Clinical, political, legislative, and administrative work with abused and neglected children presents many questions and challenges. Theory and research regarding both normal development and the development of children who have experienced maltreatment is invaluable in guiding professionals through these challenges and providing answers to key questions. The seminal work of the researchers in the Minnesota Study of Risk and Adaptation, which has been summarized and contextualized in *The Development of the Person*, is an outstanding example of rigorous, comprehensive, and complex research that can guide our work as professionals.

The Minnesota Study, which was begun in the mid-1970s, has followed 180 children and their families from three months prior to the children’s birth through adulthood. *The Development of the Person* incorporates and synthesizes many prior reports and previously unpublished data drawn from the study. The authors describe their perspective and methodology; detail the results in different age groups, from infancy to young adulthood; and present their conclusions regarding the developmental process, behavioral and emotional disturbance, clinical implications, and tasks for the future. The book contains a wealth of information and analysis, highlighting issues of attachment, maltreatment, adaptation, environmental context, and developmental continuity and change.

**Study Design and Methodology**

One of the most compelling aspects of the study is the rigorous and comprehensive nature of the research design and methodology. The study was designed to answer complex questions regarding development prospectively, so that the ordering and development of adaptation and pathology could be studied comprehensively. The study was initially proposed as a way to uncover the potential for abuse in parents, which previous studies had not been able to predict using linear models and analyses. From the inception of the study, the researchers also were specifically interested in demonstrating the consequences of child maltreatment (p. 51). The seven essential features of the research, as described by the authors, include:

- focusing on families living in poverty;
- beginning before birth, so that there was no need to rely on retrospective reports;
- conducting detailed observations by age to track development across developmental transitions;
- initiating comprehensive assessments to look at each child’s emotional, social, cognitive, and behavioral development;
• studying both normal and maladaptive development;
• assessing the broader context of stress and support; and ensuring early assessments of relationships to capture the development of the personality (pp. 12-19).

The research was influenced by prior risk research, systems theory, developmental theories, some Freudian concepts, and attachment theory, most notably the work of Bowlby and Ainsworth (pp. 28-38).

The researchers found that prior studies focused exclusively on behavior frequencies in direct observations often did not find meaningful results or stability across time. The authors argue that patterns of behavior are a more meaningful level of measurement (p. 21). They note that attention to patterns of behavior is critical, because it is not the frequency or intensity of behavior that reveals its meaning, but the organization of behavior (p. 38). They argue that the organization of behavior reflects the interplay between emotion, cognition, and social behavior (p. 38). For example, it is not just whether a baby smiles, but at whom, in what context, and in what sequence, that reveals the meaning behind the behavior.

These concepts guided the structure of assessments for the study. The researchers chose measurements that would capture the context, parental factors, caregiving patterns, patterns of child behavior, and internal representations of the child. The measures were grounded in the central challenges and capacities to be acquired at each age (p. 43). Multiple measures were used, including formal tests, expressive procedures, questionnaires, interviews, and direct observation. The researchers observed participants in the lab and at home, as well as in a preschool, summer camp, and camp reunion that were made available to children in the study. The study used multiple informants, including parents, children, teachers, trained observers, peers, and camp counselors (p. 83). The number of participating teachers alone was 1,000 individuals from almost 90 schools (p. 211). Finally, there was also an effort to measure the same constructs, such as behavior problems, representation of self and other, parent-child relationship, peer competence, and contextual factors such as family stress and support, at multiple points in time (pp. 83-84).

Participants were recruited in Minneapolis through prenatal care programs. The selection criteria mandated that each be a first pregnancy and that the mother have an income below the official poverty line (p. 52). The researchers chose to study those in poverty because many prior studies had focused solely on middle-class participants. The researchers also knew that children born into poverty would be more at risk for developmental problems, but that in their community poverty was not so entrenched that all of the risks associated with poverty would be present. This meant that a range of adaptation and maladaptation would likely be present in this population (p. 12). Most of the mothers were European American, because of the population in Minneapolis at that time. After 20 years of study, a full 85% of the 212 participants present in the first year remained involved (p. 53).

