Sensory Processing in the Postinstitutionalized Child

Sharon A. Cermak, Lisa A. Daunhauer

Key Words: sensory integration occupational therapy

Objective. The purpose of this study was to examine whether children adopted from Romanian orphanages have difficulty with sensory processing and related behaviors.

Method. Seventy-three children adopted from Romanian orphanages were compared with 72 peers who were typically developing. The subjects' ages ranged from 3 to 6 years. The parent-report Developmental and Sensory Processing Questionnaire was used to assess sensory processing and related behaviors. The tool consists of questions in six sensory processing domains and five related behavioral domains.

Results. Multiple t tests indicated that the subjects adopted from Romanian orphanages demonstrated significantly greater problems than those in the control group on five of the six sensory processing domains: touch, movement-avoids, movement-seeks, vision, and audition. Additionally, the Romanian subjects exhibited significantly greater problems than the control subjects on four of the five behavioral domains: activity level, feeding, organization, and social--emotional.

Conclusions. These findings substantiate clinical observations and parent reports of sensory processing deficits in children adopted from Romanian orphanages and highlight the critical importance of the environment for sensory integration. The findings also enhance our understanding of how children who were previously institutionalized respond to the human and physical environment.

More than 140,000 children are currently housed in Romanian orphanages (McKelvey, 1994). The institutionalization of these children began as a result of population growth policies established by the Ceausescu regime. During this time, Romanians were coerced into having as many children as possible but were given little economic assistance or health care information from the government (Johnson, Edwards, & Puwak, 1993; Johnson & Groze, 1993). The consequence was a large number of persons abandoning their children because they lacked the resources to support and care for them.

Since 1990, the media has revealed the deprived environmental conditions Romanian orphans endured in these institutions. The children received little care—a minimal diet and barely adequate shelter. Most of their time was spent alone in a crib without the benefit of a caregiver or toys to stimulate their development. In this environment, these children have been observed to be almost completely silent, engaging in self-stimulating behaviors such as rocking, scratching, or staring at their fingers instead of crying or talking to other children (McKelvey, 1994; Sweeney & Bascom, 1995).
The Developmental Effects of Institutionalization

Several studies have addressed the medical conditions of Romanian orphans (Hersh et al., 1991; Johnson et al., 1992; Paquet, Babes, Drucker, Sensmaud, & Dobrescu, 1993); more recently, studies have delineated how these institutions affect the children's development. Kaler and Freeman (1994) compared a group of 25 children from a Romanian orphanage to a group of 11 Romanian kindergarten students living with their families. Using the Bayley Scales of Infant Development, a modified version of the Bayley's Infant Behavior Record, the Vineland Adaptive Behavior Scales, a modified version of the Early Social Communication Scales, and clinical observations, they found that the institutionalized children were generally delayed in all measures of cognitive and social development compared with their family-reared peers. Harandon, Bascom, Dragomir, and Scripcaru (1994) examined sensory processing in 22 institutionalized infants, aged 4 to 9 months, and found them to be significantly different from the standardization sample (American infants) in the areas of sensory processing and adaptive behavior. Sweeney and Bascom (1995) examined motor skills in more than 200 institutionalized children and found them to be severely delayed. A number of studies that examined children adopted from Romanian institutions into Canadian families also reported significant developmental delays and behavioral problems, particularly in children institutionalized for longer periods (Ames & Carter, 1992; Chisholm, Carter, Ames, & Morison, 1995; Marcovitch, Cesaroni, Roberts, & Swanson, 1995; Morison, Ames, & Chisholm, 1995).

Prior studies of institutionalized American and British children conducted from the 1940s through the 1960s demonstrated that maternal and environmental deprivation in orphanages results in delays in the children's physical, emotional, social, and intellectual development. Bowlby (1953) reported that an institutional environment may contribute to sleep disturbances, lack of appetite, delayed language development, poor concentration, and delinquency. He emphasized that the ill effects of institutionalization varied with the amount of time spent there and the age of the children when placed there.

In a review of research, Ainsworth (1965) suggested that the most detrimental aspect of institutionalization was the lack of handling and interaction with a mother figure: "As a result a child grows unresponsive to the toys provided for him to play with and to the opportunities for activity that even the restricted life-space of an institution offers" (p. 231). She found that institutionalization adversely affected intellectual processes, such as language attainment and personality growth, especially the ability to maintain meaningful relationships. Ainsworth concluded that prolonged deprivation in early life could make these effects resistant to intervention.

