



Infants to Adolescents: Research Update

A Digest of Current Research in the Field of Child and Adolescent Development

Editors: Beverly J. Roder, Ph.D. & Mabel L.Sgan, Ph.D.

March, 2000

Volume 1, Number 2

Is the Child Really “Father of the Man?”

If you have more than one child, you may be struck by the differences in your children’s behavioral styles or temperament. One child may be shy, another outgoing. One may enjoy wet, sloppy kisses and bear hugs from Auntie Rita and Uncle Sid; another may shrink from close bodily contact. Do such behavioral differences continue into adulthood? Is the child father of the man, as Wordsworth observed? A new study by Professor Avshalom Caspi provides comprehensive support for Wordsworth’s view. Caspi studied over 1000 children born during a one-year period in New Zealand. Beginning at age three, the participants were assessed repeatedly over nearly two decades. Although long-term studies typically lose up to 40% of their initial sample, a remarkable 97% of the participants showed up for testing at age 21.

At the outset of the study, the children were classified as having one of three types of temperament on the basis of their behavior in a testing situation. Well-adjusted children (40%) were self-confident and showed behavior appropriate to their age and the situation. They adjusted to the novel setting, were friendly with the examiner, and did not become too upset if they found the tasks difficult. Inhibited children (10%) were very shy, withdrawn, and fearful. Undercontrolled children (10%) were impulsive, restless, had difficulty sticking to the task, and tended to react negatively and intensely.

In young adulthood, data on personality traits, family relations, romantic relationships, educational and employment histories, and criminal behavior were collected from the participants and from independent sources. The results showed continuity in behavioral patterns from early childhood to young adulthood. At age 21, undercontrolled 3-year-olds tended to have more difficulties in their jobs, to experience more conflict at home and in their love lives, and to have more court convictions than inhibited or well-adjusted children. As young adults, inhibited children were more likely to be depressed, unassertive, and less engaged in their world. They also reported lower levels of social support and had fewer friends. In general, well-adjusted 3-year-olds grew up to be well-adjusted 21-year-olds.

This doesn’t necessarily mean that behavioral patterns are fixed in early childhood. Although the

reported differences were statistically significant, they were typically small to moderate in size. This means that temperament, which is believed to have biological roots, explains only a small portion of personality differences. The link between child and adult personality styles could just as easily reflect relatively constant environmental influences. As Caspi and other psychologists have observed, parenting practices, planned intervention, and even chance events can modify behavioral styles. [Source: Caspi, A. (2000). *Journal of Personality and Social Psychology*, 78, 158-172.]

Incubating Alzheimer’s

When most of us think about Alzheimer’s Disease, infants and children are not the first things that come to mind. That’s probably why so much media attention has been given to a recent study showing that AD may have roots in the early childhood environment. The results showed that the larger the family, the greater the incidence of Alzheimer’s, with an 8% increase in risk for each additional child. A second finding was that individuals with AD were less likely to have grown up in the suburbs than non-AD individuals.

But we must be careful not to over-interpret these results. Dr. Victoria Mocerri, the lead investigator, reminds us that the results do *not* mean that large families or poor neighborhoods cause Alzheimer’s. With this kind of study, there are always related factors that may or may not be playing a role. For example, poor nutrition and infectious diseases early in life can retard brain growth in the very areas of the brain that are later affected by AD. Exposure to both of these conditions is probably greater among larger families and more pronounced in less affluent neighborhoods. Finally, although this study shows that negative environmental influences during childhood and adolescence may play a role in the development of AD, Mocerri cautions that the causes of AD are probably multiple and are likely to include both genetic and environmental factors. [Source: Mocerri, V. M., Kukull, W. A., Emanuel, I., van Belle, G., & Larson, E. B. (2000). *Neurology*, 54, 415-425.]

Kangaroo Care

Baby crying? Seem upset? Pick her up. Hug her. Make soothing noises. That should quiet her,

shouldn't it? Maybe not. Drs. Michael Lewis and Douglas Ramsay studied infants receiving a routine inoculation at 2, 4, and 6 months of age. To identify level of distress, they recorded the facial and vocal expressions of the infants and measured the amount of cortisol (a hormone that seems to be released in response to stress) in their saliva. After the inoculation, moms interacted with their babies without instruction. Observers watched the moms and rated the intensity of their soothing behaviors to see if it was related to the level of distress in their babies. Their results showed no evidence that maternal soothing reduced the babies' distress.