Though the level of detail included in The Development of the Person on research design and theory may not intrigue readers who are focused on results, it is critical in gauging the validity of the results and for allowing comparison of the results to other studies addressing the same or similar concepts. The design and scope of this study are indeed impressive. The wealth of data allows for detailed and rigorous analysis and a true understanding of the development of the child from multiple perspectives. The careful attention to the constructs underlying the methods and the implementation of the design gives greater confidence in the analysis and the ability to capture complex concepts. The authors themselves note that it is not the claims they make that are distinctive; rather, it is the strength of the evidence they have collected to support
these claims that makes this study such an extraordinary accomplishment (p. 21).

Despite the strength of the design, some significant issues were not addressed. First, because of the majority European American sample, issues of race and differences in development of children from diverse racial or cultural backgrounds could not be analyzed. The authors acknowledge this as one limitation and encourage further study with diverse samples. Unfortunately, there was no acknowledgement or recognition of gay, lesbian, or transgender issues or identities in the sample. Given a sample size of 180 children who participated in the study well into adulthood, as well as the focus on intimate relationships, it seems likely that at least a small but potentially significant number of participants might have identified as gay, lesbian, or transgendered. The authors appear to have failed to ask about this issue and did not report any findings (even of nonsignificance). Finally, given that risk factors for inadequate care, maltreatment, and later substance abuse by participants were analyzed, it was surprising that the authors did not include maternal or parent substance abuse as a contextual or caregiving factor in analysis. The mothers were observed and interviewed extensively, so the issue could have been addressed, but it appears to have been overlooked.

Key Findings

Maltreatment

By the end of infancy, 44 cases of maltreatment were identified through a variety of sources, including parent interviews and observer ratings and judgments (pp. 60-61). Four patterns of abuse were identified in the study: physical abuse (actual infliction of physical harm), physical neglect (failure to provide basic care), psychological unavailability (lack of emotional engagement/responsiveness to the child), and verbal abuse (chronic verbal expression of hostility, p. 61). The researchers later were also able to identify cases of sexual abuse and seductive patterns of care.

The first key findings related to maltreatment were established in infancy. Correlations to poor quality of care at six months included mother’s poor psychological understanding of the infant, low socioeconomic status, single status at birth of the infant, low social support, and a negative reaction to the pregnancy (p. 91). The authors summarized their findings by reporting that parents who failed to understand the autonomous and needy status of their newborn, who were notably poor, unmarried, and had little emotional support, were at risk of providing insensitive care to their children (p. 91). Mothers who provided inadequate or abusive care by the time the child was 12 months of age could be distinguished with 85% accuracy by combining ratings of caregiver cooperation and sensitivity, comprehensive measures of parents’ understanding of the psychological complexity of the infant, and the caregivers’ understanding of the nature of child care (p. 93). Furthermore, although infant characteristics did not correlate with inadequate care, the caregivers in the inadequate group experienced significantly more stressful events and had psychological characteristics such as anxiety, aggression, dependency, and defensiveness (p. 94).

Of the mothers who had themselves experienced abuse as children, 40% maltreated their infants and 30% provided borderline care, but 30% provided adequate care for their children (p. 95). Those who did not repeat the cycle of abuse were significantly more likely to have had a significant relationship with a nonabusive adult in their childhood or to have participated in therapy of at least six months’ duration at some point in their lives (p. 96). Those who did not maltreat their children also tended to have a supportive relationship with their adult partner (p. 96). As the authors note, the protective factors in ending the cycle of abuse are related to significant positive relationships in the lives of mothers. Given this information regarding these mothers, inadequate or abusive care could be predicted and possibly prevented with appropriate intervention and
supportive relationships early in the lives of children at risk.

By the time their children were two years of age, the caregivers who maltreated their children were having great difficulty. The data suggest that those mothers often interpreted age-appropriate characteristics of their children personally, leading to entrenched conflict (p. 112). The children themselves were showing signs of the abuse, as they had significantly lower levels of persistence and enthusiasm and higher levels of negative affect when observed with their mothers (p. 113). The children were angrier, more frustrated, and less compliant than the nonabused toddlers (p. 113). Those who experienced psychological unavailability also showed significant declines on infant development scales (p. 113). Furthermore, raters were able to identify a pattern of sexualized care between some mothers and their sons. This pattern typically occurred when children were not complying, and began subtly, with seductive voice tones, leading to pleading for kisses which progressed to frank sexual touching (p. 115). The mothers who displayed this behavior often had a history of sexual abuse or exploitation, and in every case were without support for meeting their own emotional needs (p. 115). Though the mothers were not repeating the specific abusive behaviors that they had experienced, they were repeating the pattern of poor boundaries, which would prove to be harmful to their children’s development.

