Infant mental health emerged as an important and visible clinical undertaking during the latter decades of the 20th century. In the late 1960s, two important papers appeared—one from basic developmental research and the other from psychoanalysis—each of which anticipated the subsequent emergence of contemporary infant mental health. R. Q. Bell (1968) published a paper asserting that infants have powerful effects on their caregivers, in contrast to the prevailing view of parent-to-child effects that dominated thinking at the time. This point of view anticipated much of the work on infant competence and abilities (e.g., Brazelton, 1973), as well the power of infants to elicit responses from their caregivers (e.g., Stern, 1977). In a second paper published at nearly the same time, Escalona (1967) transcended the nature–nurture debate by declaring that what matters is not so much infant characteristics or environmental characteristics but rather the infant’s experience (our emphasis) of the world. This focus on experience anticipated our current understanding of brain development, in which experience sculpts the details of circuitry that build on a basic, genetically programmed blueprint (see Berens & Nelson, Chapter 3, this volume). More importantly, this emphasis also highlighted the essence of the clinical efforts to appreciate the experience of the young child in relational contexts.

Now in the early 21st century, infant mental health stands as a broad-based, multidisciplinary, and international effort to enhance the social and emotional well-being of young children, and includes the efforts of clinicians, researchers, and policymakers. Still, some express puzzlement or even aversion to the term “infant mental health.” The idea of an “infant,” with its associations of innocence, beginnings, and hope for a better future, does not seem to fit with “mental health,” and its associations of maladjustment, stigma, and major mental illness. Is it reasonable to think of infants as having mental health problems? Or, does it make more sense to think about them as being at risk for later emerging problems? There are also questions about infant mental health as a profession. In a multidisciplinary field, how is core knowledge versus specialized knowledge determined? Are infant mental health interventions qualitatively different from mental health interventions for older children and adolescents? And how are infant mental health approaches similar to and distinct from those of other, closely related fields that engage in services, education, and/or research for young children and their families, such as pediatrics, early childhood education, or developmental psychopathology? Finally, as the field has grown, the implications of the science of infant mental health for policy, legislation, and service delivery have become more urgent and more complex.

We begin by defining infant mental health and considering its scope. We suggest that the
Defining Infant Mental Health

The generally accepted definition of infant mental health describes it as a characteristic of the child: “the young child’s capacity to experience, regulate, and express emotions, form close and secure relationships, and explore the environment and learn. All of these capacities will be best accomplished within the context of the caregiving environment that includes family, community, and cultural expectations for young children. Developing these capacities is synonymous with healthy social and emotional development” (Zero to Three, 2001).

We also must consider what we mean by the term “infant.” In pediatrics, “infant” usually refers to the first year of life. In mental health, there is a tradition that “infant” refers more broadly to the first 3 years. In this chapter and book, however, we use an even broader conceptualization. First, as famously declared in From Neurons to Neighborhoods (National Research Council and Institute of Medicine, 2000), focusing disproportionately on birth to 3 years “begins too late and ends too soon” (p. 7). Therefore, prenatal experience ought to be included within our conceptualization of infant mental health. There is now considerable evidence regarding prenatal influences on many clinical problems in early childhood (see Kim, Bale, & Epperson, 2015; Robinson et al., 2008). We also extend the upper age limit from 3 to 5 (or so) years, as much research and many clinical programs extend somewhat beyond the first 3 years.

In addition, infant mental health may be defined as a multidisciplinary professional field of inquiry, practice, and policy concerned with alleviating suffering and enhancing the social and emotional competence of young children. Infant mental health is multidisciplinary because the complex, interrelated nature of human development and its deviations requires expertise and conceptualizations beyond the capabilities of any particular discipline. For the same reason, it is likely that the field of infant mental health will remain a pluralistic subspecialty within a number of different disciplines, rather than an integrated and distinct discipline itself, although some graduate programs conferring degrees in infant mental health have appeared.

Guiding Principles of Infant Mental Health

Given that infant mental health encompasses foundational research and clinical practice from across disciplines, it is important to consider basic guiding principles that underlie the clinical practice of infant mental health. These include a relational framework for assessment and intervention, a focus on strengths in infants and families, and a prevention orientation.

Infant–caregiver relationships are the primary focus of assessment and intervention efforts in infant mental health, not only because infants are so dependent on their caregiving contexts but also because infant competence may vary widely in different relationships. From an infant mental health perspective, a clinical focus on parental behavior or on infant behavior is not an end in and of itself but rather an effort to change the relationship.

Infant mental health is a strengths-based discipline. This means that clinicians work to identify strengths from which to build competence and address problems. One could rightly argue that all mental health professionals ought to work from a strengths-based perspective, but it seems especially important in a field whose focus is on the crucial and vulnerable beginnings of parent–child relationships. Our children are extensions of ourselves, and when they do not thrive, we experience it as a reflecting profoundly on us as parents, especially in their early years. Nevertheless, being strengths-based does not mean ignoring liabilities (Zeanah, 1998). Clinicians must identify problems in young children and in their parents unflinchingly in order to address them effectively. Furthermore, there is often a complex interrelationship between strengths and weaknesses, so that strengths may not only be obscured by weaknesses but may also be mobilized to ameliorate weaknesses.

The well-known “ghosts in the nursery” construct of Selma Fraiberg highlights that parents’
1. Infant Mental Health

Empirical Foundations of Infant Mental Health

Basic knowledge underpinning infant mental health, including child development, developmental psychopathology, and studies of clinical disorders and their treatment, has been bolstered by research in genetics, neuroscience, and cellular and molecular biology. Compelling findings from seemingly disparate lines of research reinforce and clarify clinical observations, deepen theoretical understanding, and stimulate new efforts in clinical work, as well as policy and systems development. We highlight findings from across lines of inquiry that provide the substantive and empirical foundations of infant mental health.

Early Experiences Matter

Considerable research has documented the importance of early experiences for the developing person. Brain development involves a basic plan programmed by genes, but many details of brain development are responsive to experiences. Circuits are established at an extremely rapid rate in the early years of life, and various experiences influence not only how brains function but also the neural architecture of how they develop. This not only confers capabilities to adapt to varied environmental circumstances, but it also means that in adverse environments, brain development can go awry. We are only beginning to understand the details about how experiences influence brain development, but evidence in humans on this point is growing (see Berens & Nelson, Chapter 3, this volume).

