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Addressing the Needs of Post-Institutionalized Children in the Classroom

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Addressing the Needs of Post-Institutionalized Children in the Classroom

by

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Chapter 1: Introduction

A small school of 400 students in central Minnesota has a significant population of English Language Learners. These students have been adopted internationally from several countries, but most students were adopted from an orphanage in Haiti. Families and teachers have learned how to meet the specific learning disabilities developing from malnutrition and other early childhood deprivation, but they are challenged by the emotional and behavioral developments these children begin to exhibit in later elementary school. The churches and communities are also facing these challenges.

In the last 20 years families adopted more than a quarter million children from other countries than the United States. In 2016, the United States State Department issued 5,732 immigration visas to children to enter the United States through intercountry adoption, also called international adoption. Texas, California, New York, Florida, and Illinois were the top five adopting states in the country. In 2016 the highest numbers of adopted children originated in the countries of China, Congo, Ukraine, South Korea, and Bulgaria (U.S. Department of State, Bureau of Consular Affairs, 2017). All of these children, with the exception of those coming from South Korea, Guatemala, and some parts of Romania, have been part of an orphanage system prior to their adoption. South Korea, Guatemala, and parts of Romania have a foster care system in place prior to adoption placement (Meese, 2005).

International adoption has increased dramatically since 1995. The institution of the Hague Convention on the Protection of Children and Cooperation in Respect of Inter-Country Adoption (Hague Adoption Convention) has led to a dramatic increase in international adoption since 1995. The United States signed the Convention in 1994. The Hague Adoption Convention

established an international standard of best practices for international adoptions. After developing and implementing an adoption practice plan to safeguard children and prospective parents, the United States became a full member of the Convention in 2008 (Hague Conference, 2013). Adoption laws changed in the United States and other countries, and international policies were instituted through the Hague Convention. Both these conditions increased the number of international adoptions.

Adopted children from Romania became a topic of research and study in the last decade. After Romania's dictator Nicolae Ceausescu was assassinated in 1989, thousands of Americans and western Europeans adopted Romanian children who had been placed in orphanages in dire circumstances. These Romanian children were a natural population for researchers to study the link between early childhood deprivation and development. Data and longitudinal studies showed these children had, and continue to have, specific needs for which caregivers were not prepared (LeMare & Audet, 2014).

As parents are unprepared for the challenges their post-institutionalized children bring into their families, schools are often unprepared when these challenges enter the classroom. Educators are often unaware of how adverse childhood experiences can lead to behaviors in the classroom. These children are often referred to special education for evaluation and found to meet criteria for a disability category. Special education teachers are providing services to more internationally adopted children. Given the increase in this population, educators must be thoughtful of the pre-adoptive history of the child and how it affects student performance and achievement.

The purpose of this starred paper was to review the literature identifying the specific needs of internationally adopted children. This paper also reviews studies measuring the variables of pre-adoption history, preparation of the family, and the need for special education services. My original research question was regarding way special education teams address the specific needs of internationally adopted children in the classroom; however, as I began to review the literature the guiding question changed. The original research question will be briefly discussed in Chapter 3 regarding implications for current practice.

Research Question

One question guides this literature review:

What characteristics can one expect of students who are internationally adopted and referred for special education?

Focus of Paper

The studies I reviewed for Chapter 2 were published from 2005-2017. For the review, studies are included which specifically study post-institutionalized children from Kindergarten through Grade 12. Articles regarding special education implications and education interventions are from the United States.

The Academic Search Premier database was used as a starting point for my literature review of peer-reviewed studies related to internationally adopted students and education. I used several keywords and combinations of keywords to locate appropriate studies: *post-institutionalized children, inter-country adoption, internationally adopted children, trauma, special education, emotional and behavior disabilities, and education.*

Importance of the Topic

As a special education teacher at a day treatment facility, I had the opportunity to teach children who were adopted internationally, were adopted after being in the foster care system, or were still in foster care. These students experienced trauma directly impacting their learning and classroom performance. Emotional and behavioral regulation skills were often less developed than their non-adopted peers. Academic achievement was also lower than their non-adopted peers.

Adverse Childhood Experiences (ACEs) is a current research topic with implications for how educators address emotional and behavior concerns in their schools. ACEs links childhood trauma to maladaptive behaviors and mental health disorders. The process of adoption implies the child has a history to be considered. In the case of internationally adopted children, malnutrition and poor relationships with caregivers is a possibility. Perhaps biological families were lost or displaced through war or disease. In either case the child has a traumatic history which needs to be acknowledged by the families and educators.

As special educators meet the needs of elementary students, they need to be aware of the increased risk of Attention Deficit Hyperactivity Disorder (ADHD) and other mental health symptoms for adopted students and consider it when planning for educational programming. Interventions need to be in place to help students succeed in the classroom.

Even as educators are acknowledging the effect adverse childhood experiences have on student mental health, members of the larger community are unaware of the link between the adoption and emotional and behavioral disorders. The student who has behaviors in the classroom might also have behaviors in the community. Community members need to be made

aware of what to expect from our students so they are prepared for possible complications in their relationships with students. Often special education teachers are contacted by supervisors of a work study or church education teachers regarding the behaviors of students because they are unaware and unprepared for the challenges students bring to community functions.

This review of the literature will enable educators to be mindful of barriers to inclusion in the general education classroom, to be engaged in using interventions to accommodate students, and to be proactive in creating a culture in the classroom which meets students' needs. When educators meet students' needs, they are in good position to meaningfully support families of adopted children who are experiencing difficulties in their academic programming.