By three and a half years of age, the physical abuse and psychological unavailability groups of children continued to show significantly higher levels of negativism and noncompliance (p. 124). The physically abused children also showed higher levels of distractibility and undercontrol in both the preschool and the lab settings (pp. 126; 130). The psychological unavailability group showed significantly more anger toward and avoidance of their mothers (p.124). All maltreated children were rated significantly lower on self-esteem and agency, while the physical neglect group showed a lack of persistence and enthusiasm (pp. 126, 124). Experience of abuse, neglect, or psychological unavailability also strongly related to behavior problems in preschool, and retention or special education was recommended for 65% of the abused/neglected children (p. 132). Clearly, these young children were experiencing significant difficulties at home and school and a high level of need at a young age.

In middle childhood (ages 6 to 11), maltreated children continued to experience some of the same problems. Although IQ and socioeconomic status were not significantly related to behavior problems, both physical abuse and witnessing domestic violence accounted for significant variance in predicting behavior problems (p. 162). Maternal hostility and abuse related to aggression in boys, with high life stress, low parental support, and increased economic hardship increasing the correlation when added to abuse (pp. 162-163). Neglected children showed poor language skills and low ability to follow directions, work independently, and be persistent (p. 167). This problematic behavior, aggression, and lack of skills could then result in the children being difficult to teach and frustrating for the adults from whom the children needed extra support.

By adolescence, the maltreatment was shown to correlate to a wide range of serious problems. The lack of supportive care affected core adaptation issues at each stage, so that by the time these children reached adolescence their ability to integrate social, emotional, and cognitive functioning was severely compromised (p. 189). Of the maltreated children, a full 90% qualified for at least one psychiatric diagnosis by the age of 17 (p. 189). Conduct disorder and oppositional defiant disorder were more than tripled in children with a history of physical abuse (p. 249). Anxiety disorders doubled with neglect or sexual abuse, and posttraumatic stress disorder doubled with histories of psychological unavailability or sexual abuse (p. 249). All groups also showed high (54-73%) rates of comorbidity (p. 249). The authors also noted that these children
often had not been formally diagnosed by the age of 17 because many had not gotten professional help.

Every type of abuse was related to delinquency, with psychological unavailability being the strongest predictor of delinquency (p. 189). Physical abuse led to heavy drug use, poor peer competence, and aggression, defiance, and often truancy (p. 190). Those who were sexually abused also had heavy drug use (p. 195). The neglect group did not evidence problems with aggression or drug use, but did have significant difficulties in school achievement (p. 190). The psychological unavailability group showed problems with aggression, isolation, and elevated suicide attempts (p. 190). Witnessing domestic violence in early childhood also led to externalizing problems for boys and internalizing problems for girls by the time they reached adolescence (p. 191). These statistics provide powerful and troubling evidence of the consequences of abuse and maltreatment and the grave toll it takes on children throughout their development.

Context

Throughout the study, measures of context also revealed the significant effect of context on development. As noted earlier, lack of support for mothers and a history of abuse related to the earliest measures of child care. Quality of support available to the caregiver when the child was aged 12 months and cumulative support available across the second year related to positive parenting at two years, beyond the variance accounted for by attachment (p. 119). Researchers found that by 18 months, children who moved from anxious to secure attachment lived in families that had a greater reduction in stressful life events (p. 104). Overall social support, as well as the involvement and support of the maternal grandmother and/or an adult partner, were shown to be consistently important in the child’s adaptation by the preschool years (p. 146). Children whose behavior improved from troubled beginnings had significantly more support from their families and less stress (p. 146). A decrease in behavior problems from preschool to elementary age was related to lower parental life stress and a more supportive home environment, while an increase in problems was related to lower support and higher life stress (p. 163).

