CHAPTER 1

The Early History and Legacy of the Minnesota Parent-Child Longitudinal Study

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“To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science.”

— Albert Einstein

It is often said that many great acts of creative genius are the result of twists of fate and happenstance. To hear Byron Egeland describe the history of the Minnesota Parent-Child Longitudinal Study (MPCLS), this is the sense you get, that it was all good fortune. However, it was more than luck. Egeland tells how, as a new professor at the University of Minnesota in 1973, he was invited by a pediatrician he knew named Amos Deinard to give a talk at the Minneapolis Public Health Department about screening instruments. Deinard was a professor at the University of Minnesota Medical School who worked part-time at the Minneapolis Public Health Clinic. After Egeland gave his talk, he, Deinard, and another pediatrician, Ellen Elkin, got into a discussion about...
child abuse. Egeland claims, in his offhand way, that he said, “Someone needs to do a prospective study of child abuse.” Up to that time all of the research on child abuse had been done retrospectively. That afternoon Dr. Elkin called Egeland on the phone and said, “Why don’t we do that prospective study? One of my friends from graduate school is the Director of the Center of Maternal and Child Health, and I ran the idea by him and he likes it.” (Egeland, 2010, personal communication).

Egeland, Deinard, and Elkins subsequently wrote a proposal outlining a prospective study of child abuse, which they submitted to the Center of Maternal and Child Health. The grant was initially turned down because the reviewers thought the proposed sample of 250 was too small for them to find many cases of child abuse. However, like any passionate scientists, they revised their proposal and resubmitted it. It was funded in 1975 for three years, and so began the longitudinal study that is known today as the Minnesota Parent-Child Longitudinal Study (MPCLS), which has been ongoing for 35 years!

One of the strongest influences on the theoretical framework for that first grant was the work of Arnold Sameroff. In 1973, Sameroff was a visiting professor at the Institute of Child Development at the University of Minnesota, and he shared a preprint with Egeland of his paper with Michael Chandler (Sameroff & Chandler, 1975) outlining their transactional model of parent-child relationships and child development. This paper proved to be very influential in helping Egeland and Deinard shape their thinking about child abuse.

In 1975, when Egeland and his colleagues first began recruiting subjects, they used prior research on child abuse to inform them of some of the risk factors for child abuse and selected mothers accordingly. Specifically, they recruited mothers who were poor, young (average age at birth of the child was 20.5 years; range was 12–34 years), poorly educated (41% had not completed high school), and the majority (62%) were single parents.

The early findings from the project were quite consistent with the Sameroff and Chandler (1975) model; indeed, there emerged “no simple linear cause of child maltreatment” (Egeland, personal communication, 2010). Rather than finding that parental psychopathology, or parental
expectations or beliefs directly predicted child maltreatment, Egeland and his colleagues found that high life stress interacted with maternal characteristics (e.g., anger and hostility) to predict child abuse, but neither factor alone was predictive.

Early on in his longitudinal study, Egeland approached Alan Sroufe at the Institute of Child Development (Egeland was then in the Department of Educational Psychology at Minnesota) about becoming involved with the project because of Sroufe’s expertise in early socioemotional development. Sroufe recommended that two of his graduate students, Everett Waters and Brian Vaughn, should begin working with Egeland on the longitudinal study. Waters, as an undergraduate at Johns Hopkins University, had worked as a research assistant with Mary Ainsworth on the study in which she first developed the Strange Situation procedure (Ainsworth, Blehar, Waters, & Wall, 1978). Waters brought his interest in, and training about, attachment with him to Minnesota. Waters and Sroufe had already collaborated on studies of attachment in middle-class samples (e.g., Waters, Wippman, & Sroufe, 1979), so the extension of the study of attachment relationships to Egeland’s high-risk sample was a natural one.

In the 36th Minnesota Symposium on Child Psychology in October 2009, leading scholars in developmental psychology presented work that in every case was directly influenced by the scholarship of Egeland, Sroufe, and the tremendous legacy of the MPCLS, or what was referred to for many years as the “mother-child project.” However, before discussing how the chapters in this volume are related directly to the theoretical and empirical stage set by Egeland and Sroufe and their longitudinal study, it is important to examine the development courses of these great scholars in order to understand how they came to study what they study. There is, after all, to quote a famous developmental psychologist, “coherence in individual development” (Sroufe, 1979).