Now, Dr. Larry Gray and his colleagues report convincing evidence that mother-infant interactions can calm upset babies. They placed newborn infants against their mothers with skin-to-skin contact in a "kangaroo care" position for 10 - 15 minutes. Next, they drew blood from the babies' heels for a standard newborn screening test. Moms continued to hold their babies and, as in the first study, were allowed to interact with them pretty much as they wished. The researchers filmed the babies' faces, noted their crying, and monitored their heart rates before, during and after the procedure. Results showed a markedly lower distress level for the mother-contact babies compared with a group of babies who remained swaddled in their cribs during and after the test. On the average, kangaroo-care infants stopped crying and/or grimacing within 2 secs. after the heel prick, whereas the other infants continued for 30 secs. or more. Similarly, heart rate increases never exceeded 8-10 beats per minute for the kangaroo-care babies, but rose 36-38 bpm on average for the other group.

These two studies used different stress-provoking procedures, measured distress differently and observed babies of different ages. So we can't rule out the possibility that newborns are more easily comforted than older infants or that distress caused by a heel prick is more easily assuaged than distress caused by an inoculation. Moreover, the Lewis and Ramsay research didn't include a group of non-soothed babies, so we don't know how such a group would have compared. We like Gray et al.'s suggestion, however, that the circumstances preceding the pain may have played a role. While kangaroo-care infants in their study had a period of relaxed close contact prior to becoming upset, those in the Lewis and Ramsay study did not. We're guessing that the extended relaxation may have better prepared the babies. What we do know is that when young babies have close mother contact over a brief period, a painful stimulus is less upsetting than it would be without such contact. Parents might try to arrange this kind of quiet holding prior to unavoidable stressful events. [Sources: (a) Lewis, M. & Ramsay, D. S. (1999). *Child Development*, 70, 11-20; (b) Gray, L., Watt, L., & Blass, E. M. (2000). *Pediatrics*, 105, e14.]

More on Infant Day Care

In our previous issue, we noted that a major study sponsored by the National Institute of Child Health and Human Development found little evidence that early, extensive, and continuous day care was related to problematic behavior by age three. A recent NICHD study reports new findings on day care that are somewhat less optimistic. The researchers examined the relation between the number of hours spent in day care and the emotional quality of the mother-child interaction. Over 1200 mother-child pairs were observed playing together at several points during the child's first three years. Mothers were considered to be very sensitive if they were warm, supportive, and allowed their children freedom to explore. Children were rated high on positive engagement if they were persistent, enthusiastic, and displayed affection for their moms. The researchers found that for the first three years of life, the more hours spent in day care, the less positive the mother-child interaction. They note, however, that although the association is statistically significant, it's quite modest in size. We'll know whether such small effects have a lasting influence when these children are observed again in the elementary school years. There was some good news, though: day care, per se, did not seem to disrupt the infant's development of a secure emotional bond with the mother at 15 months. [Source: NICHD Early Child Care Research Network (1999). *Developmental Psychology*, 35, 1399-1413.]

Common Anxieties in Children

Dutch researchers asked 190 normal children in three age groups (4-6, 7-9, and 10-12) about their fears of actual dangers, worries about possible dangers, and scary dreams. At all ages, animals (e.g., snakes, spiders, wolves) evoked the greatest fear. Personal harm or harm to others was the most common anxiety, inspiring worries and scary dreams at all three age levels. The content of fears and scary dreams, however, showed a predictable change over time. Fears about imaginary creatures at 4-9 years diminished by 10-12 years as social fears (e.g., being teased) emerged. In contrast, dreams about being kidnapped increased with age.

But the most interesting findings involved worries. Children 4-6 worried most about separation from parents and about death; 7-9 year olds worried most about harm to themselves or others, and 10-12 year olds about test performance. Interestingly, during the middle years girls tended to be bigger worrywarts than boys. Finally, girls were more likely than boys to worry about being kidnapped, whereas boys were more likely to worry about being punished.

When the researchers investigated the origins of these anxieties, they found that worries seemed to stem from prior personal experiences (e.g., a relative

dying). However, television was the source of fears for 55% of the children and the source of scary dreams for 69%.

Fears and worries evoke caution and thus serve to protect us. On the other hand, excessive anxieties about unlikely or impossible events cause unnecessary stress and serve no useful purpose. The lesson here seems clear. If we want to reduce our children's anxieties, we need to put some age-appropriate constraints on what they see and hear. [Source: Muris, P., Merckelbach, H., Gadet, B., & Moulaert, V. (2000). *Journal of Clinical Child Psychology*, 29, 43-52.]