Although mild to moderate stress can be growth promoting, serious and cumulative adversity can impair the proper development of brain structure and functioning, which may be especially vulnerable as it develops during early childhood (Koss & Gunnar, 2017; Sheridan & McLaughlin, 2014). If individuals develop a lower threshold for stress, thereby becoming overly reactive to adverse experiences throughout life, both physical and mental health can be compromised (see also Thompson, Kiff, & McLaughlin, Chapter 5, this volume).

A related question concerns the ways in which the timing of experiences matter, usually framed as a sensitive period or critical period hypotheses. Knudsen (2004) noted that the period during which the effects of experience on the brain are particularly strong is referred to as a “sensitive period,” and when experiences provide information that is crucial for normal development and alter performance permanently, these periods are known as “critical periods.” It is quite clear from animal literature that sensitive and critical periods in brain development are evident (Knudsen, 2004). For ex-
amine, C. Nelson and colleagues (2007) found that children removed from institutional care in the first 3 years of life and placed in foster families, showed increases in IQ. For children removed prior to age 24 months, the gains were substantial, but for those removed after age 24 months, the gains were few. For a construct as complex as IQ, we would expect to find an enormous number of circuits with different sensitive or critical periods involved. A review of many studies indicated that there is no critical age after which recovery is no longer possible, but the sooner a child gets into a more favorable caregiving environment, the better chance for recovery (Zeanah, Gunnar, McCall, Kreppner, & Fox, 2011).

As noted, and in keeping with these findings, infant mental health emphasizes the importance of infant experience. Indeed, developmental psychopathology has demonstrated that more stable individual differences lie initially in the infant–caregiver relationship, and only later become a characteristic of the individual child. Furthermore, how an individual thinks about relationship experiences, the internal representation or working model, is crucial because the meanings an individual attributes to experiences may alter their consequences (Sroufe, 1989; Sroufe & Rutter, 2000).

For infant mental health practitioners, the task is nothing less than attempting to understand what an individual child’s experience is and helping that child’s caregivers empathically to appreciate that experience. From a policy perspective, even more daunting is the challenge of attempting to extend this appreciation of an infant’s experience to the level of systems, such as the child protection system or the legal system. How different the lives of infants in dire circumstances might be if these large and complex systems better appreciated and valued their experiences (Knitzer, 2000).

**Essential Experiences Involve Caregiving Relationships**

The importance of the contexts, or environments, in which infants grow and develop is well established. Appreciating the complexities and importance of context has enhanced our understanding of infant development and our ability to predict developmental trajectories (Sameroff & Fiese, 2000). Contexts exert their effects from within and from without, determining which experiences an infant has, and how that infant perceives those experiences. One of the most distinctive features of the early years is the clear importance of multiple interrelated contexts (e.g., caregiver–infant relationship, family, cultural, social, historical) within which infants develop. For young children, relationships with caregivers are the most important experience—near context for infant development and are the major, distinctive focus of infant mental health.

A considerable body of research has documented the importance of the quality of the infant–caregiver relationship and its impact on infant development (Humphreys, Zeanah, & Scheeringa, 2016; National Research Council & Institute of Medicine, 2000). In fact, although individual differences in infant characteristics are readily identifiable, they are not particularly predictive of characteristics later in development. Positive qualities in infant–parent relationships, such as warmth, attentive involvement, and sensitive resolution of distress, have been linked to more optimal social, emotional, and cognitive development (see Rosenblum, Dayton & Muzik, Chapter 6, and McDermott & Fox, Chapter 7, this volume). In addition, parents who promote the development of self-regulation and minimize problematic behavioral tendencies have children who avoid maladaptive trajectories (Degnan, Henderson, Fox, & Rubin, 2008; Gardner, Sonuga-Barke, & Sayal, 1999). Conversely, parents who have problematic relationships with their young children may increase the likelihood of maladaptive outcomes in them (McGoron et al., 2012; Scheeringa & Zeanah, 2001).

Infant–parent relationships moderate intrinsic biological risk factors in infants (Martin, Brooks-Gunn, Klebanov, Buka, & McCormick, 2008); that is, infants with biological difficulties such as the complications of prematurity or difficult temperamental dispositions have better outcomes when their caregiving environments are supportive and more problematic outcomes when their caregiving environments are less supportive. For example, in one study, attachment relationships moderated the effects of prenatal stress on child fearfulness at 17 months, even after researchers controlled for the effects of postnatal stress, as well as obstetric, social, and demographic factors (Bergman, Sarkar, Glover, & O’Connor, 2008).

Infant–parent relationships also are the conduit through which infants experience environmental risk factors; that is, infants experience risk factors such as poverty, maternal mental
illness, and partner violence primarily through their effects on infant–parent relationships. Through their specific relationship experiences, infants are impacted by the risk factors that characterize their caregiving environments, and relationships may buffer or exacerbate risk. Secure attachment relationships between infants and parents significantly moderated the relationship between parental stress and child aggressive behavior, for example (Tharner et al., 2012). Furthermore, although infants who experienced severe deprivation were at increased risk for psychopathology at age 4 years, this relationship was mediated by secure attachments at 3 years. The more securely attached the child was at 42 months, the less likely that child had a diagnosable disorder at 54 months of age (McGoron et al., 2012).

Finally, increasingly, we are learning that the way psychopathology is expressed in young children depends on the types of relationships they have with their caregivers (Sroufe, 1989; Zeanah & Lieberman, 2016). Research has shown that infants in fact construct different types of relationships with different caregivers (van Ijzendoorn & Wolff, 1997), they also may express symptoms in the presence of one caregiver but not with another (Zeanah & Lieberman, 2016, and Chapter 28, this volume). And, there is evidence that how an individual processes relationship experiences, through an internal working model, is importantly related to outcomes (Benoit, Parker, & Zeanah, 1997; Sroufe, 1997).

For all of these reasons, the focus of infant mental health has been dominated by a relational approach. This means that infants are best understood, assessed, and treated in the context of their primary caregiving relationships. Or, as Sroufe (1989) put it, “most problems in the early years, while often manifest poignantly in child behavior, are best conceptualized as relationship problems” (p. 70).