Emotional health and competence with peers in elementary school were also significantly related to caregiver stress and support measures (p. 157). Throughout adolescence, better peer competence and adjustment were predicted by the involvement of relatives or family friends who demonstrated dependability and affective involvement, even after controlling for quality of maternal care (p. 192). In studying children who did better than expected, the researchers consistently found that increased support and decreased stress were associated with that improvement (p. 227). Therefore, it is not solely parental care that is predictive of development and positive adjustment; the stress on and support for the family as a whole also have a significant impact.

Early care and cumulative effects

The research also consistently found that early care influenced outcomes at every age (including young adulthood); however, the child’s cumulative history beyond early care predicted outcomes even more strongly. Children with secure attachments were already scoring dramatically and significantly higher on toddler scales at 24 months (p. 109). By the age of three and a half years, children who had secure attachments were significantly more competent in the lab setting, scored higher on the integrative projected self-esteem scale, had higher ratings of ego resiliency, were rated as dramatically more resilient by teachers, and had fewer social or behavioral problems (pp. 123, 126, 128, 129). However, adding measures of early caregiving quality and combined measures at 24 and 42 months to attachment history significantly improved prediction over attachment history alone (p. 128). Behavior problems in preschool were predicted best by
a combination of prior history, support, and stress in the family, rather than by attachment or early care variables alone, lending support for the importance of context as well as cumulative care (p. 146).

By middle childhood, attachment still significantly related to major outcomes up to 10 years later (p. 153). Children with secure histories were rated higher on social competence, lower on dependency, and higher in emotional health/self-esteem (pp. 152, 156, 157). However, combining attachment with history of care and history of competence accounted for twice the variance on these outcomes (p. 153). Behavior problems were best predicted by combining measures of history of care, contemporary care, and contextual issues (p. 162). Academic achievement scores were also related to both early care and contemporary positive expectations and involvement by the parent (p. 164).

By adolescence, attachment continued to remain significant, and in some cases exerted a stronger influence than in middle childhood. Attachment history was significantly related to all measures of competence for 15-year-olds (p. 180). Adding preschool data to the analysis improved the prediction of competence (p. 181). Social competence was significantly related to preschool, elementary, and young adolescent ratings, as well as early history of care and maltreatment (p. 183). Early care continued to predict global adjustment by age 19, though again elementary competence and adolescent stress and support significantly added to the predictions (p. 202). Infant attachment predicted numerous aspects of functioning in relationships by age 21, but elementary school competence and parent-child interactions at age 13 significantly added to predictions (pp. 203-204). Thus, the research demonstrated that although early care exerts influence throughout development, other issues (such as stress, support, adaptation, and ongoing care) remain significant to the development of the child even into adulthood.

Authors' Conclusions

Probabilistic pathways of development

The authors use their findings to argue for probabilistic pathways that lead to developmental outcomes. As noted earlier, no one experience in development predicts future outcomes, but the totality of individuals’ experiences combine into pathways that lead to that outcome (p. 150). The authors propose a model wherein early experiences develop into internal representations of self and others and expectations that shape later experiences. For example, early care establishes the ability to regulate emotional arousal and positive expectations of self and other (p. 230). This then allows the child to interact in a positive way with his or her environment, to receive continued support at the next level of adaptation. When early experience is painful, continuity is also maintained through representation, so that those who did not experience responsive care fail to initiate positive contact and repeat the pattern of being aggressive toward those who are vulnerable. This alienates teachers and peers, leading to a repetition of the experience of hostility and rejection in relationships. This pattern was clear in preschool data, in which children who had avoidant attachment histories—which were correlated with hostility and psychological unavailability from the caregiver—were most often aggressive and tended to isolate themselves rather than seek support when they were distressed (p. 138). These children elicited significantly lower levels of nurturance, low tolerance, and high levels of control from teachers (p. 145). They were also the only students who ever elicited anger from teachers (due to their being hurtful to other children) and active rejection in the form of removal from class (p. 145).

However, this recursive relationship between experience and expectation that leads to continuity is not unalterable. The authors note that the data also support the view that “salient experiences, especially experiences in important relationships, can have a transforming influence on the person”
started from very different histories only to reach the same outcome later in life. The second implication is that the same initial pathway, because of divergent patterns of branching, can lead to multiple outcomes. This indicates that early history is not destiny and that ongoing circumstances can change the course of an individual’s development (p. 240). Third, change is possible at many points in development. Each transition and each age leads to new opportunities, supports, and stresses that affect later development. However, and finally, change is constrained by prior development and becomes more difficult the longer a pathway has been pursued. Thus, though early experience is not destiny, development is not random, and early conditions constrain later possibilities (p. 240). This means that certain outcomes become more probable over time as a developmental pathway is pursued.