Chapter 2: Review of the Literature

In 2005 Van Ijzendoorn and Juffer published a meta-analysis of 62 studies regarding 17,767 adopted children in which they compared the cognitive development of adopted and non-adopted children. The first question was whether cognitive development is higher in those who were adopted than those who remained behind either in the institution or in the birth family, but lower than those non-adopted peers in the new environment.

The meta-analysis includes information from the historical work of Dennis (1973), in which he studied 136 former children of the Creche orphanage in Lebanon. Of those 136 children, 86 children were adopted by families around their third birthday. All 136 children completed a cognitive assessment when they were 11 years old. Dennis found the 86 children performed much higher in IQ tests than the 50 children who remained in the Creche orphanage. Adopted children had an average IQ of 85 compared to the non-adopted children whose IQ average score was 65 (Van Ijzendoorn & Juffer, 2005).

The study by Colombo, de la Parra, and Lopez in 1992 supported the findings by Dennis. The Colombo et al. study involved 35 children who had a history of malnutrition in their early years. Colombo et al. studied those who were adopted and receiving appropriate nutritional care, those who remained in the institution, and those who returned to their families or origin. Colombo et al. concluded adopted children performed higher on IQ tests and performed better in school than their non-adopted peers who remained in the institution or were returned to their birth families. This study was hopeful the effects of early malnutrition of children could be mitigated through adoption (Van Ijzendoorn & Juffer, 2005).

Data regarding cognitive development between the three comparison groups was compared using IQ scores. In six studies using 253 participants, IQ scores were compared between children who were adopted and those who remained in their institution or with their birth family. IQ scores of children remaining in institutional care or with their birth families were -1.17 standard deviations below those who were adopted. School achievement was compared in these two groups with three studies of 523 participants. When school achievement was compared between these two groups, children who remained behind performed -0.55 standard deviations below children who were adopted. Both the IQ measure and the school achievement measure studies are small in regards to number of studies and sample size; however, the data demonstrates a significant effect of adoption for children. These results suggest adoption benefits children by providing positive, educationally beneficial environments (Van Ijzendoorn & Juffer, 2005).

In comparing adopted children to non-adopted peers or siblings in their new environment, the effect was less significant. IQ scores between these two groups were compared. In 42 studies of 6,411 participants, the difference was 0.13 standard deviations between the two groups. When comparing school achievement between adopted and non-adopted peers, the difference was 0.19 standard deviations in 52 studies with 78,663 participants, showing adopted children were slightly behind their non-adoptive peers. Language abilities were compared, showing a language delay difference of 0.09 standard deviations between the two groups in 14 studies with 15,418 participants (Van Ijzendoorn & Juffer, 2005).

In comparing data from adopted children and their non-adopted peers for learning disabilities, eight studies with 13,291 participants showed 0.55 standard deviations between the

two groups, indicating adopted children struggle with learning disabilities more than their non-adopted peers. Regardless of the country studied, adopted children were referred for special education services at a rate two times that of their non-adopted peers. In smaller studies, the adopted group was receiving special education services or being referred for special education services at a rate of 12.8%, compared to 5.5% of their non-adoptive peers (Van Ijzendoorn & Juffer, 2005).

The authors of this study concluded adoption produces positive outcomes for the cognitive development of students, and school achievement is nearly normal for adopted students compared to non-adopted peers. They cautioned two factors do need to be considered when considering cognitive development and school achievement: the age at which a child is adopted and the amount of pre-adoption time which occurs. Age is particularly important for school achievement. Adoptive environments earlier in life provide more positive impacts for student learning and stable attachments to caregivers. Briefer pre-adoption periods decrease risks of exposure to risk factors which impact school performance (Van Ijzendoorn & Juffer, 2005).

Beverly, McGuinness, and Blanton (2008) conducted a quantitative survey of parents of adopted children which compared children who were adopted before the age of 3 years or after the age of 3 years. This longitudinal study included 55 children who were adopted from the Soviet Union at 4 years of age. The primary focus of this study was the speech-language development and behavior concerns of children who were adopted after the age of 12 months and early orphanage care. The first survey occurred in 1997 after the children were in their adoptive for 2 years. The sample size was 105 children who were 6 to 9 years old. The second

survey occurred in 2001 when the children were 8 to 11 years old. Several parents did not participate in the second survey, decreasing the sample size to 55 children.

In the survey parents were asked whether their child had a specific diagnosis, received special education services, and the frequency and duration of services. Parents also completed two behavior surveys: the Child Behavior Checklist and the Family Environment Scale. The results of this study were 45 children, or 82%, received special education services. Ten students received special education services under only one disability category. Ten students did not receive special education services. The most frequent special education label reported by parents was communication disorder for 34 children, or 62%. Only three children received special education services under communication disorder as their only disability label. The other 31 students also included labels of learning disabilities, 25 children or 45%; attention deficit hyperactivity disorder (ADHD), 23 children or 42%; and emotional behavior disorders, 12 children or 22% (Beverly et al., 2008).

Parents also reported student achievement according to grade level. Three students were performing above grade level expectations; 34 students were performing at grade level; and 18 students were performing below grade expectations. It is important to note many students were older than their same-grade peers; so a comparison of same-aged peers would yield very different results (Beverly et al., 2008). Referrals to special education occurred immediately after adoption for 7% of the students, after pre-school or kindergarten for 49%, and some other time for 26% of the students (Beverly, 2008).