Byron Egeland received his PhD in 1966 from the University of Iowa. His dissertation was entitled “The Relationship of Intelligence, Visual-Motor Skills and Psycholinguistic Abilities with Achievement in the First Grade.” His first article, published when he was an assistant professor at Syracuse University in 1966, was entitled “Influence
of Examiner and Examinee Anxiety on WISC Performance” (Egeland, 1967). Now 44 years later, we may think it strange that one of the world’s experts on child maltreatment began his research career studying test performance. In fact, in looking at where he began as a researcher, and where he is today, you might not see any evidence of continuity in his intellectual interests. However, if you read Egeland’s first published paper, you discover that he was not just looking at test performance. Rather, he was examining how anxiety, of the child and of the examiner, and the interaction, or transaction, between the child’s and the examiner’s level of anxiety predicted children’s test performance (Egeland, 1967).

If you read many of Egeland’s other papers published since his first publication, some themes appear repeatedly. For example, Egeland’s interest in the study of anxiety remains to this day. In 1997 he and Alan published a paper with child psychiatrist Susan Warren examining child and adolescent anxiety disorders and attachment. In this paper they used attachment insecurity to predict anxiety in 17-year-olds. Remarkably, they found evidence for an association between anxious-resistant attachment and anxiety at age 17 (Warren, Huston, Egeland, & Sroufe, 1997).

Then, almost a decade later, Egeland and his former graduate student Michelle Bosquet published a paper examining the development and stability of anxiety symptoms from infancy through adolescence (Bosquet & Egeland, 2006). Using the MPCLS they were able to document that anxiety is moderately stable from childhood to adolescence. Interestingly, heightened neonatal biobehavioral reactivity and poor regulation predicted emotion regulation difficulties in preschool, which in turn predicted anxiety symptoms in childhood. In addition, insecure attachment relationships in infancy predicted negative peer relationship representations in preadolescence, and these representations predicted anxiety in adolescence.

Thus, it is clear that Egeland’s interest in anxiety has been consistent across more than 40 years. Similarly, his belief that outcomes are multiply determined is a theme that runs through much of his research. For example, in one of the first publications to come out of the mother-child project, Everett Waters, Brian Vaughn, and Egeland published a paper entitled “Individual Differences in Infant–Mother Attachment
Relationships at Age One: Antecedents in Neonatal Behavior in an Urban, Economically Disadvantaged Sample.” In this paper they concluded that neonatal difficulties must interact with difficult environments to produce anxious attachments (Waters, Vaughn, & Egeland, 1980). So here, just as in his first empirical publication, Egeland was examining how characteristics of the child interacted with characteristics of the environment to predict developmental adaptation. In a way, his focus has always been on transactional models of development. This same transactional approach is seen very clearly in one of Egeland’s most widely cited papers, written in collaboration with his then-graduate student Ellen Farber, in which they further explored factors associated with both the development of, and stability and change in, the security of attachment relationships (Egeland & Farber, 1984). Consistent with the transactional model that has been the touchstone of much of Egeland’s work, they found that characteristics of mothers, infants, and the larger social context were all predictive of attachment security and its stability over time.

Egeland was way ahead of his time, not only in launching a prospective study of child maltreatment, but also because of his multiple risk factors and transactional approach to the study of maltreatment. He was very clear at the outset of the study that he did not believe that any single factor was responsible for abuse and instead examined multiple risk factors (e.g., mother’s history of abuse, life stress, neonatal behavior) and protective factors (e.g., social support, loving relationships). Similarly, his approach to the study of the development of parent-child attachment relationships has always been equally nuanced (e.g., Egeland & Sroufe, 1981).

One of the most influential papers based on the MPCLS is an article by Egeland, Deborah Jacobvitz, and Sroufe entitled “Breaking the Cycle of Abuse” (Egeland, Jacobvitz, & Sroufe, 1988). In that paper they identified variables that distinguished mothers who had been abused as children who did not go on to abuse their children from those who did. They found that mothers who had been abused as children, but who did not go on to abuse, were significantly more likely to have had emotional support from a nonparent adult as a child, to have participated in therapy during
any period of their lives, and to have had a nonabusive, emotionally supportive relationship with a mate, as compared with mothers who had been abused and did go on to abuse their children. This paper does a splendid job of highlighting both why early experience matters and why early experience is not immutable. This theme, that developmental outcomes are multiply determined, is part of the richness of the legacy of the scholarship of Egeland and the MPCLS and is clearly articulated in some of the chapters in this volume, most notably in Cicchetti’s chapter on maltreated children (Cicchetti, 2011).

