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An Examination of Cognitive and Behavioral Characteristics of Kainaiwa Children Diagnosed with Fetal Alcohol Syndrome

Deborah Faith Pace
Utah State University

AN EXAMINATION OF COGNITIVE AND BEHAVIORAL CHARACTERISTICS OF KAINAIWA CHILDREN DIAGNOSED WITH FETAL ALCOHOL SYNDROME

by

Deborah Faith Pace

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ABSTRACT

An Examination of Cognitive and Behavioral Characteristics
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by

Deborah Faith Pace, Doctor of Philosophy
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Major Professor: Dr. Kenneth W. Merrell
Department: Psychology

The present study examined the scores of 450 Kainaiwa children from Kindergarten to grade 3 on social, behavioral, cognitive and cultural measures. The subjects consisted of children in three different classification groups: Fetal Alcohol Syndrome (FAS), Special Education, and Regular Education. The purpose of the study was to examine group membership to determine whether or not children who were diagnosed as FAS presented unique intellectual, behavioral, social and cultural characteristics from those of their regular and special education peers.

These results support the conclusion of previous research that FAS children differ significantly from their special and regular education peers. No statistically significant differences were found on cultural measures. This study provides useful information for future diagnosis and psychoeducational assessment for FAS children in early childhood.

(108 pages)

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Deborah Faith Pace

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CHAPTER I

INTRODUCTION

Problem Statement

Fetal Alcohol Syndrome (FAS) is an alcohol-related birth defect that damages the fetus to varying degrees during pregnancy. FAS is a debilitating and irreversible condition produced by prenatal exposure to heavy doses of alcohol. It is the only known cause of mental retardation that is preventable. Factors such as race, alcohol consumption, maternal weight gain, and low socioeconomic status are associated with a statistical increase in the incidence of FAS (Abel & Sokol, 1986).

FAS is a medical diagnosis that is typically made by a medical dysmorphologist. The criteria for diagnosing FAS are based on physical anomalies, growth deficiencies, central nervous system dysfunction, and evidence of alcohol consumption by the mother during pregnancy. One consistent diagnostic finding in FAS is low intellectual functioning indicated by low IQ scores (Conry, 1990). The FAS child may exhibit some physical anomalies, varying degrees of mental retardation, and behavioral problems, as well as psychological problems. Most FAS children are identified in day care centers and Headstart programs because of their tendency to lag developmentally and socially in comparison with peers.

Children who do not meet the full medical diagnostic criteria for FAS, but have been affected by maternal drinking during pregnancy, may exhibit some of the effects of FAS. Individuals with these conditions are said to have Fetal Alcohol Effects (FAE). The FAE criteria involve a maternal history of alcohol ingestion during pregnancy, but do

not meet the full criteria of FAS. That is, the FAE child may exhibit central nervous system dysfunction and impaired growth, but not necessarily exhibit the physical anomalies. FAE children usually experience learning disabilities and behavioral problems (Rice, 1992).

Studies of the incidence of FAS are complicated by methodological problems, and data have been collected in several different ways (May, Hymbaugh, Aase, & Samet, 1983). In the catchment approach, birth defects were monitored at the time of birth only. In retrospective studies, children have been identified as having FAS at some time after birth. And in prospective studies, children have been followed over time and assessed at various intervals from birth onward. However, none of these three research methods is without problems. For example, catchment tends to underestimate FAS incidence because the neonatal period is a difficult time to detect FAS. Not only are facial features associated with the syndrome difficult to recognize, but central nervous system dysfunction (including mental retardation) may not be identified until several years after birth. Further, retrospective and prospective studies may overestimate FAS incidence by oversampling populations where FAS incidence is unusually high; analyses are further complicated by the unreliability of self-reports of maternal drinking (Aase, 1981).

Studies addressing FAS have only recently begun to be undertaken. Lemoine and his colleagues (Lemoine, Harrousseau, Borteyru, & Menuet, 1968) in France researched FAS and first published their findings in a medical journal in 1968. In the early 1970s, Jones and Smith (1973) published an article on their observational findings of 11 patients born to alcoholic mothers who all had similar patterns of malformations, growth

deficiency, and central nervous system abnormalities. It was these researchers who first coined the term "Fetal Alcohol Syndrome" (FAS).

To date, there is little research focused on the psychological, social, and educational needs of children with FAS, nor has there been research to answer specific diagnostic questions such as determining the cognitive and behavioral correlates of FAS in early childhood. Researchers in Berlin were among the first to quantify the behaviors of children with FAS, finding that children with FAS displayed significantly more psychopathologies than did a matched control group of normal children (Steinhausen, Nestler, & Spohr, 1982).