When gender was considered, boys exhibited communication disorders 1.44 times more than girls (p-value = .04) and ADHD 1.69 times more than girls (p-value = .05). The p-value of

.13 indicates no significant difference for learning disabilities between genders (Beverly et al., 2008). Because gender was significant with the diagnoses of communication disorders and ADHD, the genders remained separated when comparing the two groups of age at the time of adoption. The frequency of ADHD in girls who were adopted prior to 3 years of age was 10%, compared to 43% for those adopted after the age of 3. Age at the time of adoption is significant (p -value = .03). Other comparisons between the two age groups were not significant for learning disabilities or communication disorders (Beverly et al., 2008).

When child birth weight was considered in this study, 28 children had normal birth weight (2,500 grams to 4,000 grams), 17 children had low birth weight (<2,500 grams), and 5 children had very low birth weight (<1,500 gram). Differences in birth weight for boys and girls was not significant (p -value = 0.438); and the differences between the two comparison groups of age at adoption were not significant with p -value of .775. The presentation of communication disorders, learning disabilities, and ADHD were higher in low birth weight children; only the occurrence of learning disabilities in low birth weight children was significant at 65%. All five children born at very low birth weight had learning disabilities and communication disorders. Only two of the very low birth weight children presented with ADHD (Beverly et al., 2008).

The Beverly et al. (2008) study supported the findings in the Van Ijzendoorn and Juffer (2005) meta-analysis regarding the higher referral rates to special education for adopted children than non-adopted children. The two studies present very different rates of the occurrence of special education referrals or service delivery. The Van Ijzendoorn and Juffer study reported 13% of adopted students receiving special education services compared to 6% non-adopted peers receiving special education services. The Beverly et al. study reported a referral rate of 82% and

a rate of 42% of adopted children with communication disorders, also six times higher than the estimates of the American Speech Language Hearing Association. The differences in rates might be an outcome from the small sample size in the Beverly study and the reliability of parent reporting. Other factors in the Van Ijzendoorn and Juffer and Beverly et al. studies might be geography. Van Ijzendoorn and Juffer's meta-analysis was conducted at the University of Leiden, the Netherlands, presenting a global perspective of the outcomes of adoption. The Beverly et al. study was conducted in the United States with parents from 27 states, presenting an American perspective to the outcomes of adoption.

In order to clarify the occurrence of ADHD in adopted students, Wiik et al. (2010) conducted a study to compare internalizing and externalizing, or conduct, behaviors in middle childhood. The study included children 8 to 11 years old from three groups: 68 children who had previously been institutionalized in orphanages prior to adoption, 74 internationally adopted children from foster care, and 76 non-adopted children (Wiik et al., 2010). Adopted children were recruited from Minnesota and Wisconsin through the states' International Adoption Project Registries. Non-adopted children were recruited through a registry of families interested in participating in research activities. In order to provide better results regarding ADHD, participants who presented facial dysmorphia associated with Fetal Alcohol Syndrome Disorder, neurological anomalies, and other congenital anomalies were eliminated. All children had an estimated IQ at 70 or above. The resulting sample size was 218 children from 197 families (Wiik et al., 2010).

The study included three comparison groups: post-institutionalized children adopted at 1 year of age or older who were in institutional care for 9 months or more, children adopted prior

to 8 months of age from foster care or less than two months of institutional care, and non-adopted children. Children and parents completed the MacArthur Health and Behavior Questionnaire. The questions were designed to reflect DSM symptoms. Data were compiled from the three groups. The means and the number of students who presented symptoms above clinical levels were compared (Wiik et al., 2010).

Results from the study show parent and child reports were correlated for all domains. Two covariate effects were significant. Higher parental education was associated with lower child-reported symptoms of ADHD with a p-value $< .05$. Child age was associated with higher incidence of parent-reported internalizing symptoms with a p-value $< .05$. Boys presented more ADHD symptoms than girls. This finding was significant for both the parent and child reports. Parent reports had a p-value $< .001$; child reports had a p-value of $< .05$. Boys presented more externalizing symptoms than girls. This finding was also significant. Parent reports had a p-value of $< .001$; child reports had a p-value of $< .05$ (Wiik et al., 2010).

When the three comparison groups were studied, parents of the post-institutionalized group reported higher levels of ADHD symptoms than the other two groups. When child reports were compared, both the post-institutionalized and early adopted group did not differ. Both groups had higher ADHD symptom levels than the non-adopted group. When only those percentages meeting the clinical cutoff were compared in the three groups, only the post-institutionalized group had high numbers with a p-value of $< .05$. This seems to support ADHD is a concern for post-institutionalized children more than early adopted or non-adopted children. The child reports support this with a significant p-value $< .01$; however, the parent reports of ADHD symptoms are not significant for post-institutionalized children (Wiik et al., 2010).

When comparing the reports of externalizing symptoms from the three comparison groups, both post-institutionalized children and early adopted children reported higher levels of symptoms than non-adopted children. Parent reports of the three groups showed marginal differences; however, when internationally adopted children were compared to non-adopted children, the differences were significant with $p < .05$ (Wiik et al., 2010).

In regard to internalizing symptoms, parent reports resulted in higher levels in both post-institutionalized and early adopted children than presented in non-adopted children. This was significant with a p -value $< .01$. When parent reports of both adopted groups were combined, parents reported more adopted children above the clinical cutoff than the non-adopted children with a p -value $< .05$. Child reports resulted in higher levels of internalizing symptoms in the post-institutionalized children only. More children from the post-institutionalized group than either the early adoption group or non-adopted group presented internalizing symptoms which met the clinical cutoff. A p -value $< .05$ indicates a significance in the child reports of internalizing symptoms and the length of time in the institution prior to adoption (Wiik et al., 2010).