Beyond the caregiver–infant dyad, we must consider infant development in the context of the entire family. Coparenting has emerged as an important area of investigation (see McHale & Lindhal, 2011; see also Larrieu, Middleton, Kelley, & Zeanah, Chapter 16, this volume). Not only is infant development related to characteristics of the family considered as a whole, but there are important effects on development as a result of the infant’s individualized relationships with various family members (Favez-Frascarolo, Keren, & Fivaz-Depeursinge, 2009). For example, considerable evidence indicates that the parents’ marital relationship is one of the most important influences on child development (Cummings & Davies, 2002). Sibling influences on infant development are less well studied, but evidence of their importance is widely recognized (Dunn, 1988).

Understanding family processes is a complex undertaking. Emde (1991) pointed out, for example, that the number of dyadic relationships within families increases dramatically with increasing numbers of children. Whereas two parents and one child have only three dyadic relationships to consider, two parents and three children have 10 dyadic relationships, and two parents and five children have 21 dyadic relationships, and so forth. Furthermore, an infant’s relationships with various family members are influenced by various other relationships within the family. The numbers of dyadic relationships influencing relationships increase from three for two parents and one child, to 45 for two parents and three children, to 210 for two parents and five children (Emde, 1991). Obviously, one could also consider other levels of complexity, such as how an infant and his or her relationships might be affected by the triadic relationship of his or her parents and another sibling. Nevertheless, these levels of complexity are challenging to consider in research or in our clinical conceptualizations.

Cultural Values

Beyond the immediate family of the infant, other family influences are important. Chief among these are cultural contexts within which infants develop. Cultural beliefs and value systems define the assumptions of the group about what is important and the rules about raising children to be a certain way (Ghosh Ippen, 2009) and carry with them influences of historical trauma, especially in non-dominant groups (see Ghosh Ippen, Chapter 8, this volume). Parenting beliefs, explanations, and interpretations of infant behavior are among the most important aspects of the cultural context of infant development. These beliefs include sometimes subtle cultural assumptions about what facilitates infant development, the causes and amelioration of psychopathology, the roles and relevance of parenting, and many other concerns central to infant mental health. Cultures typically develop adaptively in response to larger environmental characteristics such as the physical resources.
of the area in which the culture develops. Oftentimes, differences among cultural belief systems may be understood within those larger contexts. In recent decades, however, increasing technological advances have thrust different cultures together with increasing rapidity and have led to intense cultural clashes, efforts at cultural coexistence, and pressures for cultural integration in the global village. All of these factors have significant implications for infant development and mental health.

**Supporting Developmental Trajectories**

Other than prenatal development, the rapidity and profundity of development in the first 3 years of life is unprecedented in the human life cycle. In a mere 36 months, infants change from totally dependent newborns to complex creatures who can come and go as they please; understand that they can share thoughts, feelings and intentions with others; express themselves abstractly using symbols; and empathize with others (Zeanah & Zeanah, 2001). From an infant mental health perspective, this means not only thinking about where the infant is now, but also where the infant has been and where the infant is going. It also requires understanding not only what capacities are emerging in the developing child but also the processes involved in establishing and changing trajectories of development.

**Risk and Protective Factors**

Experiences that alter developmental trajectories are created by risk and protective factors or processes. Certain conditions or characteristics increase or decrease the risks of developmental disruptions and psychopathology. These risk factors are used to define high-risk groups, such as infants born preterm, infants of depressed mothers, and infants raised in institutions. On the other hand, risk factors are neither randomly distributed nor unrelated to one another. Complex interacting risk factors within groups are the rule rather than the exception. In other words, although intervention programs may target single risk factors, such as substance abuse, maternal depression, or early parenthood, most of the time, infants face multiple risk factors.

Studies of many types of risk factors, from mild to severe, consistently have been shown to lead to quite variable outcomes. In fact, it appears that the number of risk factors rather than the nature of any one is the best predictor of outcomes (Sameroff & Fiese, 2000). For example, prenatal substance exposure is widely accepted to be a risk factor for infant development (Boris, Renk, Lowell, & Kolomeyer, Chapter 11, this volume). Nevertheless, Carta and colleagues (2001) studied the effects of prenatal exposure and environmental cumulative risks. They found that although both prenatal drug exposure and cumulative environmental risk predicted children’s developmental level and rate of growth, environmental risk accounted for more variance in developmental trajectories than did prenatal drug exposure. In fact, over time, the effects of environmental risk outweighed the adverse consequences of prenatal substance exposure.

Drawing on the tradition of cumulative risk studies, the Adverse Childhood Experiences (ACE) Study examined the relation between the number of childhood risk factors and a large number of health and mental health outcomes in adulthood. The more adverse experiences the individuals reported having before age 18 years, the more likely they were to engage in risky health behaviors and to be diagnosed with disorders such as depression, alcoholism, substance abuse, heart disease, cancer, chronic pulmonary disease, obesity, and diabetes, among others (Dube, Felitti, Dong, Giles, & Anda, 2003; Felitti et al., 1998). These findings remind us that infant mental health has important implications for both physical health and mental health outcomes. In fact, ACEs occurring in the earliest years also have been shown to have harmful near-term effects (Bright & Thompson, 2018; Jimenez, Wade, Lin, Morrow, & Reichman, 2016; Kker et al., 2015).

Protective factors may directly reduce the effects of risk, enhance competence, or protect the individual against adversity (Garmezy, Masten, & Tellegen, 1984). Protective processes may operate simultaneously or successively even within the same individual in the face of different challenges and at different points in development.

As noted, infant mental health has a long tradition of focusing on strengths, and using strengths to minimize risks. A central concern, then, for infant mental health is how to balance the influence of risk and protective factors and their mutual effects on a child’s particular situation. In addition, in the first few years of life, it appears that environmental risk and protective factors matter more than within-the-infant risk...
and protective factors. In the Rochester Longitudinal Study, for example, highly competent infants in high-risk environments fared worse in terms of competence at age 4 years than did less competent infants in low-risk environments (Sameroff, Bartko, Baldwin, Baldwin, & Seifer, 1998). Thus, identifying, supporting, and strengthening caregiver and family strengths is a fundamental principle underlying the work of infant mental health and provides direction for policymakers interested in supporting young children.