Deficit vs. development

The authors argue that their data show more support for a developmental model of pathology than for a deficit model. The deficit model implies that there is a problem within the child that leads to pathology. The developmental model argued by the authors entails the development of pathology through progressive transactions between the person and environment, in which complex interacting factors place children on pathways to disorder (p. 238). In analyzing specific disorders, the authors found that no temperament measures predicted attention deficit/hyperactivity disorder, depression, or conduct disorder, though all had correlations to early care variables (pp. 253, 257, 260). Distractibility in early childhood was related to one neonatal measure of motor maturity, but intrusive care, anxiety in the mother, single status of the mother, and support for the mother were also significantly predictive (p. 253). Furthermore, change in attention/activity problems throughout elementary school was predicted by change in relationship support for the mother (p. 254). None of the 15 temperament measures, 10 early neuropsychological variables, or measures of language or cognitive function

(p. 220). Many of the instances in which a change in the developmental pathway occurred were correlated with relational experiences, as when women who did not repeat the pattern of abuse reported positive relationships with adults in childhood, therapists, or supportive partners. The authors argue that in instances of change, the prior experience itself is not altered, but the meaning of that experience is altered in its organization into the personality structure (p. 220). Patterns can be altered by relationships and experience of supports and stresses, though individuals can vary in the meanings similar experiences can have for them (p. 228). Thus, a child who has an expectation of support from relationships may experience a stressful period, but can make use of supports in the environment more readily than those without a secure history. This explains why early caregiving remains salient even in adulthood, while still allowing for changes in adaptation given enough support.

To test this model of development, the authors created a statistical model using the data collected for the study. They found good stability of both representational and behavioral measures across ages and a correlation between the two at the same age (p. 234). They then entered the data into a complex statistical model that allowed for interaction of behavior and representation across all ages. This model was a significantly better fit for the data than noninteractive models that did not relate the two constructs across ages (p. 236). This led the authors to conclude that the data supported an interactive pathway of development in which psychic structure is formed through experience, while representation carries prior experience into the next level of development.

The authors then inferred four primary implications of the developmental pathway model (pp. 240-241). The first is that there are multiple pathways to the same or similar outcomes. Therefore, though a variety of individuals may end up with difficulties in life or a particular diagnosis, they may have
in preschool were significantly different between groups who had and had not been diagnosed with conduct disorder, though there were several significant differences in parental care and contextual variables (p. 257). The single strongest predictor for depression was early abuse, whereas maternal depression was the only factor significantly related to depression that may have a biological as well as relational correlate (p. 260). Anxiety disorders did correlate with neonatal habituation to startle, but resistant attachment was also significantly separate from this measure (p. 262). Thus, caregiving and contextual variables were much more predictive of all of the classes of disorders than temperament.

Although there are significant neuropsychological or biochemical correlates for disturbance, the authors do not take this as evidence of a biological cause of disturbance (p. 243). They argue that these correlates are biological markers of developmental processes that affect the brain, and not evidence that the markers are a cause rather than an outcome of disturbance. Furthermore, they note that intractable problems such as conduct disorder can be accounted for through the pattern of relating associated with those problems. Those patterns of relating call forth exacerbating reactions from the environment, so that disordered conduct elicits negativity from the environment which furthers a child’s alienation and interrupts his or her ability to acquire social skills (p. 243). Finally, they argue that comorbidity is not well accounted for by the deficit model, but can be clearly explained by the developmental model. If the problem were a deficit, that would not explain why there are such high rates of comorbidity of supposedly discrete disorders, which would presumably have discrete causes. However, in a developmental model, disorders are understood to have a common core of arousal and emotion-regulation issues, which can be expressed through a variety of behavior and emotions, leading to multiple diagnoses (p. 243). These issues prompted the authors to criticize the DSM IV-TR as having a lack of developmental thinking, rampant comorbidity, lack of a unifying theory, and no reference to normal development in defining disorders (p. 275). The authors argue for thorough developmental assessments to understand pathology and plan for effective interventions, rather than relying on diagnoses to guide treatment.