To date, there has been a lack of definitive FAS diagnostic criteria within the educational and psychological fields. The existing literature has been mostly descriptive and anecdotal in nature. Reports of cognitive tests have not attempted to analyze subtest and item scores to determine whether or not a characteristic pattern of cognitive abilities exists for FAS children. The question that remained was, what were the patterns and profiles of cognitive ability subtest scores, if any, that might have helped to provide an educational/psychological diagnostic gauge for FAS?

Given that this investigation was specifically oriented to the study of FAS with a Native population, it was important to look at some of the research issues that may have been specific to this population and subject. Regarding the use of cognitive ability testing with the FAS population, questions of diagnostic utility and accuracy arose. If researchers continued to rely on cognitive tests such as the Wechsler Intelligence tests, Native populations would probably show significant and large-full scale differences in

intellectual abilities due to cultural bias within the assessment instruments (Pace, 1993).

Alcohol abuse has been prevalent in many Native communities since early colonization and contact with non-Natives. With high rates of alcoholism and various other socioeconomic problems, it was apparent that in many Indian communities FAS was a widespread concern. The tribal and educational leaders of the Blood Tribe (Kainaiwa) in southern Alberta, Canada (where the research occurred), had mandated that all agencies on the Blood Indian reserve were to implement tertiary and secondary intervention to alleviate the problems of FAS.

Traditionally, the Native American tribes have held the view that a woman must be of good physical and mental health before she became pregnant. She should give up bad habits which could harm the prenatal development of the child, such as smoking, consumption of alcoholic beverages, poor eating habits, worry, anger, and fear. The traditional belief has also been that a man should try to achieve these same goals and offer support to his wife, in order to make her pregnancy easier and more enjoyable. The Elders in the Blood Tribe also believed that once a woman became pregnant she had a responsibility to her unborn child to conduct her life so her baby would be strong and healthy, and the way a woman lived, the food she ate, the sights she saw, the moods she felt, as well as her attitude directly affected her baby.

However, despite these positive traditional goals, socioeconomic problems have continued to escalate on the Blood Indian reserve, with a 90% unemployment rate, poor housing, lack of educational opportunities, and many public health problems. Since Native populations have had long-standing problems with alcohol, it may be inferred that

FAS was a significant problem and in many cases had gone undetected within Native populations (Prieto, 1989). Numerous awareness and prevention efforts have been implemented in the community schools and health centers to educate young mothers about the effects of drinking during pregnancy, although no research has addressed the effects of these interventions.

Given that FAS is the leading preventable cause of mental retardation, and is often a significant problem in Native populations, it was important to further examine the cognitive and behavioral correlates of FAS within this group. Therefore, the purpose of this investigation was to investigate the cognitive and behavioral aspects of FAS in a Native population, in order to attempt to identify patterns of behavioral, social, and intellectual functioning that may be useful for diagnostic and intervention planning purposes.

Statement of Research Questions

The general purpose of the research project was to analyze the intellectual ability, academic achievement, and problem behavior patterns of primary-grade Kainaiwa children with FAS in comparison to their "normal" peers and their peers who have disabilities but do not have FAS. It was hypothesized that the Kainaiwa students who were diagnosed with FAS would present unique intellectual, academic, and behavioral patterns that would be useful in future diagnosis or psychoeducational assessment of FAS within this group. Thus, the following research questions were proposed:

1. Would the intellectual ability scores of Kainaiwa children diagnosed with FAS

differ significantly from those of their regular and special education peers?

2. Would the social skills and problem behavior patterns of Kainaiwa children diagnosed with FAS differ significantly from those of their regular and special education peers?

3. Were there demographic and cultural variables (i.e., socioeconomic status, primary language, level of native cultural immersion) that were correlated with a diagnosis of FAS within the study sample?

CHAPTER II

REVIEW OF THE LITERATURE

Historical Antecedents of Fetal Alcohol Syndrome

Alcohol consumption by expectant mothers has been a concern at various times throughout history. One of the earliest references toward this concern is found in the Old Testament, where it states "Behold, thou shalt conceive, and bear a son; and now drink no wine nor strong drink,..." (Holy Bible [1997], Judges 13:7). In early Carthage, there was a law prohibiting brides from consuming alcohol on their wedding night, for fear of producing a defective child (Warner & Roset, l975). In 1834, a report to the British House of Commons stated that "infants of alcoholic mothers often have a starved, shriveled and imperfect look" (Jones & Smith ,1973). Thus, although the formal diagnosis and scientific study of FAS are relatively recent phenomena, there is evidence that the link between alcohol consumption by expectant mothers and defects in their children has at times been a concern throughout recorded history.