The findings of the Wiik et al. (2010) study indicated the post-institutionalized children displayed higher levels of ADHD, externalizing symptoms, and internalizing symptoms than non-adopted children; however, there was no support post-institutionalized children presented more behaviors than early adopted children with the exception of ADHD symptoms. Externalizing symptoms were not linked to institutional care. Both groups of post-institutionalized and early adopted children showed increased risk of externalizing symptoms as they reach 8 to 11 years of age. Only the post-institutionalized children reported the higher

levels of internalizing symptoms based upon the length of their institutional stay. Early adopted children and non-adopted children have a similar outcome for ADHD symptoms (Wiik et al., 2010).

The Wiik et al. (2010) study supports the Beverly et al. (2008) study regarding adopted children presenting ADHD symptoms. This clarifies the increase of ADHD is not related to the child's country of origin but to the child's early experiences regarding institutional care. The Wiik et al. study also supported the findings in the Van Ijzendoorn and Juffer (2005) meta-analysis. Van Ijzendoorn and Juffer concluded internationally adopted children presented lower levels of externalizing symptoms than children who were adopted domestically, but higher levels than non-adopted children. In regard to internalizing symptoms, parent reports showed an increase in both the post-institutionalized group and the early adopted group. Child reports showed more internalizing symptoms in post-institutionalized group only, and more children reported levels above the clinical cutoff (Wiik et al., 2010).

Children who exhibit internalizing and externalizing symptoms struggle with executive function abilities. Executive function is a broad category which includes the ability to regulate emotions, tolerate stress, social adjustment, and academic adjustment. In school settings executive function is exhibited in the way a student inhibits behaviors, uses working memory, maintains selective attention, develops organization, and uses planning skills.

The link between early childhood adversity and decreased executive function was established in a study published by Groza, Ryan, and Thomas (2008). The study focused on the age of the child when moved from institutional to the adopted family, whether parents and

teacher judge executive function abilities similarly or differently, and whether institutionalization could predict the child's executive function and social relationships.

This study used data from 123 children adopted from Romania. Two-thirds of the children were institutionalized prior to adoption from one month to more than 3 years; one-third had not been institutionalized. These two groups were compared using information from 123 parents and 71 teachers who completed the Behavior Ratings Inventory of Executive Function (BRIEF) (Groza et al., 2008). The BRIEF is an instrument developed by Gioia, Isquith, Guy, and Kenworthy in 2000 which measures all the domains related to executive function divided into two indices. The first index is behavioral regulation, which is the means of subscales of inhibition, shift, and emotional control. The second index is metacognition, which is the means of subscales of initiate, working memory, planning, organization of materials, and monitor (Gioia, Isquith, Guy, & Kenworthy, 2008).

Paired sample t-test of the parent and teacher responses indicated significant differences for all of the subtests except inhibit and monitor. Parents reported more executive function challenges than teachers. In addition to comparing the means of the BRIEF scores, the scores were mapped based on the age of the child when institutionalized and adopted to determine trends. BRIEF scores were elevated for children who were not in a family regardless of age, and elevated BRIEF scores of institutionalized children suggest a positive relationship to the length of stay in institutional settings. In other words, both parent and teacher protocols suggest behavioral regulation of children adopted after less than one month of institutionalization was better than for those adopted after three years of institutionalization (Groza et al., 2008).

The findings of this study also found children exhibited more behavioral regulation difficulties if they were institutionalized during key periods of child development. Children who were placed in institutional settings at the age of 1-6 months and until 36 months of age demonstrated the greatest challenges in behavioral regulation. A surprising finding was behavioral regulation scores improved for children placed in institutional settings at the age of 12-24 months (Groza et al., 2008).

Other factors considered in this study were gender, test age, and parent-child relationship. Gender and test age were not statistically significant in this test (Groza et al., 2008). In order to compare parent-child relationship, the authors of the study only used teacher protocols in order to remove parent bias. BRIEF behavioral regulation subtests scores had a negative correlation to the parent-child relationship. This was statistically significant (Groza et al., 2008).

When comparing metacognition subtests of children based on the time and length of placement in institutional care, the data showed the length of time in institutional care had a negative correlation to a child's metacognition skills. Gender and test age were not statistically significant. BRIEF scores for metacognition had a negative correlation to parent-child relationship (Groza et al., 2008).

This study provides insight into how pre-adoptive history has an effect on executive functioning. On average the children in this study were adopted just prior to their second birthday. The study made some assumptions regarding why behavioral regulation improved when children were institutionalized between 12-24 months of age. Development is delayed 3 months for each month a child is institutionalized. When a child is 13 months old, a child typically is more mobile and able to seek out what it needs instead of depending on the adults. If

adults are not available to a child, a child looks to other children to provide needs. The authors believe either these children were resilient or they were an anomaly (Groza et al., 2008).

Although significant differences existed for children placed at an older age with longer periods of institutionalization and executive functioning, parent-child relationship is linked to parental perception of child's executive functioning. When adolescents are adopted, the mother-child relationship as reported by the child was a chief indicator of risk in maladaptive behaviors (Groza et al., 2008).