Interventions

Given all of the data, analysis, and models of development, the authors have some conclusions regarding implications for interventions. Unfortunately, whether children were able to engage in treatment and how this affected their development was not studied or reported, though there are some references to the lack of treatment for children. It was not the goal of this study to understand the effectiveness of interventions; still, some conclusions can be drawn from its findings.

Due to the predictive power of a range of early childhood factors, the authors encourage assessment of developmental and relational problems early in the child’s development. If problems are identified, intervention may then prevent the development of any serious behavioral, academic, relational, or emotional problems later in life. Training may assist parents in providing the necessary sensitive care in infancy, but the authors caution that complex cases will require a broader approach (p. 282). They explicitly reject blaming parents in favor of lowering stress, adding support, and assisting parents to integrate their own experiences while developing an increased understanding of their infants’ needs. Parenting takes place in a broader context, and the data clearly show that by supporting parents, one aids them in assisting their children. Therefore, the authors encourage work with parents and families to change how they relate to children and to reduce chaos and stress in the family environment.

The authors suggest that intervention in childhood, with the child, parent, or both together, could be effective. The goal
of such treatment should be to provide an environment in which the child can explore unmet needs and the caregiver can explore feelings stirred by the child’s activity (p. 279). In adulthood, the authors endorse Bowlby’s model for adult treatment. That treatment entails providing a secure base, examining expectations of self and others, examining expectations of the therapeutic relationship, relating those expectations to childhood experiences, and enabling clients to see if these expectations may not be appropriate at present (p. 279). For all of these interventions, the authors emphasize that a trusting relationship is needed, and that this cannot be accomplished quickly (p. 281). Furthermore, the longer a child or adult has used an established pattern of relating, the longer it will take to alter that pattern.

The authors assert that work targeted at symptom reduction or behavioral changes may be effective for those with secure attachment histories, but caution that children with histories of abuse will likely need transforming relational experiences to effectively alter their developmental pathways (p. 282). These children will have notable difficulties establishing supportive relationships, because of their prior history, and will only have more difficulty the longer they go without such a relationship. This is a phenomenon known only too well by foster parents, caseworkers, teachers, mentors, child care workers, and clinicians who struggle every day to provide the transforming relationships the children involved in the child welfare system so desperately need.

**Conclusion**

Some of the concepts and information in this book may not be new to us as professionals. Nevertheless, it is critical for all professionals to read, understand, and respond to such thorough and thoughtful research. When we face the daily turmoil of these children’s lives, work such as this can help us take a step back and consider how the children came to be here, why they respond in specific ways to relationships, and what motivates their behavior. It will help to take the burden from the child, who is not fatally and unalterably flawed, and place the burden back on our society to support families and children from infancy on if we truly want to break the cycle of abuse, prevent delinquency, improve academic achievement, and give every child the opportunity to succeed.

Programs such as integrative assessments for every child entering the child welfare system, and early childhood 0-3 assessments, are responding to such research and attempting to identify and assess needs more quickly. Attention should also be directed at developing transforming relationships, providing longer-term services to maltreated children and adolescents, and implementing consistent support for, while reducing stress on, families and foster families.

Future research of this quality and comprehensiveness should also examine race by developing a broader sample, attend to issues of sexuality and gender identity in development, assess how development is affected by entry into the child welfare system, evaluate how and when children and families access treatment and intervention, and determine which programs are most effective in targeting problems and righting the developmental course of children. It is exciting to be a professional working at a time when research such as *The Development of the Person* is available, and it is my hope that future research will be as meaningful, thoughtful, and comprehensive when addressing these complex and difficult issues.
References


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*Kathryn L. Cornell, LCSW* is a doctoral student and alumna of the MSW program at Loyola University Chicago’s School of Social Work. She has been working for the past six years as a clinician and supervisor in the Jewish Child and Family Service’s System of Care Program, providing individual therapy, family therapy, and advocacy for children and families in the child welfare system. Her research interests include relational theory, child therapy, and therapists’ work with parents and other professionals on behalf of child clients. She can be reached via e-mail at kcranst@luc.edu or by mail at 216 W. Jackson Blvd., Suite 800 Chicago, IL 60606.