Heavy Bodies, Heavy Hearts

The steady increase in childhood obesity in the United States has troubling implications not only for the future health of children but for their emotional well-being. One concern is that obese children maturing in a society in which slimness is an obsession may question their self-worth. A few studies do report that obese children are at increased risk for lowered self-esteem; however, these findings are not universal and may depend on the ethnicity of the child. For example, in a recent review of over 250 studies, Gray-Little and Hafdahl found evidence of *higher* self-esteem for black children than for white.

To clarify this issue, Dr. Richard Strauss recently analyzed data from more than a thousand young adults who were followed over several years as a part of the National Longitudinal Survey of Youth. Children were considered obese if their body mass index was above the 95th percentile for their age and sex. The children's feelings about themselves at 9 or 10 years of age were compared with their feelings about themselves four years later. Both scholastic self-esteem and overall self-esteem were analyzed.

Scholastic and overall self-esteem did not differ for obese and non-obese children at the beginning of the study but there were changes in overall self-esteem over the 4-year span. At 13-14 years of age, obese adolescents had lower overall self-esteem than their slimmer counterparts. The decrease in self-esteem for obese boys was minimal, but for girls it was quite dramatic. Consistent with other studies, obese black girls were an exception; their self-esteem did not decrease over the four years in comparison with their counterparts. However, 37% percent of obese Hispanic girls had low self-esteem at 13-14, while only 9% of non-obese Hispanic girls did. Similarly, 34% of obese white girls had low self-esteem at 13-14, compared with 8% of their non-obese counterparts. Children with reduced self-esteem also reported more negative emotions (feelings of sadness, loneliness, and nervousness) and negative behaviors (smoking and alcohol consumption).

Increasing physical activity, cutting down on

couch potato" activity, and modifying diet are important considerations in weight loss, but remember that helping the child to self-regulate should be the goal. Parents can best achieve this by making joint choices about dietary and activity changes, by providing praise and non-dietary rewards for compliance, and by offering emotional support. Finally, parental modeling not only helps to set the stage but also provides a beneficial camaraderie. [Sources: (a) Gray-Little, B. & Hafdahl, A. R. (2000). *Psychological Bulletin*, 126, 26-54.; (b) Strauss, R. S. (2000). *Pediatrics*, 105, e15:]

Clicking with Cliques

Parents often wonder what role their children's friendships play in development. Do they foster feelings of self-assurance and promote positive values or do they exert a negative influence? Researchers at Yale University recently evaluated different types of social relationships for over 400 6th and 7th graders to see which types were more adaptive. To identify friendship groups, students first named several friends and indicated how close they felt to each. Depending on how many reciprocal close friendships were obtained, students were designated as members of one of four friendship types: cliques (very close exclusive groups), liaisons (more loosely associated networks of friends), pairs, and loners. The students then completed self-descriptive questionnaires probing their feelings about their social and scholastic competence. GPAs were used to measure academic achievement, and problem behaviors were assessed both by self-reports and by teacher evaluations.

Results differed for boys and girls. Girls who were clique or liaison members reported more social acceptance and interpersonal competence than was the case for pairs or loners. Furthermore, girls in cliques had higher GPAs than either loners or liaisons. For boys, however, clique membership was not associated with these adaptive outcomes.

In terms of problem behaviors, self-reports yielded no significant differences between the groups; however, teachers' reports did. Teachers characterized clique and liaison members as less anxious, depressed, and withdrawn than their loner counterparts and this was true for both boys and girls.

Consistent with the adage, "birds of a feather flock together," clique members were more similar to one another than randomly grouped students. But the authors remind us of the bi-directional possibilities here. We don't know whether groups are formed by similar individuals with similar interests or whether it is the group that influences its members to become more homogeneous. We suspect that both processes are at work. Whatever the case, this study showed that at least among girls, clique membership seems to serve a positive function. For boys, the findings are

more equivocal. [Source: Henrich, C.C., Kuperminc, G. P., Sack, A., Blatt, S. J., & Leadbeater, B. J. (2000). *Applied Developmental Science* 4, 15-26.]