Comparing the development of 75 institutionalized infants with 75 family-reared infants, Provence and Lipton (1962) found that institutionalized infants exhibited delays in motor development, social skills, language development, and discovery of the body. The authors reported that the institutional environment was sensory deprived and that the infants were bereft of typical sensory experiences. For example, infants were fed in their cribs with a propped bottle, so they missed the opportunity for the touch, smell, position sense, and sight provided by a primary caregiver during feeding time. They also noted that institutionalized infants had a low rate of initiating contact with their own bodies, other persons, or toys and had poor modulation when attempting a movement. The authors suggested that sensory stimulation is important in building a repertoire of experience from which a person can organize and interpret external stimulation to produce a voluntary motor act—deemed an action unit.

Sensory Integration and Institutionalization

Similar to Provence and Lipton's (1962) action unit, which was based on a repertoire of sensory experiences, Ayres (1964) began formulating a theory to explain the importance of sensory stimulation processing and its effects on a child's performance. Ayres (1979) called the organization of sensory stimuli for use sensory integration. The process involves synthesizing environmental information—particularly touch, body position, and body movement—to produce an adaptive response or output. She proposed that adaptive responses occur when persons organize sensation and respond "in a creative or useful way" (Ayres, 1979, p. 14). These adaptive responses serve as building blocks for further sensory integration, which in turn lead to more adaptive responses. Sensory integration is considered to be the foundation for "appropriate occupational behavior, including self-care and self-management, play, and academic skills" (Fisher & Murray, 1991, p. 22). In other words, it is a basis for cognitive, social, physical, and emotional development—some of the same domains prior studies of institutionalized children have found to be delayed.

On the basis of clinical observations and a review of literature, DeGangi (1991) theorized that problems in sensory processing can lead to difficulties in perceptual skills, language development, sensory integration, and emotional expression in a child's preschool years. Additionally, children with sensory processing and regulatory disorders are extremely challenging to parents. For example, a parent may feel inadequate or rejected when an infant cannot tolerate being cuddled or held because of his or her hypersensitivity to touch, movement, or other
types of stimulation (DeGangi, Craft, & Castellan, 1991). Furthermore, infants with sensory integrative disorders may have problems attaining developmentally appropriate skills, or they may function adequately by avoiding stressful situations only to have problems later when tasks like schoolwork become more difficult (Wilbarger, 1984, 1995).

Interestingly, clinicians with expertise in childhood development have observed behaviors indicative of sensory defensiveness, a type of sensory integrative dysfunction, in a number of institutionalized Romanian children (Cermak, 1994; Haradon et al., 1994; Sweeney & Bascom, 1995). Sensory defensiveness was first described as tactile defensiveness because it is largely characterized by a fear response out of proportion to the tactile stimuli experienced (Ayres, 1964). Although the exact etiology of tactile defensiveness is unknown, it is hypothesized to be a result of dysfunction or impaired processing in the central nervous system. It has been reported in animal studies that deprivation of tactile stimulation increases tactile defensiveness (Ayres, 1972, 1979; Montagu, 1986). Royeen (1985) defined tactile defensiveness as “aversive reactions to touch manifested in atypical psychological or motor behavior” (p. 597). Light touch can be particularly irritating or distracting to a child with tactile defensiveness, causing emotional reactions or other behavioral problems (Ayres, 1979; Greenspan, 1995; Kimball, 1993). The child with tactile defensiveness may avoid going barefoot, dislike unexpected touch, refrain from getting dirty or playing with activities such as finger paints, or be bothered when someone stands too close (Royeen & Lane, 1991). An infant with tactile defensiveness may have difficulty sleeping, avoid mouthing objects, or have difficulty with feeding (Kimball, 1993; Royeen & Lane, 1991). This can affect an infant’s capacity for being touched, hugged, kissed, tickled, and other activities typical of nurturing experiences, therefore disrupting the bonding process with his or her caregivers (Greenspan, 1995; Kimball, 1993; Royeen & Lane, 1991). Tactile defensiveness is also often associated with hyperactivity and distractibility (Ayres, 1979).