**Psychopathology May Be Evident Early**

Despite increasing recognition of psychopathology in early childhood (Lyons-Ruth et al., 2017), some still ask whether infants and toddlers can experience or express psychopathology. Psychopathology in infancy has been the source of controversy (see von Klitzing, 2017; Zeanah et al., 2017) in part because we are reluctant to believe that infants can experience or suffer from psychiatric disorders. Behavioral indicators of infant mental health include emotion regulation, the ability to communicate feelings to caregivers, and active exploration of the environment. These behaviors lay the groundwork for later social and emotional competence, readiness to enter school, and better academic and social performance.

Psychopathology often is characterized by the inability to change and adapt, but infants constantly change by developing. This means that infant problems must be distinguished from the large range of normal variations in behavior and from transient perturbations in development. Obviously, one way to address this challenge is to follow children over time and determine whether problems persist. On the other hand, it is important to recognize that psychopathology and maladaptation may not produce static symptomatology; rather, the manifestations of problems may be different at different times in development. For example, indiscriminate behavior toward unfamiliar adults in early childhood has been shown to predict peer relational disturbances in adolescence (Hodges & Tizard, 1989)—the continuity is in interpersonal disturbances, but they manifest differently at different ages. Lawful developmental transformation of symptomatology, known as “heterotypic continuity,” adds to the complexity of assessing psychopathology in infancy and early childhood.

For an individual child, however, risk factors are less important than the actual development and functioning of that child at a given time. Professionals must determine whether a given child, at a given moment, has sufficient distress or maladaptive behavior to constitute a disorder that requires intervention. This introduces the other approach to psychopathology in infancy, which is to consider that at least some infant problem behaviors are signs and symptoms of psychiatric disorders. Clinicians have found categorical diagnostic approaches to be valuable in treating young children, as they allow for conceptualizing how clusters of symptoms hang together and provide clearer indicators of “caseness” than do dimensional scores of various constructs.

Though some still hesitate to describe early deviant behavior as psychopathology, rather than risk for psychopathology, there are increasingly compelling reasons to think that this is a useful approach. For example, most would agree that autism represents a disorder, and there are compelling indicators that autism as a disorder is evident at least as early as the second year of life (see Barton & Chen, Chapter 18, this volume). There are almost certainly neurobiological abnormalities and behavioral differences that are evident even before the second year, but the reliability of a categorical diagnosis of autism from about 2 years of age is reasonable at our present state of knowledge.

New studies are beginning to show that many types of psychiatric disorders are prevalent in young children. In the United States, a study of more than 300 2- to 5-year-old children attending pediatric clinics found that 16% had diagnosable psychiatric disorders associated with impairment in functioning (Egger et al., 2006). In Bucharest, Romania, a similar study of 18- to 60-month-old children determined that 8.8% had psychiatric disorders (Gleason et al., 2011). In fact, 10–15% prevalence is roughly what is found with older children and adolescents (Angold & Egger, 2007; Costello, Mustillo, Erklin, Keeler, & Angold, 2003).

There also has been progress in distinguishing transient individual differences from true psychopathology. For example, although tantrums in young children are typical, daily tantrums are not, and prolonged and violent tantrums are definitely non-normative (Belden, Thomson, & Luby, 2008; Wakschlag et al., 2012; see also Biedzio & Wakschlag, Chapter 24, this volume). Also, separation anxiety as a
disorder can be differentiated from more transient separation anxiety in 2-year-old children by the degree of impairment (Egger, 2009).

There have been a number of alternative nosologies for early childhood disorders because of developmental insensitivity of many disorders, as defined in DSM-IV (American Psychiatric Association, 1994) and International Classification of Diseases (ICD-10; World Health Organization, 1992). DSM-5 (American Psychiatric Association, 2013) has made explicit efforts to be more developmentally sensitive and includes a subtype of posttraumatic stress disorder defined for preschool children, but overall the changes are relatively minor. Zero to Three’s (2016) alternative nosology has been recently substantially revised as DC:0−5 and is already in use in many parts of the world. This level of activity underscores considerable interest in psychiatric disorders in young children.

We believe that both the risk and protective factor approach of developmental psychopathology and the categorical disorder approach of many clinical studies have merit, and both advance our understanding of infants’ and young children’s experiences. In addition, we must concern ourselves with not only adverse outcomes but also desired outcomes and how to achieve them.

**Social Competence and Resilience**

Health is sometimes defined as the absence of disease, although increasingly researchers and clinicians are concerned with health promotion, that is, with enhancing individuals’ quality of experience. One desired outcome for young children is social competence, the ability to adapt successfully to differing social and environmental demands. Social competence is an ongoing adaptive capacity that itself may change over time in relation to different stressors and situations. A focus on competence also reminds us that symptoms alone do not make a disorder; their functional significance for the individual also must be considered. Social competence has emerged as an increasingly important outcome in infant mental health, as well as in studies of developmental psychopathology.

A special form of social competence receiving increasing attention is resilience, which is concerned with infants and young children who achieve positive outcomes despite high-risk status, who maintain competent functioning despite stressful life circumstances, and who recover from frankly traumatic events and experiences (Masten, 2014). Increasingly, it has become clear that resilience, like competence, is a multidimensional construct, and one that changes over time and context. In addition, it may be that rather than being resilient to many problems, individuals may be resilient to some stressors but not be resilient to others (Rutter, 2000).

For children in the early years, having a relationship with a caregiver who is available and responsive to help them navigate the demands of development over time is likely to be the most important factor in helping them achieve positive outcomes, maintain competent functioning under stress, and recover from traumatic experiences (National Research Council & Institute of Medicine, 2000; Zeanah & Lieberman, 2016). Young children who have the capacity to elicit support and positive responses from others may be advantaged in this regard (Werner & Smith, 2001). Policies that support families, especially those who have limited resources, from the time they are expecting through their child’s early years are the best ways to enhance young children’s competent functioning (Nelson & Mann, 2011).