Adolescent Sexual Offenders

Do children with sexual behavior problems commit more severe sexual offenses as teens? To explore this question, Dr. David Burton studied over 200 incarcerated teens who admitted to past sexual offenses. All of the adolescents were serving time in a residential facility, but only some of them for sexual offenses. The adolescents completed anonymous surveys that tapped their exposure to various types of abuse and neglect in childhood. They also responded to questions in the form of "Have you ever conned or forced someone to...?" which concluded with a variety of sexual offenses involving various types of exhibitionism, fondling, and penetration. Individuals who admitted to sexual offending were designated as one of three types: early offenders (offended only before age 12), teen offenders (offended only after age 12), or continuous offenders (offended before and after age 12).

All of the groups reported high levels of sexual and emotional abuse in childhood, but the continuous offenders reported the highest level of abuse. Continuous offenders also reported committing more acts of penetration and to having committed all three acts more often than the other two groups.

Based on this research, it would appear that the answer to the original question is "not necessarily." While some of the early offenders continued their behavior patterns into late adolescence, others did not. However, Burton cautions us that, fearing further prosecution, those adolescents who were presently incarcerated for non-sexual crimes may have lied when admitting to early but not continued offenses. Stronger data collection techniques would allow us to rule this out. We agree with Burton, however, that researchers need to focus on why some youngsters continue sexually aggressive behavior into adulthood and others do not. In any case, these troubling findings are consistent with the body of research that ties childhood victimization to adolescent sexual offending. [Source: Burton, D. L. (2000). *Sexual Abuse: A Journal of Research & Treatment*, 12, 37-48.]

Tennis, Everyone?

Parents often ask us about the impact of extracurricular activities on children. Although some educators fear that academic work may suffer when youngsters become involved in team sports or other school-sponsored activities, most studies present a positive picture of short-term benefits. Adolescents who participate in extracurricular activities not only tend to feel better about themselves, but they also have better grades, lower dropout rates, and fewer negative behaviors than their non-participating peers. But do these associated benefits continue beyond adolescence? And does type of activity matter? Two

recent studies shed light on these questions.

In the first study, Professor Joseph Mahoney tracked nearly 700 boys and girls from childhood to young adulthood. His results suggest that extra-curricular participation may be a protective influence against the development of antisocial behavior. Students involved in extracurricular activities in grades 6 to 10 were less likely to be school drop-outs or to be arrested as young adults than uninvolved students. This was especially true for students at highest risk for continued anti-social behavior, but only if their friends were involved along with them.

Is it the act of participation that counts or does type of activity make a difference? Drs. Jacquelynne Eccles and Bonnie Barber followed over 1200 mostly white Detroit youngsters from grade 5 to age 21. They determined the benefits and risks associated with five types of activities: prosocial (e.g., attending church), performance (e.g., school band), academic (e.g., French club), school spirit and leadership, and team sports. Benefits included liking school, higher grades, fewer absences, and higher rates of college attendance. Risky/problematic behaviors included alcohol and drug use and skipping school.

Eccles and Barber found that outcomes varied with the specific type of activity. Teens who participated in prosocial activities were less likely to be involved with alcohol/drug use and skipping school than their non-participating peers. Participation in team sports, however, was associated with increased use of alcohol. In general, participation in all five types of extracurricular activities was associated with academic success during the high school years and greater likelihood of full-time college attendance at age 21.

With the exception of the sports/alcohol link, the overall findings support the value of extracurricular involvement. Not only is involvement associated with a positive outcome for many youngsters but its associated benefits may continue well beyond high school. We believe that teens are most apt to benefit from programs that are organized and structured, provide opportunities for developing complex skills, are led by caring and competent adults, and encourage concern for the larger community. Just one caution: too much outside involvement can be stressful and exhausting, negating the benefits that might otherwise accrue. [Sources: (a) Mahoney, J. L. (in press) *Child Development*; (b) Eccles, J. S. & Barber, B. L. (1999). *Journal of Adolescent Research*, 14, 10-43.]

Infants to Adolescents: Research Update is a bi-monthly newsletter published by Drs. B. Roder and M. Sgan. (Copyright © 2000) Reproduction of any part of this publication is forbidden without express written consent. While the editors are grateful for comments and suggestions related to content, they regret that they cannot respond to individual inquiries. Annual subscription rate is \$20.00. Institutional rate is \$25.00. Please send correspondence and subscription requests to *Infants to Adolescents*, P.O. Box #525, Acton, MA 01720. [http://www.ia-ru.com] E-mail: infad@gis.net