Currently, tactile defensiveness is viewed as a component of sensory defensiveness because it is often associated with atypical responses to visual, olfactory, auditory, and movement (vestibular) stimuli (Ayres, 1972; Greenspan, 1995; Greenspan & Wieder, 1993; Kinnealey, Oliver, & Wilbarger, 1995; Royeen & Lane, 1991). It has been suggested that sensory defensiveness may relate to impaired processing in the limbic system (Ayres, 1972; Kinnealey et al., 1995; Royeen & Lane, 1991).

Sensory defensiveness is sometimes referred to as a sensory modulation or regulatory disorder. In a sensory modulation disorder, responses to sensory stimulation occur on a continuum, “with overorientation at one end and a failure to orient at the other” (Royeen & Lane, 1991, p. 121). Although it is normal for everyone to experience fluctuations of sensory registration over a period of hours or a day, children with this disorder alternate between either ends of the continuum, with difficulty maintaining middle ground (Cermak, 1988; Royeen & Lane, 1991; Williams & Shellenberger, 1994). Persons with sensory defensiveness function with a high arousal state found on the hyperresponsive end of the sensory registration continuum (Reisman & Gross, 1992; Royeen & Lane, 1991; Williams & Shellenberger, 1994).

Sensory defensiveness can severely impede a child’s normal development by restricting activities of daily living and play, the main occupations of childhood. Some children with sensory defensiveness tend to withdraw from their environment, whereas others may respond aggressively because the information perceived through their senses is processed incorrectly, causing a fear or anxiety response (Cermak, 1994). A child with this disorder may avoid touch and movement, such as playing on swings, and become easily distracted by sounds or noise (Cermak, 1994; Greenspan, 1995; Royeen & Lane, 1991).

Summary

Deprived maternal and environmental conditions in orphanages have been related to a spectrum of physical and intellectual manifestations that can affect a person throughout his or her life span. To date, there has been extensive research on the effects of institutionalization on social relations and on cognitive and language development, but there is a paucity of research on how deprived environments affect a child’s processing of sensory information. Although the incidence of sensory defensiveness and sensory modulation disorders in adopted Romanian children has not been empirically studied, parent reports and clinical observations have identified behaviors characteristic of this problem. Because an increasing number of children have been adopted from institutions in Romania and other eastern European countries (2,875 children were adopted by American families between 1990 and 1993 from Romania alone [U.S. Immigration and Naturalization Service, 1991–1994]), it is critical to identify the extent of sensory processing and related problems in this population. This study was designed to explore the incidence and severity of sensory processing disorders in children adopted from Romanian orphanages. The specific research questions were the following:

1. Do children adopted from Romanian orphanages demonstrate significantly greater problems in sensory processing areas—touch, movement, vision, audition, taste/smell—than do children who are
typically developing?

2. Do children adopted from Romanian orphanages exhibit significantly greater problems in areas considered to be related to sensory processing disorders—activity level, feeding, organization, social–emotional, sleep—than do children who are typically developing?

Method

Subjects

The sample consisted of 73 previously institutionalized Romanian children adopted by American families that were identified through a New England-based support group. For the purpose of this study, a child was labeled institutionalized if he or she spent a minimum of 1 month in an institution, although most of the Romanian children spent substantially more time in an institution. The mean length of institutionalization for the Romanian subjects was 13 months ($SD = \pm 11.4$, range = 1–45 months). The mean length of time these subjects had spent with their adoptive American parents was 42 months ($SD = \pm 7.4$, range = 4–55 months). The children's mean age at the time of the study was 56.3 months ($SD = \pm 12$).

The control group consisted of 72 children living in the New England area who were typically developing. They were recruited through personal contact and several preschools and day-care facilities until enough subjects were selected to approximate the number, age, and gender distribution of the Romanian sample. For the purpose of this study, children selected for the control group were considered typical if they were not receiving special services at school, had no known learning or developmental disabilities, were not receiving medications (i.e., for attention deficit disorder), and had typical developmental profiles with no major developmental delays as reported by the parent on the Developmental aspect of the questionnaire. The control subjects' mean age at the time of the study was 55 months ($SD = \pm 12.4$). Table 1 lists the age, gender, and number distribution of the subjects in each group.

