own maltreatment is more likely to lead to some form of maltreatment in the second generation as compared to not being maltreated. Although modest, the extant evidence suggests that these rates of undifferentiated IGTM may be most pronounced in the wake of parent's own histories of CPA or CSA, relative to histories of CEA or CN. As discussed previously, however, it is possible that this evidentiary base reflects the relatively greater corpus of research on CPA and CSA, relative to that on CEA and CN.

Regarding the etiology of IGTM, select mechanisms may be specific to particular types of maltreatment transmission, such as disciplinary actions and attitudes being uniquely related to CPA transmission. Other mechanisms seem common to all types of maltreatment, such as social and attachment difficulties. Finally, it's very intriguing that certain mechanisms appear to be universally involved in IGTM, but operate differently depending on the specific subtype of maltreatment. In particular, some forms of psychopathology, such as depression, may be implicated in the transmission of both CPA and CSA, but operate very differently in the context of each, with depression *decreasing* rates of CPA transmission and *increasing* CSA transmission. The clarity afforded by a multidimensional approach to understanding IGTM may counter or clarify the null or inconsistent findings that have been obtained in undifferentiated studies of maltreatment (e.g., Berlin et al. 2011; Dixon et al. 2005).

Given the variation in mechanisms of transmission across subtypes, feasibly implementing targeted clinical interventions may prove difficult. Therefore, attachment, as a mechanism that appears universal, is potentially the most promising area in which to efficiently intervene. Empirical data support an association between parents' cognitive representations of their own childhood relationships and the quality of attachment they form with their infants (Zeanah et al. 1993). Yet Collins (1996) and others have shown that cognitive models formed based on early relationship experiences may change as the individual encounters new relationship experiences. Using relationship-based intervention techniques and strategies, a number of promising programs exist that are designed to promote a secure attachment and enhance the quality of the parent-child relationship (for a review, see Sameroff et al. 2004 and Egeland et al. 2000). However, very few attachment-based programs have been implemented and evaluated with maltreating parents. One exception is the work of Cicchetti et al. (2006) at Mt. Hope Family Center, where infants and preschoolers were randomly assigned to Psychoeducational Parent Training or Child Parent Psychotherapy, and were compared to a group of mothers and infants who were receiving treatment-as-usual services in the community. Post-intervention findings indicated that the two interventions were equally successful in increasing attachment security, whereas the community sample continued to display high rates of attachment insecurity and disorganization (Cicchetti et al. 2006). Using a new sample of preschool children with histories of maltreatment, these researchers evaluated the effects of the two interventions on the child's cognitive model. The children in the Child Parent Psychotherapy condition evidenced a greater decline in maladaptive representations of self and mother relative to children in the Psychoeducational intervention and community samples. These results differ from those with infants in that only the relationship-based intervention resulted in more positive representations of self *and* mother compared to the intervention that focused on parenting skills (Toth et al. 2002). These findings point to the malleability of representations of self and caregiver using a relationship-based intervention derived from attachment theory. This broad approach to intervention with maltreated children has tremendous implications for preventing maltreatment in the next generation.

Although we believe the field is ripe for the adoption of this new multidimensional perspective on IGTM, we recognize that this process will be accompanied by many challenges. First and foremost, the noted comorbidity of maltreatment types makes subtype-specific investigations important, but also makes it difficult to draw conclusions about specific types of maltreatment in isolation. In addition, the other features of maltreatment that make individual experiences distinct (e.g., severity, perpetrator, chronicity) also deserve attention in this new specificity-oriented framework. We suggest that a paradigm shift toward an emphasis on maltreatment subtype will pave the way for increasingly specified investigations and foster our ability to address each and every feature of an individual's experience of IGTM. Similarly, the environmental characteristics that covary with maltreatment (e.g., risky neighborhoods, poverty) often persist across generations and contribute to IGTM. As such, broader contextual influences of risk (and protection) should be integrated into a fully specified model of IGTM. Our focus here is on subtypes of maltreatment because they represent the broadest level at which we can begin to examine specific experiences. However, we support and encourage a more basic evolution in how we think about IGTM, as well as greater attention to specificity wherever appropriate and whenever possible. In light of these limitations, we offer recommendations that detail the successive increments by which this paradigm can be practically applied in research and practice.

The multidimensional model of IGTM detailed in this chapter points to several recommendations to advance future research on IGTM. First, more work needs to be done on independent subtypes of maltreatment, their potential for type-specific IGTM, their transmission to composite measures of child maltreatment (i.e., undifferentiated IGTM), and mechanisms of transmission that may be specific to each subtype, general across types, or operate in different ways across types. In particular, CEA and CN are virtually untouched areas of study. Despite the difficulties inherent in measuring these types of maltreatment, it is imperative that we attempt to focus more attention on these areas, even if only by directing increased attention to related constructs, such as parental rejection (e.g., Belsky et al. 1989), for the time being. Just as the overall maltreatment literature has acknowledged an increased need for research on CEA and CN, so, too, does the literature on IGTM call for their due consideration.

Second, studies that already measure several types of maltreatment must put forth greater effort to compare them explicitly, rather than simply aggregating or ignoring the existence of subtypes. Although aggregation may be appropriate and informative for some analyses, as well as a necessity given statistical power considerations, it would be helpful to also include comparative analyses, or at least descriptive results, along with more traditional, main-effect models. Providing descriptive information when a given study lacks the power to appropriately test differences would nevertheless provide invaluable information to future meta-analysts who could eventually combine the information from several small studies of this type. As these types of comparisons begin to converge on common rates of transmission and estimates of homotypic continuity, intervention and prevention efforts can be more appropriately allocated and structured.

Third, as more evidence becomes available in these areas, it will be necessary to do a more comprehensive analysis in which evidence from various studies can be compared and integrated through a conceptual review or, ideally, a meta-analysis. The available evidence already provides fertile ground for this type of investigation, however, once certain areas (e.g., CEA and CN) are enhanced, a meta-analysis of rates and mechanisms of transmission of subtypes will be extraordinarily helpful.

Finally, in the absence of one's ability to do more research in this area, to change one's methodology, and/or to modify the types of maltreatment sampled or measured, we offer a universal recommendation to be more careful about how we discuss these constructs and how we frame our interpretations. Part of the danger in extant research approaches rests in their lack of clarity about definitions of maltreatment. In addition to definitional clarity, interpretations must be approached carefully. If aggregated maltreatment groups are used, conclusions should not be drawn about single subtypes (e.g., abuse, if abuse and neglect are included concurrently). Similarly, in examinations of single subtypes, generalizations about mechanisms of transmission of maltreatment broadly should not be made. To the extent that we fail to adopt greater specificity in our dissemination efforts, we risk overlooking important implications for practice at best or misinforming prevention and intervention efforts at worst.

Despite gaps in extant research on IGTM, and the need for clarity and explication in several areas, we believe the field is ready for a more focused and considered program of research on IGTM. Indeed, the variability of extant research findings points to the need for a change in perspective and approach. In order for the field to progress beyond adding generalized studies with similarly variable findings, we need to change our framework, and move towards greater specificity. From this shift in paradigm we will be able to more effectively target intervention and preventive efforts toward appropriate avenues and more fully understand the developmental pathways from unique experience to adaptation.

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