In this study 36% of the children were receiving some special education services. Because of the statistical differences between the protocols provided by the teachers and the parents in this study, parents can anticipate teachers will not view their child's functioning in the same way leading to conflicts between the parents and the school (Groza et al., 2008). This difference in perception should be acknowledged during assessments, evaluations, and individual education planning meetings.

The Groza et al. (2008) study has limitations due to its limited sample size, single country of origin for adopted children, and lack of a comparison group. Given the small sample size, cultural influences, clinical interventions, parenting skills, and demographics were not considered in this study. The Groza et al. study also focused on children 6-14 years of age who were assessed for their executive function 3-4 years after adoption.

Another study by Hostinar, Stellern, Schaefer, Carlson, and Gunner (2012) related closely to the Groza (2008) study. Using a comparison group, the Hostinar et al. study focused on whether post-institutionalized children already exhibited struggles with executive function soon after adoption, whether those executive function differences between the two sample

groups were related to IQ measures, and whether the pre-adoption history of children was related to executive function (Hostinar et al., 2012).

The Hostinar et al. (2012) study included a sample group of 60 internationally adopted post-institutional children and a comparison group of 30 non-adopted children. Members of the sample group were adopted between 16 and 36 months and had spent time in institutional care prior to adoption in the United States. Excluded from the sample group were six adopted children. Four children had Fetal Alcohol Syndrome, and two children had severe developmental delays. Excluded from the comparison group was one child with epilepsy. Children were adopted from 13 different countries. Because the country of origin for children was not considered to be a factor in executive function abilities, this was not considered in the analysis. Groups had similar socioeconomic characteristics (Hostinar et al., 2012).

Children were videotaped for a 2 hour laboratory visit in which they were tested for executive function skills. The executive function skills were tested with Dimensional Change Card Sort (DCCS), an assessment developed for preschool children which measures cognitive flexibility. DCCS is a task-based assessment with tasks of categorization, reverse categorization, separated card sorting, and integrated card sorting in four levels of difficulty. The performance score was based on the highest level achieved by the child. Working memory was measured with a task called Spin the Pots, in which a sticker was placed in one of several square boxes on a rotating tray, the tray was covered by a scarf and then spun in a half-circle. The number of boxes and spins were calibrated to the age of the child. Delay of gratification and inhibitory control was measured by placing a favorite food reward in front of the child: two treats in one bowl and 10 treats in another identical bowl. The child could receive the larger reward if she

waited until the 10 minutes were up, or he could ring the bell and receive the smaller reward. A combination of the time it took for a child to touch the treats, wait for the evaluator, or ring the bell were combined to make a performance score. The scores from DCCS, Spin the Pots, and the delaying gratification task were combined for a composite measure of executive function (Hostinar et al., 2012).

Intelligence assessments were administered for all participants. All non-adopted children were measured with the Abbreviated IQ Battery of the Stanford-Binet Intelligence Scales. The Stanford-Binet is valid for individuals at 2 years of age. Mullen Scales of Early Learning were used to measure intellectual ability for post-institutionalized children because it is valid for individuals from birth to 5.5 years of age. The Mullen was chosen for adopted children in order to eliminate the possibility of Stanford-Binet being invalid as a measurement due to possible impairment (Hostinar et al., 2012).

Parents were interviewed by telephone 4 months after adoption. Interview questions included timeline of adoption, child's pre-adoption history, and the quality of the care received by the child. The responses were ranked and rated to make a composite score for a child's pre-adoption history (Hostinar et al., 2012).

Using a 2 x 2 ANOVA study, results of this study showed executive function measures were significantly lower for post-institutionalized children than non-adopted children. Gender was not a significant factor to these measures. IQ measures were lower in post-institutionalized children ($M=92.7$) compared to non-adopted children ($M=112.4$). Even when the IQ measures were controlled, executive function measures remained significantly lower than those of non-adopted children (Hostinar et al., 2012).

When measures for pre-adoption history were considered, and IQ measures were controlled; executive function had positive correlations with time spent with birth family prior to institutionalization and the physical and social quality of the institution in which the child was placed. Measures of executive function did not correlate with the total duration of institutionalization. IQ measures had a negative correlation with the duration of institutional care, but no correlation with the age of placement or with the physical and social quality of institutional care (Hostinar et al., 2012).

The strength of the Hostinar et al. (2012) study is its assessment of the young children soon after adoption, addressing the gap in the literature from previous studies. This study is important for longitudinal studies of adopted children, showing the differences of executive function already in preschool years. Post-institutionalized children had reduced executive function when compared to non-adopted children in each of the three subtests of cognitive flexibility, inhibition control, and working memory. Positive associations between executive function scores and institutional care were affirmed in this study. In addition, early birth family care positively correlated to executive function in children (Hostinar et al., 2012).

The limits to this study were related to the lack of information about birth families. Because this information is missing, one could argue executive function limits of children were a factor of genetic disposition than of early childhood adversity. Another limitation of the study is whether adopted children had command of the English language, affecting the validity of the test (Hostinar et al., 2012).

A question raised from the Hostinar et al. (2012) study is whether executive function deficits are temporary or permanent in adopted children. Longitudinal tracking is necessary to

answer this question. Academic and social success for children is related to executive function performance. Delay of gratification predicts cognitive control. Interventions must take note of the link between early childhood adversity and executive function. Protecting developing brains is crucial for adequate executive function (Hostinar et al., 2012).

The Hostinar et al. (2012) study concluded early adversity in childhood influences neurological development in developing brains. The Groza et al. (2008) study found post-institutionalized children exhibit reduced resilience to stressors and increased risk for behavioral and metacognition troubles. These troubles are indicators of executive function deficits. As brain development continues to be studied, researchers look for connections between the early childhood trauma, such as adoption, and the deficits in executive function leading to metacognition, behavioral, and emotional difficulties.