<table>
<thead>
<tr>
<th>Instrument</th>
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The data were collected by means of the parent-report Developmental and Sensory Processing Questionnaire adapted by Cermak and Miller (1993). The Developmental section of the survey addresses (a) the child's current developmental status and school placement; (b) the age the child reached developmental milestones, such as sitting, walking, and toileting; and (c) medications or special services the child receives. The following items were added for the Romanian sample: (a) age at the time of institutionalization, (b) length of time spent in an institution, and (c) age at the time of adoption placement.

The Sensory Processing section of the survey is a checklist to establish the frequency of parent-observed behaviors indicative of the clinical features of sensory processing disorders. Items used in this questionnaire were selected by reviewing the literature and existing assessments (Ayres, 1979; Dunn, 1994; Occupational Therapy Associates, 1993; Royeen & Lane, 1991). Items assessed processing in each of the following sensory domains: touch (21 items), movement (17 items), visual (4 items), auditory (3 items), and taste–smell (3 items). The uneven number of items in the touch and movement domains reflects the emphasis of the literature on the importance of tactile and vestibular–proprioceptive processing. The movement domain is separated into movement-avoid items (8 items) and movement-seek items (9 items). The questionnaire also included items to assess secondary observable responses, which are behaviors that may be affected by sensory defensiveness and sensory processing disorders. These domains included: activity level (4 items), feeding (8 items), organization (7 items), social–emotional (8 items), and sleep (4 items). For each item on the questionnaire, parents indicate whether they have observed a specified behavior often (scored 2), sometimes (scored 1), or rarely (scored 0) (see Table 2).

For each sensory domain, scores on individual items are added to get a total score. Scores are computed in the same manner for each behavioral domain. The questionnaire lists problem behaviors in each domain so that a higher score reflects more problem behaviors.

<table>
<thead>
<tr>
<th>Procedure</th>
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Four hundred questionnaires were mailed to adoptive parents of Romanian children. One hundred fifty-three were returned for a 38% response rate. Of returned surveys, 41 were not analyzed because the children had never been institutionalized. Other surveys not included were the small number for children who did not fall within the 3-year to 6-year age range and those with

| Table 1 Distribution of Subjects by Age and Gender |

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Romanian Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Note. Subjects' birth date and parents' completion date of the survey was used to calculate each subject's age in years and months. When the completion date of the survey was not reported, the survey's postmark was used as the completion date in determining subject's age.
Table 2
Sample of Survey Questions

<table>
<thead>
<tr>
<th>Domain</th>
<th>Does Your Child:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch</td>
<td>Express discomfort when touched by other people, even a friendly pat or hug?</td>
</tr>
<tr>
<td>Movement-avoidance</td>
<td>Become anxious when his or her feet leave the ground?</td>
</tr>
<tr>
<td>Movement-seeking</td>
<td>Throw himself or herself against the floor, wall, or people for enjoyment (likes to “crash”)?</td>
</tr>
<tr>
<td>Visual</td>
<td>Express discomfort at bright lights?</td>
</tr>
<tr>
<td>Auditory</td>
<td>Become distracted or have trouble if there is a lot of noise around?</td>
</tr>
<tr>
<td>Taste–smell</td>
<td>Explore objects by smelling them?</td>
</tr>
<tr>
<td>Activity level</td>
<td>Tend to lack carefulness, be impulsive?</td>
</tr>
<tr>
<td>Feeding</td>
<td>Have difficulty eating food with lumps (i.e., chunky soups)?</td>
</tr>
<tr>
<td>Organization</td>
<td>Need extra assistance to get started with a task or activity?</td>
</tr>
<tr>
<td>Social–emotional</td>
<td>Have trouble getting along with children his or her own age?</td>
</tr>
<tr>
<td>Sleep</td>
<td>Wake frequently during the night?</td>
</tr>
</tbody>
</table>

Incomplete information (n = 39).

For the control sample (n = 72), questionnaires were distributed at several preschool and day-care facilities. Control subjects were recounted until enough were selected to approximate the number, age, and gender distribution of the Romanian sample. The questionnaires did not require identifying information from the families, but if a family wished to receive a summary of the information, they could provide their name and address. Their name and address were separated from the remainder of the questionnaire and used only for the purpose of providing a summary of the results.