**Some Early Problems Are Enduring**

One question about problem behaviors seen in the early years is whether they are transient perturbations rather than lasting disturbances. We noted recently that prospective, longitudinal studies of early childhood psychopathology have documented links to family history, risk factors, and biological differences, and these characteristics show patterns of continuity and discontinuity that are remarkably similar to those found in older children and adults (Zeanah et al., 2017). In young children, social-emotional symptoms and patterns of symptoms show persistence (i.e., homotypic and heterotypic continuities) similar to those found with older children (Briggs-Gowan, Carter, Bosson-Heenan, Guyer, & Horwitz, 2006; Bufferd, Dougherty, Carlson, Rose, & Klein, 2012). In fact, continuity of symptoms from early to middle childhood appear to be roughly comparable to stability within middle childhood (Briggs-Gowan et al., 2003). As one example, a number of studies have documented that children with concerning and impairing levels of aggression show persistence of aggression from early to middle childhood and early adolescence (Hud-
Comprehensive Interventions Are Needed

The goals of infant mental health treatment are to reduce or eliminate suffering, to prevent adverse outcomes (school failure, delinquency, psychiatric morbidity, interpersonal isolation or conflicts, developmental delays and deviance), and to promote healthy outcomes by enhancing social competence and resilience. In order to accomplish these overarching goals, interventions must (1) enhance the ability of caregivers to nurture young children effectively, (2) ensure that families in need of additional services can obtain them, and (3) increase the ability of nonfamilial caregivers to identify, address, and prevent social–emotional problems in early childhood. The target of intervention can be the child’s behavior, the parent’s behavior, or even the social context in which the child is developing, but the main focus of infant mental health is on strengthening or improving relationships as they impact the young child’s development and behavior.

Young children and their parents with relationship challenges can be identified across a number of settings, and the level(s) of care needed can vary widely as well. Therefore, cross-disciplinary and often cross-system collaboration is essential. In fact, in the United States, major policy initiatives in infant mental health are evident in most states, supported by federal and/or state governments (Rosenthal & Kaye, 2005).

Figure 1.1 represents the scope of infant mental health services based on the mental health intervention spectrum put forth by the National Research Council and Institute of Medicine (2009), and is an update of our previous conceptualization (Zeanah et al., 2004). The National Research Council and Institute of Medicine (2009) model extends the distinction between prevention and treatment services to include promotion as well as maintenance services. It is important to recognize that infants and families may seek or enter services at any point along the continuum, may need services from more than one point simultaneously, or they may move between service levels over time. For example, when treating a young child for trauma symptoms related to a life-threatening experience (treatment), additional interventions may include general education to support normal social–emotional development (universal prevention) and interventions for the caregiver to address emerging symptoms of anxiety or depression (indicated prevention). Provision of services at the different levels described below vary in intensity, provider type, skill and experience required, and availability, and examples include evidence-based approaches currently available in the field.

Promotion

Promotion is conceptualized as approaches that “enhance the individual’s ability to achieve developmentally appropriate tasks (competence) and a positive sense of self-esteem, mastery, well-being, and social inclusion, and strengthen their ability to cope with adversity” (National Research Council & Institute of Medicine,
Promotion activities are aimed at the general population, do not require professional guidance or involvement, and are useful adjuncts to all levels of prevention and intervention (see Figure 1.1). In infant mental health, promotion includes general parenting education about early social and emotional development, early relationship building, language and literacy development, family relationships and so forth. The parenting education resources provided by Zero to Three (www.zerotothree.org/parenting), and the Daily Vroom smartphone app (www.joinvroom.org/tools-and-activities) are good examples of infant mental health approaches that draw on current science and are useful to all parents. Promotion also may include advocacy; raising awareness; and collaborations with parents, professionals, and communities to develop networks and resources to support optimal development (e.g., Infant Mental Health Promotion, 2016).

Preventive Interventions

Preventive interventions aim to prevent or decrease risk or causal factors before problems become apparent, to increase protective factors, and/or to decrease the severity or duration of a disorder. In infant mental health, the emphasis is on enhancing or altering infant and parent behaviors and family functioning in order to preserve or restore infants to more normative developmental trajectories and to support healthy parent–infant relationships. A report from the National Research Council and Institute of Medicine (2009; adapted from Mrazek & Haggerty, 1994) describes three distinct levels of preventive interventions.

**Universal Preventive Interventions**

These interventions are considered applicable to everyone in a population and can be provided in a variety of settings. Universal preventions are generally acceptable to members of the population, and are low cost and low risk (National Research Council & Institute of Medicine, 2009, p. 66). Early child care provides one example of a universal setting for enhancing cognitive and social–emotional development. Scarr (1998) noted that there is an international consensus about what constitutes quality child care—warm, supportive interactions with adults in a safe, healthy, and stimulating environment. Considerable evidence supports her assertion. For example, the National Institute of Child Health and Human Development study of Early Child Care is a prospective, longitudinal study designed to examine concurrent, long-term, and cumulative influences of variations in early child care experiences of young children. In this study, 1,364 healthy full-term newborns...
were recruited from 10 sites around the United States. Investigators examined what aspects of child care are important for promoting child development across a number of domains by assessing the child, the family, and the child care setting longitudinally. Investigators found that among child care variables, quality of care was most important predictor of child outcomes. Quality of care is related to cognitive and language outcomes, as well as social and behavioral outcomes in young children (National Institute of Child Health and Human Development Early Child Care Research Network, 2005). Access to quality child care is a vitally important universal intervention for young children and should be the focus of sustained advocacy and policy efforts to help achieve that goal.

An important caveat was that characteristics of the parent–child relationship were better predictor of child outcomes than any combination of child care variables (National Institute of Child Health and Human Development Early Child Care Research Network, 2005). This does not mean that child care experiences are unimportant. Rather, it emphasizes the importance of all caregiving relationships for young children, with special primacy for parent–child relationships for all young children.

Selective Preventive Interventions

Interventions at this level target members of a group who have high lifetime risk or high imminent risk for subsequent problems. Some within the group may be functioning well; others may more obviously be struggling. Interventions focus on risks related to specific outcomes inherent in the population. Selective interventions are delivered in a variety of settings (e.g., health, mental health, educational, or social services), and there is a great range in the structure of such services, such as frequency or intensity, type of intervention provided, skills or behaviors targeted, and amount of monitoring or follow-up.

A notable example of selective preventions directed at improving maternal and infant outcomes, including the reduction of abuse and neglect, are the home visiting programs supported by the Health Services and Research Administration’s Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program. In order to secure federal funding, MIECHV programs must meet standards of evidence and demonstrate effectiveness in achieving benchmarked outcomes addressing maternal and child health, child development and/or school readiness, positive parenting practices, family economic sufficiency, reductions in juvenile or family violence, reductions in child abuse and neglect, and linkages to community services (Sama-Miller et al., 2017). Not all programs target all of these outcomes, and programs vary in effectiveness in addressing the outcomes. At present, 18 different programs meet evidentiary standards and serve approximately 160,000 parents and children in all 50 states, the District of Columbia, and five territories (Health Resources Services Administration, n.d.-a). It is important to note that there are also a number of home visiting programs implemented in communities that are not part of the MIECHV programs.