Previously neuropsychological studies have been done to measure the response of the hypothalamic-pituitary-adrenal (HPA) axis as a biological indicator of childhood stress. The HPA is a complex biofeedback system which connects the hypothalamus, pituitary gland, and the adrenals. This triad regulates the production of stress hormones; one of which is cortisol. Cortisol is a hormone which serves as a biological stress marker because cortisol levels are elevated when individuals face stressors. Cortisol levels are high in individuals, including children, who undergo stress for long periods of time. Cortisol might be a biological connection to executive function because cortisol levels are high for post-institutionalized children and executive function levels are lower, (Smith, Gropper, & Groft, 2009)).

Previous studies had conflicting findings because they concluded HPA axis function is heightened, diminished, or stable, depending upon which aspect of hormone production was

being measured. The problem with measuring only one aspect of hormonal production is hormonal production is cyclical beginning at a basal level, rising during the daytime in a slope, returning to basal level during the nighttime. Different studies measured the basal level of hormones, the peak levels of hormones, and the slope of hormone production; however, the studies did not use the same measures nor take into account the entire cyclical production of cortisol. Findings from initial studies indicated a lower morning, flatter daytime rhythms of cortisol production in post-institutionalized children. In order to be considered hypocortisolism, stress responses must also be blunted. Studies of adults with hypocortisol patterns and stress responses had mixed results. The literature did not have a definite correlation of these two variables (Koss, Mliner, Donzella, & Gunner 2015).

A study was published by Koss et al. (2015) in which they performed a longitudinal study over two years to measure children's cortisol reactivity. This test answers the unanswered question from the Hostinar et al. (2012) study about whether executive functioning measures are temporary or permanent in adopted children. By developing a longitudinal test which measures a biological/hormonal indicator linked to executive function, the Koss et al. test followed post-institutionalized children over 2 years following adoption.

Two studies had previously been conducted to measure the cortisol reactivity of post-institutionalized youth using the Trier Social Stress Test as an assessment with different findings. In 2009, a study by Gunnar, Frenn, Wewerka, and Van Ryzin found no evidence of blunted stress response in post-institutional youth who were 10- to 12-year olds (Koss et al., 2015). A 2015 study by McLaughlin et al. found blunted responding in post-institutionalized children who were adopted after the age of 2 years (Koss, et al., 2015).

The Koss et al. (2015) study consisted of three sample groups: 65 post-institutionalized children, 49 post-foster care children, and 53 non-adopted children were compared. The Koss et al. study focused on internationally adopted children because their histories include both the early adversity of institutionalism and improvement in care after being adopted into families. The study measured how children responded to stressors in the two years immediately after adoption (Koss et al., 2015).

The participants of the test visited the laboratory for 2 hours. During each session children were introduced to various tasks: separations from parents, new and arousing stimuli, introduction of strangers, and transitions between tasks. Saliva was collected three times during the laboratory session. The results of the saliva tests were not considered as a response to specific tasks but as a response to a total laboratory session. Children were given laboratory assessments to measure cortisol levels at 2, 8, 16, and 24 months after adoption. Twelve saliva samples were collected in total. In addition to the laboratory collections of saliva, parents collected wakeup, midday, and bedtime saliva samples for three days after the laboratory visits in order to assess the diurnal (daytime) cortisol slope (Koss et al., 2015).

In addition to collecting biological data, parents and teachers also completed the MacArthur Health and Behavior Questionnaire during the child's kindergarten year. By comparing the internalizing, externalizing, and ADHD symptoms (all indicators of executive function deficits), the study made comparisons of child adjustment problems and cortisol data (Koss et al., 2015).

Findings in the Koss et al. (2015) study revealed post-institutionalized children who were adopted during their second and third years of life showed blunted cortisol stress responses. In

addition, they did not adapt to the laboratory sessions even though they were identical each time. Non-adopted children adapted to the laboratory sessions. Children adopted earlier than their second year showed blunted cortisol stress response, but they also showed some ability to adapt to the laboratory sessions similar to the non-adopted children. The Koss et al. study concluded early adversity and teacher-reported ADHD and externalizing problems were linked.

The Koss et al. (2015) study was the first longitudinal study of young children of international adoption. The Koss et al. study supported the Van Ijzendoorn and Juffer (2005) study, which found children improve rapidly after adoption physically, socially, and intellectually. Although the improvements are significant in these other areas, the Koss et al. study saw little recovery in cortisol levels for post-institutionalized children throughout the 2 years of the study. Non-adopted children showed adaptation and change over the 2 years of testing. The Koss et al. study is careful to note the blunting of stress response and daytime cortisol levels are not solely because of the institutional care because many adverse conditions contribute to hypocortisolism.

The Koss et al. (2015) study positively related hypoactivity in the daytime slopes measured as a result of the home collections and the stress reactivity in the laboratory session, suggesting early adverse childhood events are linked to hypocortisolism (Koss et al., 2015)

Hypocortisolism is an indicator of externalizing problems (behaviors) at school. Interestingly, internalizing symptoms were not noted at this early age. Teacher reports positively linked hypocortisolism from institutional care with higher levels of attention problems, ADHD symptoms, and behaviors, all indicators of executive function (Koss et al., 2015).