Prevalence Estimates

Most of the research on FAS has been based on epidemiologic studies, and much of this research is descriptive and anecdotal in nature. Exact prevalence figures are unknown, but Abel and Sokol (1987a) based their estimates on 20 studies from Australia, Europe and North America, which found an incidence of l.9 cases of FAS per l,000 live births.

Abel and Sokol's (1987b) figures may constitute the best *general* estimate of FAS, but the 1.9 per 1,000 incidence rate may dramatically underestimate the prevalence of FAS in many Native Americans communities. In an epidemiological study of FAS among Indians of various tribal groups in the Southwestern U. S., May and his colleagues found an overall incidence rate of 9.8 cases of FAS per 1,000 births (May et al., 1983). An even higher occurrence of FAS (1 in every 8 children under the age of 18 had FAS) was reported by Robinson and his colleagues (Robinson, Conry, & Conry, 1987), for a small isolated Indian community in British Columbia. In contrast, May and his coworkers found that FAS incidence rates among Pueblo and Navajo Indians were more in line with the worldwide figures of 1.9 cases per 1,000 live births (May et al., 1983).

Research has also shown a wide variation in patterns of drinking and alcohol-related problems among tribes as described by Levy and Kunitz (1974) in the epidemiological literature on Indians and alcohol use. Levy and Kunitz explained that tribes with a loose, band-level social organization tended to have a higher incidence of alcohol-related problems than did those with a strict and highly structured tribal organization. It was also reported that the highly structured bands had fewer mothers consuming alcohol and the lowest incidence of fetal alcohol damage. Among Southwestern U. S. tribes, social ostracism of drinking mothers may play a role in producing multiple FAS babies. Levy and Kunitz (1974) have stated that in many Southwestern tribes, few women drink and alcoholic women were not tolerated among the tribal members. In contrast, alcoholism is tolerated in many Native communities, and

for the most part, education regarding the consequences of ingesting alcohol during pregnancy has not been presented.

Diagnosing Fetal Alcohol Syndrome

To receive a formal diagnosis of FAS, individuals must have three main criteria characteristics plus a history of prenatal alcohol exposure. According to Clarren's (1982) diagnostic criteria, some features from each of the following categories were necessary for a full diagnosis, but not all features listed would be found in every subject. The formal medical diagnostic criteria for FAS is as follows (Clarren & Smith, 1978):

1. Growth deficiency: This was usually of prenatal onset and continued postnatally. This criterion meant that infants with FAS usually fell within or below the 3rd to 10th percentile range for weight and/or length at birth and continued to be short and/or thin in relation to their peers during childhood. However, changes in fat distribution after puberty could result in some adolescents and adults appearing to be plump, particularly in relationship to their short stature.

2. Particular patterns of malformation: The identifying facial characteristics of FAS included microcephaly (a small brain and head), short palpebral fissures (eye slits), flat midface, indistinct philtrum (the ridges running between the nose and the mouth), thin upper lip, epicanthal folds, low nasal bridge, minor ear anomalies, a short nose and micrognathia, ptosis (drooping eyelids) and strabismus (crossed eyes). Not all of these features were found together in all cases of FAS; nevertheless, individuals with FAS tended to have a characteristic physical appearance. In addition to the facial

characteristics, skeletal anomalies may have been present, including scoliosis; pectus excavatum (indentation in the chest); congenital hip dislocation; limited movement of the fingers, elbows and/or wrists; altered palmar crease patterns; small nails on hands and/or toes; a short fifth finger; and hemangiomas (birthmarks). Dental anomalies were often observable after the appearance of secondary teeth, and may have included maligned and malformed teeth. Health problems (including atrial septal defects and ventricular septal defects) were seen in about 33% of the younger children and infants but less frequently in adolescents and adults. Major malformations (cleft lip and/or palate, hydrocephalus, meningomyelocele) were seen with increased frequency in FAS, but no one major malformation was particularly characteristic of FAS.

3. Central nervous system effects: Microcephaly was a frequent characteristic in patients with FAS and was often associated with mental retardation. Babies with FAS were often tremulous, had poor muscle tone, disrupted sleep/wake cycles and "failed to thrive." As young children, they often had poor coordination, poor fine and gross motor control, hyperactivity and attentional deficits. Developmental delay and mental retardation were often noted in individuals with FAS.