The MIECHV programs vary in terms of intensity, type of provider, and length of service, but all are characterized by provider training, emphasis on fidelity of service to the model, and monitoring outcomes (Sama-Miller et al., 2017). An exemplar of maternal-child home visiting is the Nurse–Family Partnership© (NFP), which serves impoverished first-time mothers by providing home visits by highly trained registered nurses in an intensive visiting schedule that begins prior to the 29th week of pregnancy and continues until the infant turns 24 months of age. Emphasizing a relationship-based approach, nurse home visitors use manualized guidelines to provide education, support, and referrals for these vulnerable mothers. A series of randomized controlled trials has demonstrated NFP’s significant impact across a variety of outcomes, including reduction in child maltreatment, reductions in serious accidental injuries in children, delays in subsequent pregnancies and increased maternal employment, as well as reductions in child and maternal criminal and antisocial behaviors as long as 15 years after program completion (Olds, Sadler, & Kitzman, 2007; Olds et al., 1998). At least two independent groups have demonstrated that NFP yields significant cost–benefit advantages (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004; Karoly, Kilburn, & Cannon, 2005).

Increasingly, programs are specifically screening for maternal depression, interpersonal violence, and developmental delay, and research is ongoing to determine overall implementation and cost–benefit effects of the MIECHV program (Health Resources and Services Administration, n.d.-b). The mental health challenges in home visiting are discussed more fully by P. Zeannah and Korfmacher (Chapter 38, this volume).
Indicated Preventive Interventions

Interventions at this level are appropriate for those who manifest minimal but detectable behavioral symptoms that may later become a full-blown disorder. For example, intrinsic infant risk factors, such as difficult temperament, cannot be prevented, but the adverse consequences of difficult temperament, such as the emergence of behavior problems, may be the focus of prevention efforts. Similarly, insecure, and especially disorganized, attachments between young children and their caregivers are known to be a risk factor for subsequent psychosocial adaptation.

Noting multiple risks associated with preschool children in foster care, especially those demonstrating disruptive behaviors, Fisher and colleagues (Fisher, Kim, & Pears, 2009) developed an intervention based on principles of parent management training (Forgatch & Martínez, 1999). The Early Intervention Foster Care Program (EIFC) involved a comprehensive approach. First, foster parents received intense training followed by support from a consultant and support and supervision through daily telephone contacts, weekly foster parent support group meetings, and 24-hour on-call crisis intervention. The children received behavioral interventions from trained clinicians in preschool or day care and home-based settings. Also, children attended weekly therapeutic playgroup sessions. A consulting psychiatrist provided necessary medication management to address symptoms of attention-deficit/hyperactivity disorder (ADHD), anxiety, and other disorders.

A randomized controlled trial demonstrated that children in the intervention group had significantly fewer failed permanent placements than children in the regular foster care comparison condition. Especially noteworthy was that the number of prior placements was positively associated with the risk of failed permanent placements for children in the comparison condition but not for children who received the EIFC intervention.

Treatment of Established Disorders

Treatment of existing disorders is the highest level of intervention in this conceptualization. For young children who already have identifiable disorders, psychotherapy aimed at alleviating suffering or repairing or remediating functioning is necessary. Most often these services are provided by mental health professionals trained in specific infant mental health assessment and intervention techniques. Treatment of already identified problems may be focused primarily on changing the infant (Benoit, Wang, & Zlotki, 2000), the parent and his or her behavior (McDonough, 2000), or the infant–parent relationship (Lieberman, Van Horn, & Ippen, 2005). Stern (1995) has argued that these different forms of intervention may use different ports of entry into the parent–infant relationship, but all are concerned with changing the relationship as a way of changing infant behavior and experience. Treatment of established problems is concerned with current resolution of symptoms and distress, but there is also concern about infants’ developmental trajectories. For these reasons, infant mental health treatments are concerned simultaneously with present and future adaptation of the child.

An increasing number of treatments in infant mental health are supported empirically (Table 1.1), many by randomized controlled trials. Some of these treatments derive from psychodynamic traditions (e.g., child–parent psychotherapy and Watch, Wait and Wonder) and use parents’ representations as a primary port of entry, and some derive from behavioral traditions (e.g., parent–child interaction therapy and trauma-focused cognitive behavioral therapy) and use parent or child behavior as the primary port of entry. Some are explicitly dyadic in format (child–parent psychotherapy and Attachment and Biobehavioral Catch-Up), whereas others are more parent directed (e.g., Triple-P and Circle of Security).

One striking commonality is that eight of the listed treatments explicitly use video review with parents to augment the treatment. Video review may be used to encourage parents’ reflective functioning about the meaning of parent and child behavior. Parents may increase their observational skills by having an opportunity to watch behaviors that they may have been unaware of in the moment. Given that replays may be viewed repeatedly, they allow for review of interactions in less emotionally intense moments and also allow exploration of the reasons for intense emotional responses by parent and/or child.

Maintenance and Relationship Reconstruction

Although those in the field of infant mental health typically have not used the term "mainte-
### TABLE 1.1. Some Evidenced-Based Interventions in Infant Mental Health for Children Younger Than 5 Years Old