In looking for coherence in Sroufe’s intellectual trajectory, similar patterns emerge. Sroufe received his PhD in Clinical Psychology from the University of Wisconsin–Madison in 1967. His first publication in 1967, co-authored with his advisor Peter Lang and entitled “The Effects of Feedback and Instructional Set on the Control of Cardiac-Rate Variability,” was not a developmental study, but evidence of his expertise in heart-rate research is echoed again in subsequent papers with Everett Waters, in which they examined how heart rate was related to gaze aversion and avoidance in infants (Sroufe & Waters, 1977), and Brian Vaughn when they studied heart rate and crying in infancy (Vaughn & Sroufe, 1979). However, prior to the publication of those papers, Sroufe’s first paper on emotional development was “The Development of Laughter in the First Year of Life” (Sroufe & Wunsch, 1972). This was followed by studies on smiling, stranger anxiety, and almost every other aspect of early emotional development you can imagine, including his work with Dante Cicchetti on affective development in Down’s Syndrome children (e.g., Cicchetti & Sroufe, 1976).

Sroufe’s fascination and deep understanding of socio-emotional development in childhood is seen throughout his career, from his first sole authored book, Knowing and Enjoying Your Baby (Sroufe, 1977), to his more recent book, Emotional Development: The Organization of Emotional Life in the Early Years (Sroufe, 1997). The salience of emotion as an organizing principle is clearly echoed across the papers he co-authored based on the MPCLS as well as the book published on the longitudinal study, The Development of the Person: The Minnesota Study of Risk and Adaptation from Birth to Adulthood (Sroufe, Egeland, Carlson, & Collins, 2005).
We see this theme of emotion as an organizing construct highlighted in Ross Thompson’s chapter in this volume (Thompson, 2011).

To those who know Sroufe as one of the foremost experts in the world on socioemotional development, it may come as a bit of a surprise to know that one of his earliest publications appeared in 1973 in *The New England Journal of Medicine* and was entitled “Treating Problem Children with Stimulant Drugs” (Sroufe & Stewart, 1973). In this paper he questions studies of the effects of stimulants on hyperactive children and ends by suggesting alternative means of managing problem children. Later in the 1980s and 1990s, Sroufe took up this cause again when the World Health Organization issued a report noting that the use of Ritalin to treat children with ADHD had increased in the United States at a rate many times higher than that in other Western industrialized nations. In 1990 Sroufe published a paper with Deborah Jacobvitz, Mark Stewart, and Nancy Leffert about the use, and overuse, of Ritalin and related drugs to treat attentional and hyperactivity problems (Jacobvitz, Sroufe, Stewart, & Leffert, 1990). However, few of us who read the paper in 1990 knew that this issue had been a passionate concern of Sroufe’s for almost 20 years by the time the article was published.

A theme that emerges repeatedly in Sroufe’s papers is the idea that relationships are carried forward, that our relationship history influences not only how we treat others, but also how others treat us. A good illustration of this theme is a paper Sroufe and Michael Troy published in 1987 that demonstrated that children played differently with other children depending not only on their own attachment history but also on the attachment history of their play partner (Troy & Sroufe, 1987). Similarly, in Frosso Motti’s dissertation, she was able to document that teachers in the laboratory preschool at the Institute of Child Development treated children differently depending on their attachment histories. Consistent with Bowlby’s (1969/1982) theory that childhood experiences serve as a prototype for subsequent adult love relationships, Glenn Roisman, Andy Collins, Sroufe, and Egeland published a paper (2005) in which they documented that young adults who had experienced a secure relationship with their primary caregiver in infancy were more likely to produce coherent discourse regarding their current romantic relationship and to
have a higher-quality interaction when the couple was observed in conflict and collaboration tasks. In the chapters in this volume by Roisman and Haydon, Kobak and Zajac, and Jacobvitz, Hazen, Zaccagnino, Messina, and Beverung, this theme—of how relationships are carried forward—is clearly elaborated.

Another legacy of Egeland and Sroufe’s research is the emphasis on the importance of early intervention and prevention. Indeed much of the work that researchers such as Sheree Toth, Martha Erickson, and Robert Pianta have done over their careers has been focused on prevention science and how studies like the MPCLS can inform prevention efforts (e.g., Erickson & Egeland, 2004; Hamre & Pianta, 2005).

In addition to conducting research on prevention, this theme of prevention is reflected every day in the life’s work of many of Sroufe and Egeland’s former students, who are clinicians working in clinics, schools, hospitals, and private practices. Because of their training in developmental psychopathology, and their relationship-based perspective on emotional development, they are undoubtedly some of the best clinicians working with children and families in the field today. Thus, these clinicians, along with the long history of groundbreaking publications, are an incredible legacy of the MPCLS and of Egeland and Sroufe.

A quote by Esther Thelen perhaps best captures the legacy of the MPCLS: “The premiere developmental question is, of course, the nature of the transition from one developmental stage to another—the emergence of new forms. How does a system retain continuity and yet produce discontinuous manifestations?” (Thelen, 1989). Thanks to the work of Egeland and Sroufe, and their many students, we now have a very good idea about ways in which there is continuity from early experience and ways in which there is lawful change in social and personality development.

REFERENCES