Results

Multiple t tests were performed, one for each domain, to determine whether significant differences existed between the Romanian group and the control group. Results indicated that the Romanian subjects scored significantly higher than the control subjects in five of the six sensory processing domains: touch, movement-avoids, movement-seeks, vision, and audition (see Table 3). Between-group differences were not significant in the taste–smell domain. The Romanian subjects also scored significantly higher than the control subjects in four of the five behavioral domains: activity level, feeding, organization, and social–emotional. No significant differences were found in the sleep domain.

Discussion

Our results substantiate clinical observations and parent reports of sensory processing disorders in children adopted from Romanian orphanages and are consistent with findings of detrimental effects of institutionalization on children’s growth and development (Ainsworth, 1965; Ames & Carter, 1992; Bowlby, 1953; Chisholm et al., 1995; Haradon et al., 1994; Kaler & Freeman, 1994; Marcovitch et al., 1995; Morison et al., 1995; Provence & Lipton, 1962; Sweeney & Bascom, 1995). According to Casler (1961), in addition to maternal deprivation, institutionalization is characterized by reduced handling, reduced opportunities for interaction, and overall decreased stimulation. Casler (1961, 1968) also stated that these damages to infants’ development were the result of insufficient perceptual stimulation. Infants in institutions do not have a consistent mother (or mother figure) to provide touch and movement experiences, which are essential for emotional and physical growth and development. Our study highlights the critical impact of the environment on a child’s ability to process sensory information. The results are relevant in broadening therapists’, educators’, and parents’ understanding of how previously institutionalized children respond to their environment as well as assist in their facilitation of developmental outcome. One parent of a Romanian subject commented:

When we adopted C., he was 2 years old. He understood no language, was resistant to touch, had never eaten solid food, could not chew, looked at peers as competitors for survival, was frightened, often terrified, had spent little time outside, had never been in a car, had never been in bath water, etc. So little was known about what had happened in the orphanage and what effects it had on the children. I feel that if we had known exactly what we were getting [the problems], we would have been better prepared to help him. It was a heartrending shock to see that my newly adopted son would not put a cracker in his mouth and gagged on any food he could not drink. I wish I had been prepared, and then his and our first year wouldn’t have been as traumatic.

Without the ability to properly organize sensory stimulation, children lack the foundation to make adaptive responses to the environmental demands of daily tasks (Ayres, 1979; Greenspan & Wieder, 1993). Children with sensory processing deficits are at an increased risk for delays in performance of occupational tasks in areas such as self-care, play, school, and social interaction (Fisher & Murray, 1991; Wilbarger, 1984). Sensory processing disorders, particularly sensory defensiveness, can inhibit exploration of the environment and play because sensations are perceived as painful or threatening (Cermak, 1988; Kinnealey et al., 1995; Royeen & Lane, 1991). Children with sensory processing deficits may have related behavioral problems in areas such as attention and concentration, feeding, and activity level (Greenspan & Wieder, 1993; Kimball, 1993).

Two domains of the questionnaire did not yield significant differences between groups: the sensory domain of taste–smell and the behavioral domain of sleep. It is possible that the sensations of taste and smell were not
Table 3
Scores on Each Sensory Processing and Behavioral Domain for the Romanian and Control Groups

<table>
<thead>
<tr>
<th>Domain (Range of Scores)</th>
<th>Romanian Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Sensory domains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touch (0-63)</td>
<td>9.10</td>
<td>6.69</td>
</tr>
<tr>
<td>Movement-avoid (0-24)</td>
<td>1.56</td>
<td>2.26</td>
</tr>
<tr>
<td>Movement-seeks (0-27)</td>
<td>8.19</td>
<td>3.42</td>
</tr>
<tr>
<td>Vision (0-12)</td>
<td>2.33</td>
<td>2.14</td>
</tr>
<tr>
<td>Audiation (0-9)</td>
<td>2.55</td>
<td>1.92</td>
</tr>
<tr>
<td>Taste-smell (0-9)</td>
<td>1.41</td>
<td>1.58</td>
</tr>
<tr>
<td>Behavioral domains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity (0-12)</td>
<td>3.64</td>
<td>2.62</td>
</tr>
<tr>
<td>Feeding (0-24)</td>
<td>2.81</td>
<td>3.14</td>
</tr>
<tr>
<td>Organization (0-21)</td>
<td>5.18</td>
<td>4.52</td>
</tr>
<tr>
<td>Social-emotional (0-24)</td>
<td>4.81</td>
<td>4.01</td>
</tr>
<tr>
<td>Sleep (0-12)</td>
<td>1.56</td>
<td>2.08</td>
</tr>
</tbody>
</table>

Note: The F ratio (the ratio of variance between each subject group’s score on a domain) was calculated to determine whether to use a t test for equal or unequal variance. A t test for unequal variance was used for all domains except movement-seeks and sleep, which were compared with a t test for equal variance.