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Developer</th>
<th>Primary port of entry</th>
<th>Format</th>
<th>Age range (birth to 60 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child–parent psychotherapy</td>
<td>Alicia Lieberman and colleagues (derived from Selma Fraiberg and colleagues)</td>
<td>Parent’s representation of child</td>
<td>Dyadic sessions supplemented by individual sessions with parent</td>
<td>Pregnancy through 60 months</td>
</tr>
<tr>
<td>Parent–child interaction therapy</td>
<td>Sheila Eyberg and colleagues</td>
<td>Parent’s behavior</td>
<td>Dyadic sessions with parent and child observed by therapist who coaches via bug in the ear</td>
<td>24–60 months</td>
</tr>
<tr>
<td>Trauma-focused cognitive-behavioral therapy</td>
<td>Judith Cohen and Anthony Mannarino; Michael Scheeringa</td>
<td>Child’s behavior</td>
<td>Individual sessions with child and therapist observed by parent and another therapist.</td>
<td>36–60 months</td>
</tr>
<tr>
<td>Attachment and Biobehavioral Catch-Up</td>
<td>Mary Dozier and colleagues</td>
<td>Parent’s behavior</td>
<td>Dyadic sessions augmented by video review</td>
<td>Infancy version: 6–24 months; toddler version: 25–60 months</td>
</tr>
<tr>
<td>Video Interaction Guidance</td>
<td>Hilary Kennedy and colleagues</td>
<td>Parent’s behavior</td>
<td>Dyadic sessions augmented by video review</td>
<td>Early infancy through 60 months</td>
</tr>
<tr>
<td>Interaction Guidance</td>
<td>Susan McDonough and colleagues</td>
<td>Parent’s behavior</td>
<td>Dyadic sessions augmented by video review</td>
<td>Early infancy through 60 months</td>
</tr>
<tr>
<td>Circle of Security</td>
<td>Kent Hoffman, Glen Cooper, and Bert Powell</td>
<td>Parent’s representation of child</td>
<td>Group sessions or individual sessions for parents augmented by video review</td>
<td>Early infancy through 60 months</td>
</tr>
<tr>
<td>Video-Feedback Interaction to Promote Positive Parenting</td>
<td>Femmie Juffer, Marian Bakermans-Kraneberg, and Marinus van IJzendoorn</td>
<td>Parent’s behavior</td>
<td>Dyadic sessions augmented by video review</td>
<td>Birth through 60 months</td>
</tr>
<tr>
<td>Watch, Wait and Wonder</td>
<td>Elizabeth Muir and colleagues</td>
<td>Parent’s representation of child</td>
<td>Dyadic sessions</td>
<td>6–30 months</td>
</tr>
<tr>
<td>Triple P—Positive Parenting Program</td>
<td>Matt Sanders and colleagues</td>
<td>Parent’s behavior</td>
<td>Individual sessions with parents or group sessions with parents</td>
<td>Birth through 60 months</td>
</tr>
</tbody>
</table>

*Many of these can be used with children older than 60 months.*
nance," that is, provision of services to caregivers and infants when there has been a disruption of the relationship (e.g., when there is separation because of parental mental health or substance abuse treatment, or loss of custody because of abuse or neglect), the clinical challenge is different than from that when help-seeking parents attend outpatient clinics. When a young child is separated from a primary caregiver for a prolonged period, a number of unique challenges arise, including ensuring that the child has a safe and secure alternative caregiver, negotiating how or whether the child is able to maintain the relationship with the primary caregiver when the caregiver is absent, and reestablishing the relationship upon return (e.g., Zeanah & Smyke, 2005). Instead of treatment of relationship disturbances, these situations call for reconstruction of a relationship following a disruption, while simultaneously attending to parent and child mental health status. Maintaining mental health stability in caregivers may be essential to ensuring well-being of young children in their care.

**Challenges of Infant Mental Health Interventions**

The good news about infant mental health interventions is the growing number of evidence-based interventions across promotion, prevention, treatment, and maintenance. It is worth noting, that most of the treatments in Table 1.1 have also been used as preventive interventions focused on high-risk status (e.g., maltreatment or insecure attachments) or elevated symptomatology (e.g., aggression or inattention/overactivity). This reminds us about the overlap in the different levels of intervention and treatment. On the other hand, interventions also share several challenges.

First, the ideal continuum of services to address the full range of needs for young children and their families is limited by the lack of availability of trained therapists and professionals, funding, and service priorities. A number of states are exploring reimbursement through Medicaid for services including developmental and mental health symptoms screening, provision of mental health services in non-mental health settings, dyadic treatment, parenting support, and care coordination (Smith, Granja, Ekono, Robbins & Nagarur, 2016), developing early childhood systems (Gebhard & Oser, 2012), and other creative state-level strategies (Cohen, Gebhard, Kirwan, & Lawrence, 2009).

A second challenge is how best to involve families of young children and to incorporate their concerns into planning and implementing services. Most parents want information about children development and childrearing, and they seek information from many sources, yet often feel overwhelmed with the amount of information available, mistrust or are confused by conflicting information, or may not find the resources particularly helpful. In addition, parents want to teach others about their experiences (Zero to Three, 2016). While engaging parents in treatment can be difficult, evidence is available regarding strategies that work (Stewart-Brown & Schrader-McMillan, 2011).

The third, related, challenge is the impact of personal, family, cultural, professional, and organizational values on every aspect of infant mental health. These values create explicit and implicit lenses through which relationships are developed and understood. Families bring past experiences into services, and expectations and readiness for change may not match those of the professional or intervention program. Furthermore, as noted by Ghosh Ippen (Chapter 8, this volume), historical trauma is also a central concern for many families seeking mental health services. Professionals need to recognize and address how their personal value systems and professional perspectives impact their understanding of the dyad and have the potential to cloud objectivity or undermine the success of the intervention. In addition, organizational and system values and priorities frame service delivery and limits. In all cases, provider education and appropriate supervision are essential to competent implementation of effective interventions (see Hinshaw-Fuselier, Zeanah, & Larrieu, Chapter 35, this volume).

A fourth challenge in this multidisciplinary field is clarifying what can be done where, and by whom. Infant mental health principles are relevant across a number of settings, activities range from promotion through treatment, and the field needs and benefits from the efforts of professionals across disciplines. Services are incorporated into settings that range from traditional offices to schools, child care centers, and homes, and the lines between screening, assessment, and diagnosis, and education, support, and treatment are often blurred. However, an infant mental health approach that takes into account the experiences of the infant, the parent, and the dyad can provide a paradigm shift, especially in those for whom infant mental health
is not their primary role, and often requires significant additional training and supervision to fully integrate perspectives into clinical work. Currently, there are many efforts to educate professionals across disciplines in various infant mental health practices (see Hinshaw-Fuselier et al., Chapter 35, this volume) as the field rapidly evolves to meet the needs of families and young children.