4. History of maternal alcohol abuse during pregnancy: A thorough drinking history should have been obtained from the biologic mother when available and supplemented as necessary with information from secondary sources. Documentation of maternal alcohol abuse during pregnancy was usually necessary for a diagnosis of FAS in the child (see Appendix B).

Diagnostic Clinical Considerations

There is currently no diagnostic method for evaluating FAS except for clinical observations made by a medical dysmorphologist or other specially trained physician (see Appendix A). To date, it appears that researchers were searching for FAS in various forms that were less subjective, and there was a need for more reproducible definitions. Streissguth and LaDue (1987) and Streissguth, LaDue, and Randels (1989) reported that mental handicaps were probably the most debilitating aspect of FAE. Although slow development and mental retardation were frequently described in the literature as characteristics of FAS, Streissguth and her colleagues found a wide range of IQ scores reported in individuals with FAS, which made it difficult to make a firm prediction for mental retardation from a child diagnosed with FAS.

A later study by Streissguth, Barr, and Sampson (1990) showed that not all of the craniofacial anomalies in the diagnostic criteria were found in children diagnosed as having FAS. Streissguth et al. (1990) also found that individual characteristics often had no diagnostic significance when found in isolation, and that various other diagnostic problems were found in longitudinal studies. These studies suggested that the older the child, the less distinguishing the physical features associated with FAS, and that different aspects of alcohol teratogenesis were salient at different ages.

However, in addressing the need for a more accurate diagnosis for early educational intervention, researchers focused on the psychoeducational implications of FAS for school psychologists and other specialists, and provided a more psychologically

oriented diagnostic characteristics of FAS in addition to the medical diagnostic criteria. In their review of the research on descriptive FAS studies, Burd and Martsolf (1989) suggested criteria for a range of possible symptoms related to maternal alcohol drinking. Their proposed criteria fell into three categories: cardiovascular, respiratory dysfunctions, and neuropsychiatric findings (e.g., hyperactivity, attentional problems, speech/language disorders, learning disabilities, schizophrenia, enuresis and or encopresis after age 7, tremors or seizures, and echolalia). Phelps and Grabowski (1992) attempted to address the need for a more accurate diagnosis of FAS/FAE to intervene in developing appropriate educational programs for afflicted individuals. These researchers compiled previous medical and epidemiological research and reported chronicity, timing, and severity of alcohol exposure to age-specific developmental and behavioral consequences. However, Phelps and Grabowski's findings offered no specific diagnostic criteria that were not previously found by Streissguth, Barr, Sampson, Darly, and Martin (1989).

Cognitive Correlates of Fetal Alcohol Syndrome

In an investigation of the intellectual functioning of persons with FAS/FAE conducted by Streissguth (1986), a mean Full Scale IQ score of 68 (slightly more than two standard deviations below normative mean scores) was reported. Individuals in the sample of 61 were 12 years of age and older and previously had been diagnosed as having FAS or FAE. These subjects were all from the southwestern United States. The subjects ranged in age from 12 to 40 years: 43 were between 12 and 17 years, 18 were between 18 and 40 years, and the mean age of these subjects was 17 years 10 months. In terms of

the racial makeup of the sample, 74% were American Indian, 21% were White, and 5% were African American. Mean Full Scale IQ scores of the total sample population were reported. Significant group differences in IQ scores were found between the FAE and FAS groups, with the FAS group having significantly lower scores. However, cultural differences in IQ were not reported, nor were subtest scores or profile patterns. Furthermore, the IQ scores of the entire sample had an exceedingly wide range, from 20 to 102, with the scores of the FAS group ranging from 20 to 90. Thus, while the group mean IQ scores were relatively low, significant variation was evident in individual IQ scores.