The association between hypocortisolism and externalizing behavior problems shows brain development in the early years is adversely affected by early childhood adversity, and the externalizing problems are actually an outcome of pathophysiology. Hypocortisolism does not improve after adoption for at least the first 2 years. Hypocortisolism as a result of early childhood adversity was positively correlated to executive function as evidenced by attention, hyperactivity, aggression, and behaviors (Koss et al., 2015).

The Koss et al. (2015) study had several limitations to it. Primarily, teacher and parent reports did not have the same level of correlation with hypocortisolism and behavior problems. The authors of the study concluded perhaps parents had not yet had enough experience with children being in an academic setting to synthesize school problems into their overall parent reports. Behaviors also can differ across settings. The small sample size also limits the interpretation of the results of this study. The longitudinal study was also limited to the first 2 years after adoption. More research must occur to determine whether any post-institutionalized children show improvement in measures of hypocortisolism. More needs to be understood whether hypocortisolism is a cause of behavior problems or simply a biological marker (Koss et al., 2015).

Neuropsychology studies continue to give more information about the positive correlation between early childhood adversity and biological impacts on cortisol production. Studies in this paper support the association of international adoption and diminished executive function in children. Although adoption is a positive intervention improving social, physical, and cognitive functions of children, the executive function is diminished and remains diminished

with no evidence of improvement for at least two to three years after adoption. Additional studies are needed to extend the time of current longitudinal studies.

Table 1**Summary of Chapter 2 Findings**

Authors	Study Design	Participants	Procedure	Findings
Van Ijzendoorn & Juffer (2005)	Quantitative	17,767 adopted children	Meta-analysis of 62 studies which included IQ measures of children before and after adoption and compared adoption with original and current peers.	<ul style="list-style-type: none"> • Adopted children performed higher on IQ tests and performed better in school than their non-adopted peers who remained behind. • Adopted children had similar IQs as non-adopted environmental peers, but lagged behind in school. • Percentage of adopted children who need special education services is two times their non-adopted environmental peers.
Groza, Ryan, & Thomas (2008)	Quantitative	123 parents and 71 teachers	Behavior Rating Inventory of Executive Function (BRIEF) to both parents and teachers	<ul style="list-style-type: none"> • Institutionalization between 12 and 24 months of age actually improved the child's executive functioning. • Parent-child relationship is linked to parental perception of child's executive functioning. • Parents can anticipate teachers will not view their child's functioning in the same way leading to conflicts.
Beverly, McGuinness, & Blanton (2008)	Quantitative	55 children aged 9-13 years adopted out of Soviet Union at 4 years old	Parent surveys about child's speech-language, behavior, and eligibility for special education.	<ul style="list-style-type: none"> • Speech-language, learning, and attention deficits labels were higher than expected. • Children from the former Soviet Union experienced mean of 36 months of institutionalization and poor care.
Wiik, Loman, Van Ryzin, Armstrong, Essex, Pollak, & Gunnar (2010)	Quantitative	218 children who were 8-11 years old	MacArthur Health and Behavior Surveys	<ul style="list-style-type: none"> • Post-institutionalized children have increased risk of displaying ADHD symptoms than non-adopted or internationally adopted peers. • Adopted children exhibit more externalizing problems than non-adopted peers, but the two adoption comparison groups show no difference in risk.

Table 1 (continued)

Authors	Study Design	Participants	Procedure	Findings
Hostinar, Stellern, Schaefer, Carlson, & Gunnar (2012)	Quantitative	60 adopted and 30 non-adopted children 2-5 to 4 years old	Dimensional Change Card Sort Stanford-Binet Intelligence Scales, 5 th ed Mullen Scales of Early Learning Telephone interviews	<ul style="list-style-type: none"> • Post-institutionalized children had diminished executive function scores as demonstrated by DCCS. • Gender and IQ scores were not factors in executive function. • Youngest children already exhibit difficulties with executive function.
Koss, Mliner, Donzella, & Gunnar (2015)	Longitudinal	167 children	Saliva collections, MacArthur Health and Behavior Questionnaire	<ul style="list-style-type: none"> • Post-institutionalized children have flatter daytime cortisol slopes and blunted response to stress. • Over two years testing the cortisol levels did not improve for post-institutionalized children

Chapter 3: Conclusions and Implications for Practice

The purpose of this starred paper was to review literature identifying the specific needs of internationally adopted children. Studies measured the variables of pre-adoption history, parent-child relationships, and the need for special education services. The research question guiding this literature review was how special education teams address the specific needs of internationally adopted children in the classroom.

As a special education teacher, I have had the opportunity to teach internationally adopted students. I expected to see internationally adopted children being referred to special education more often than their non-adopted peers for learning disabilities as a result of malnutrition or language because of poor socialization. I also expected to see a number of referrals for emotional or behavioral issues in the classroom. The studies provided excellent reasons for the special education referrals and the difficulties students have in the classroom.

Conclusions

The Van Ijzendoorn and Juffer (2005) meta-analysis was the most extensive study of adopted children. All subsequent studies were compared to the Van Ijzendoorn and Juffer study, and in most instances agreed with the Van Ijzendoorn and Juffer findings. Van Ijzendoorn and Juffer found adopted children were referred for special education services twice as often as non-adopted peers. Although the IQs of adopted and non-adopted students were similar, adopted students still lagged behind in academic performance.