When intervention is indicated, a fifth challenge emerges: It often is not clear what works for whom. For example, what is the best strategy for a dyad when the mother is depressed, the child is aggressive, and the relationship is characterized by insecure attachment? Or how long should one stick with a treatment strategy before trying something else? If multiple interventions are needed simultaneously, how much can a dyad endure at any given point in time? These decisions may rest on the skills or interests of the provider, the place of service (pediatric clinic, mental health office, school, home), priorities of the parent, and practical issues such as transportation, costs, or amount of time needed for the therapy, “fit” between family and clinician, or availability of other services. Complex circumstances, such as history of trauma, an aversive support network, and inability to meet basic needs, create additional dilemmas for treatment. Interestingly, though many interventions appear to have positive effects long after the intervention is concluded (e.g., Humphreys et al., 2015; Martin et al., 2008; Olds et al., 1998), the key to long-term outcomes is not always clear: education and information? relationship experience? timing or intensity of services? readiness of the parent or family? Furthermore, the burgeoning number of evidence-based therapies that require significant training and supervision can make it difficult for providers to develop and maintain skills across many therapies. Some propose that therapies focus on key underlying issues rather than targeting specific symptoms (Marchette & Weisz, 2017; see also Hinshaw-Fuselier, Zeanah, & Larrieu, Chapter 35, this volume).

In any case, an ongoing need in the field is to identify the components of the intervention, such as (1) the targeted recipient; (2) methods of intervention; (3) frequency, intensity, and length of services; (4) location of service delivery; and (5) type of service provider, and link these with anticipated, measurable outcomes (Karoly et al., 2005). A particular need is for research that examines the impact of sequential interventions (Mrazek & Haggerty, 1994). In developing more refined questions in intervention research, clinicians need to work closely with researchers. The ultimate goal is for professionals to be able to select approaches that are best suited to address an individual child’s or dyad’s particular problems and circumstances.

Emerging Areas

A growing focus of attention of infant mental health is the impact of social and cultural mores

<table>
<thead>
<tr>
<th>TABLE 1.2. Guiding Principles of Infant Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Infant mental health is concerned with healthy social–emotional development.</td>
</tr>
<tr>
<td>2. Relationships form the fundamental building blocks of social and emotional development:</td>
</tr>
<tr>
<td>• Early experiences matter.</td>
</tr>
<tr>
<td>3. Infant–caregiver relationships provide the framework for assessment and intervention in infant mental health.</td>
</tr>
<tr>
<td>4. Infant mental health aims to identify, establish, and sustain positive developmental capacities.</td>
</tr>
<tr>
<td>5. Assessment and intervention are strengths-based:</td>
</tr>
<tr>
<td>• Strengths are used to minimize risk and support parent, infant, and family competency.</td>
</tr>
<tr>
<td>6. Intervention always includes prevention:</td>
</tr>
<tr>
<td>• Intervention aims to reduce distress and maladaptive behaviors in the present, and restore positive developmental trajectories and build competence and resilience for future functioning.</td>
</tr>
<tr>
<td>7. Cultural and ethnic beliefs define assumptions about important aspects of childrearing.</td>
</tr>
<tr>
<td>8. Families must be involved in the planning and delivery of services.</td>
</tr>
<tr>
<td>9. Personal, professional, and program values permeate all aspects of infant mental health.</td>
</tr>
<tr>
<td>10. A comprehensive continuum of services is needed, and cross-system collaboration is essential:</td>
</tr>
<tr>
<td>• To be effective, policies and programs must reflect and respond to the relational needs of infants.</td>
</tr>
</tbody>
</table>
on infant mental health. Recognizing how culture impacts parenting remains important, and recent attention focuses on malleable social determinants, such as poverty, the unequal distribution of power, goods, and services, and even environmental or climate conditions related to significant disparities in health and health outcomes (Braveman, 2014; Braveman & Gruskin, 2003; Commission on the Social Determinants of Health, 2008). Social conditions may directly impact the well-being of young children. One response, the Tenets of Diversity in Infant Mental Health, developed by the Professional Development Network of the Irving Harris Foundation (St. John, Thomas, & Norona, 2012) has stimulated discussion and education on issues such as racism, diversity, and class on perspectives about parenting and infant mental health.

Concerns about social justice are generating discussion about reproductive justice and infant mental health. Reproductive justice, based on the principles of every person’s right to have a child, not to have a child, and to parent in a healthy and safe environment (Ross & Solinger, 2017, p. 9), highlights the intersection of the issues of race, gender, and economic inequality, stigma, and access. Because these issues directly impact the care of infants, there is interest in better understanding and incorporating a reproductive justice perspective into infant mental health (Lauen, Henderson, White, & Kolchi, 2017).

The challenges in the field, as well as emerging areas, lead to the need for a more explicit discussion of ethics and infant mental health. The major professions that comprise the field have their own professional codes (e.g., psychology, medicine, social work, counseling, education) that define the conduct of the professional with clients (patients), with other professionals, and with the public, and there are similarities and differences among them.

Although the field of infant mental health articulates crosscutting values such as respect for human relationships, diversity (justice), the need for appropriate supervision and training (competence), unlike professional organizations, infant mental health does not have a body of representatives that defines ethical practice for the field. As services become more available to a wider range of families and young children in more diverse settings, there is a need to better articulate the range and responsibilities of professionals, including accountability to families and accountability of services, among other issues. We expect ethics will be a growing area of future inquiry and discussion.

Finally, the growth of infant mental health has in part been due to the recognition, via policy, of the importance of supporting young children and their caregiving relationships. For example, alignment of the federal MIECHV and the Early Childhood Comprehensive Services programs is providing substantial support to states as they develop services for families of young children (Stark, Gebhard, & DiLauro, 2014). Similarly, the child care and early education policies administered by the Office of Administration for Children and Families provide additional support for families (Administration for Children and Families, 2017). Advocacy for families and policy development will be central to gaining needed support for infant development for the foreseeable future (Nelson & Mann, 2011).

Conclusions

Infant mental health focuses on early experiences of infants and young children, and emphasizes the importance of caregiving relationships as having major effects on the young child’s social and emotional experience. Healthy caregiving relationships, which are embedded within multiple social and cultural contexts, promote social competence in young children, and social competence is associated with adaptive behavioral, emotional, and cognitive outcomes. The breadth of infant mental health includes clinical, research, and policy efforts, and encompasses the theoretical perspectives and knowledge base of multiple professional disciplines. The complexity of the problems of infants and toddlers must be matched by the comprehensiveness of our efforts to minimize their suffering to enhance their competence.

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I. DEVELOPMENT AND CONTEXT


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I. DEVELOPMENT AND CONTEXT