*p ≤ .05, **p ≤ .01.

problematic for this population, or perhaps the questions concerning this domain require fine tuning to ensure that they reliably identify problems in sensory processing. Additionally, the number of questions concerning the taste-smell domain were few, or a combination of the two sensations may have been problematic. A separation of taste and smell questions into two domains and inclusion of more questions may strengthen the instrument’s reliability. The lack of significant differences produced by the sleep domain suggests that this behavior bears closer scrutiny. Many of the adoptive parents reported that their children have difficulty falling asleep or have irregular sleep patterns. To ascertain whether this domain’s questions are good indicators of sensory processing deficits, further study is recommended.

Currently, dissatisfaction with the foster care system in the United States has led to interest in reestablishing orphanages (Waldman, Shackelford, Wingert, & Bogert, 1994). Because our study pointed out deleterious effects that institutions have on development, it would be important to weigh orphanages against other options. Extending this research to countries that also institutionalize children, such as China, Russia, the Ukraine, and others, would provide information on whether certain orphanage practices may result in more favorable developmental outcomes. Studies on how prenatal care, nutrition, and substance abuse may interact with institutionalization would be pertinent. Additionally, a comparison of sensory processing between institutionalized Romanian children and their noninstitutionalized Romanian peers would be particularly useful to separate the effects of cultural practices from those of institutionalization. Examination of the values and child-rearing practices of different countries may provide information about these effects on children’s development and sensory processing. Finally, by examining the sensory processing of a group of adopted American children and comparing the findings with those of our study, factors related to adoption may be clarified.

Limitations

This study has several limitations. The Developmental and Sensory Processing Questionnaire is still in the early stages of research and requires reliability and validity studies. The instrument is based on parents’ ability to rate their child’s actions as occurring often, sometimes, or rarely, without operationalizing these terms. Another problem exists in this tool’s method of rating subjects. For example, children with the same score in the touch domain may have substantially different manifestations of sensory defensiveness. Thus, item analysis must be incorporated into future research with a larger sample. Furthermore, surveys can yield biased results because persons with strong opinions or interests in a particular topic are more likely to respond.

Although our findings can help to identify general trends in this population, the volunteer subject pool was small and does not represent all children adopted from Romanian orphanages or their peers who are typically developing. Moreover, as a group, the Romanian subjects demonstrated more problems than the control subjects, but not all Romanian subjects showed sensory processing disorders. The Romanian subjects spent varying amounts of time in orphanages, and their experiences differed depending on their age when institutionalized and the particular orphanage’s conditions. According to Bowlby (1953), the effects of institutionalization on children will vary with the amount of time spent in an institution and the child’s age at the time of institutionalization. In addition, because the Romanian subjects were adopted and are now in more stimulating environments, the length of...
time spent with their new families must also be examined. The present study represents a first attempt to examine the factors mediating and moderating the effects of institutionalization.

Implications for Occupational Therapy Practice

Children with problems in sensory processing present challenging variations in their interactive and family patterns (Greenspan & Wieder, 1993). These factors may affect how the child perceives and organizes experiences and may compromise the adopted child’s ability to negotiate with and adjust to a new family and environment. Moreover, because research has indicated that consequences of sensory processing disorders may be long lasting (Greenspan & Wieder, 1993; Kinnealey et al., 1995), adoptive parents and professionals working with postinstitutionalized children must be aware of the signs of sensory processing problems so that appropriate intervention may be sought. Parents with concerns about their child’s response to touch, movement, activity level, and attention should seek consultation with a pediatric occupational therapist or other professional trained in sensory integration. Early intervention is critical to help the family to understand the child’s behavior and to provide effective strategies for the child and family members to facilitate the child’s developmental outcome (DeGangi, 1991; Greenspan & Wieder, 1993; Kinnealey et al., 1995; Wilbarger, 1984, 1995).

Acknowledgments

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References