The Beverly et al. (2008) study findings agreed with the Van Ijzendoorn and Juffer (2005) studies; however, speech-language, learning, and attention deficits labels were higher than the authors of the Beverly et al. study expected and higher than the Van Ijzendoorn and Juffer special education referral rates. The Beverly et al. study was particularly relevant because

of its sample group from Minnesota and Wisconsin. The study also provided additional variables of the length and quality of institutional care. Pre-adoption history is not always known; but when pre-adoption history was made known to the adoptive families, the families were able to proactively address the special education needs sooner.

The Groza et al. (2008) study linked pre-adoption history of institutionalization to the executive functioning of children. Both the Van Ijzendoorn and Juffer (2005) and Beverly et al. (2008) studies named attention problems as a primary difficulty for adopted children. A surprising finding was how institutionalization between 12 and 24 months of age resulted in better executive function. The Groza et al. study added the parent-child relationship as a variable, concluding better parent-child relationships resulted in better executive functioning. The study also showed the results from teacher reports and parent reports were significantly different.

The Wiik et al. (2010) study confirmed the Groza et al. (2008) study with its findings: post-institutionalized children have increased risk of displaying ADHD symptoms than non-adopted peers. The Wiik et al. study added one more variable, comparing two adoption groups, institutionalized or foster care. The Wiik et al. study concluded adopted children exhibit more externalizing problems than non-adopted peers, but the two adoption comparison groups show no difference in risk.

The Hostinar et al. (2012) study concluded post-institutionalized children had diminished executive function scores. Since executive function is foundational to academic success, including attention and inhibition, the Hostinar et al. study seemed to mirror the Wiik et al. (2010) and Groza et al. (2008) studies. This study was especially valuable in showing how

already young children already exhibit difficulties with executive function even before attending school.

The Koss et al. (2015) study provided a neurological reason for diminished executive function in adopted children. Post-institutionalized children have flatter daytime cortisol slopes and blunted response to stress. Cortisol levels did not improve for post-institutionalized children over the 2-year span of the study. This was significant because it shows the executive function difficulties experienced by adopted children are not temporary.

These studies concur in concluding internationally adopted children have more difficulties with executive function than non-adopted peers. Executive function is foundational to inhibiting responses or maintaining attention during tasks. Adopted students exhibit more internalizing and externalizing symptoms than non-adopted peers, including ADHD symptoms. The executive function deficits are already evident in the youngest children already within the first year of adoption. These deficits are not improved even after several years.

Recommendations for Future Research

There is ongoing research on executive function and its effects on learning, emotions, and behaviors. Given the link between executive function and internalizing and externalizing symptoms exhibited by adopted children, more longitudinal studies should be performed to determine whether there is improvement in executive function. As students enter elementary school, teachers report more externalizing symptoms than parents, suggesting executive function does not improve; however, more data is needed to support the hypothesis.

As more is learned about the neurological development of the brain and biological response to stress, more research is needed to discover effective interventions to ensure healthy development of brains and perhaps reduce the effect of cortisol on executive function.

Implications for Practice

The increase of international adoption is linked to more special education referrals for multiple reasons; however, executive function difficulties can be expected and should be evaluated. In order to serve these students better, one must understand the effect early institutionalization and previous adoption history has on internationally adopted students. Developing a classroom climate that supports adopted students is essential. By understanding how limited executive function affects adopted students, teachers can address the behavioral regulation and metacognition needs of students.

I can address behavioral regulation concerns by teaching calming strategies, transitions, and how to control or express appropriate emotional responses. Calming strategies should be taught and practiced before generalizing the skills to an emotional event. I should include social workers and mental health practitioners as an important part of the team as they are able to provide more individual skills instruction, practice, and role playing for some students. Because students experience much anxiety, transitions are especially difficult. I can prepare them for transitions or changing schedules to reduce anxiety, although I should not think the anxiety is totally eliminated. A changed schedule means the safety of a known schedule has been removed. Calm, patient support will help the student navigate changes between classes or tasks. Extra time will be needed to make successful transitions. I must schedule extra time before the transition is made, and encourage general education teachers to include extra transition time also.

I can address attention problems by adding blocks of time into the daily schedule to help students initiate, work, and complete tasks which cannot be completed effectively in the classroom. I must provide students extra supports to organize materials, remember assignments, and monitor homework/task completion. Because students might struggle with working memory, I can shorten assignments, review classroom instruction, and practice skills often.

Teachers need to show empathy by understanding how early childhood trauma has a significant effect on the academic and emotional function of the child. The classroom needs to be a place where students can calm themselves, find support and safety, and experience academic and social success. Teachers should express compassion for the families who also experience the effects of trauma in their homes. Teachers should not blame student behaviors on poor parenting, especially given what we are learning about childhood trauma and brain development. Teachers should be mindful parents of adopted children will be more proactive in meeting the needs of their adopted children than parents of non-adopted peers, and teachers should not be intimidated by parental involvement and feedback (Van Ijzendoorn & Juffer, 2005).

Special education teachers have an opportunity to collaborate with general education teachers to teach internationally adopted students. As with all students receiving special education services, special educators provide suggestions for modifications, accommodations, and interventions for behaviors. Collaboration among educators is essential in providing an effective learning environment which supports the specific needs of internationally adopted students.

Summary

Adoption is an effective intervention for children. International adoption improves the lives of millions of children. After adoption, children experience improvements in their physical

care, social relationships, and intellectual function. Even with these improvements, deficits in executive functioning still affect student academic, emotional, and behavioral functioning.

Challenges exist for adopted children and their families, but their lives are improved significantly from what they might have been. School staff must be supportive of adoptive families in providing the best educational programming possible for students so they can be successful at school, at home, and in their community.

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