Streissguth, Randels, and Smith (1991) conducted a related study on IQ scores of individuals with FAS/FAE. This investigation was conducted with a sample of 40 individuals with FAS or FAE. Stability of IQ scores into midadolescence was examined, because little was known about the long-term stability of intellectual deficits in this population. At the beginning of the study, the mean age of subjects was 6 years 8 months, and the follow-up investigation was conducted approximately 10 years later, with a mean age at 16 years 7 months. Streissguth et al. (1991) reported that the mean Full Scale IQ scores at pretest was 66 for the FAS group, and 80 for the FAE group. At the 10-year follow-up interval, the mean Full Scale IQ scores were 67 for the FAS group and 82 for the FAE group. Thus, this research provided evidence that IQ scores of children with FAS and FAE remained quite stable over time. However, in a statistical critique of this study, Atkinson (1992) suggested that a more appropriate statistic to measure intraindividual variation was the standard error of prediction. Knight (1983)

provided an example of the statistical calculation used in determining IQ stability over time in which the standard error of prediction was multiplied by 1.96 to determine change significant at the 0.05 level. Knight (1983) illustrated that the median standard error of prediction for the WAIS-R was 3.62 x 1.96 = 7.1. In review of the Streissguth et al. (1991) study, Atkinson (1991) pointed out that "this is less than half the size of the standard deviation used suggesting that approximately 14 (35%), not 7 (17.5%) of the individuals sampled obtained IQ change scores beyond the 0.05 significance level" (p. 563). This additional research on statistical methods to detect IQ stability over time is intriguing and should be explored further.

Streissguth et al. (1991) discussed the implications of utilizing cognitive assessments in predicting individual levels of functioning in children with FAS or FAE. It was suggested that individual IQ tests be administered during the preschool and early school years to facilitate academic placement and clarify expectations, and that the degree of cognitive disabilities in such individuals was often unrecognized. However, it would be necessary to examine the extent of IQ differences in a sample-specific population rather than extracting conclusions based on wide groups with wide age ranges who were from disparate geographic areas. Research focused on samples of persons with shared cultural experiences and similar environmental influences may add significant findings on IQ patterns for children with FAS/FAE. This research might be particularly important with Native American children, because they are at higher risk for having FAS/FAE than the general population, and because it has been demonstrated that their cultural influences

both shape cognitive ability profiles and make these individuals more subject to test bias with standardized, norm referenced instruments.

In sum, the research on the cognitive correlates of FAS indicated that individuals with FAS tended to have relatively low cognitive ability in general, and these limitations may have been stable over time. However, little to nothing is known about specific cognitive ability patterns of FAS, or the cultural contexts of cognitive ability in diverse populations.

Behavioral Correlates of Fetal Alcohol Syndrome

There has been speculation that many adolescents and adults with FAS encountered psychiatric hospitalization with presenting problems of depression, suicidal ideation, and psychosis (Streissguth et al., l988). Given the range of IQ scores within the FAS population, adolescents or adults with FAS may have experienced frustration in coping with syndrome effects (Streissguth et al., 1988).

In a study conducted by Streissguth et al. (1992), 61 adolescents and adults suffering from alcohol terotogenseis (38 male and 23 females), ranging in ages from 12-40 years were examined. The average IQ score of the subjects was 68. Of these subjects, 6% were placed in regular classrooms, 28% were placed in self-contained classrooms, while 9% were placed in sheltered workshops. These subjects were found to have mean adaptive behavior age-equivalent scores of approximately 7 years, based on scores from the Vineland Adaptive Behavior Scales. Thus, deficits in adaptive behavioral functioning appeared to be a significant characteristic of FAS.

Another behavioral study of FAS was conducted by Rice (1992), who reported a compilation of information from biological and adoptive parents of 15 children diagnosed with FAS or FAE. The parents participated in a 44-question survey concerning the behavioral and educational histories of their children. The age of the individuals diagnosed with FAS/FAE ranged from 4 years 5 months to 23 years 0 months. Rice described anecdotal information about the behavioral patterns of the respondents FAS/FAE children, which was consistent with the behavioral phenotype of FAS/FAE as described in earlier work by Streissguth (1986), including impulsivity, hyperactivity, poor attention span, lack of inhibition, overfriendliness, overinquisitiveness, poor social judgment, poor sensitivity to social cues, excessive demands for physical contact, and affection. For intervention planning, Rice (1992) suggested a structured environment at home and at school to effectively deal with FAS/FAE children.

In another study of adolescent and adult FAS, Streissguth et al., (1988) described behavioral characteristics with reference to personality. Many of the FAS subjects were described as "demanding and liked to be the center of attention" (p. 31). Further, they were also described as impulsive and lacking social inhibition, which reflected immature behavior based on the socialization scales of the Vineland Adaptive Behavior Scales. Streissguth et al. (1988) also described these patients as "people-oriented" and gregarious. Their outgoing and friendly manner was viewed as a positive trait in younger FAS children; however, as they grew older into adolescence and adults, their overfriendliness became a problem. One of the problems with identifying FAS-specific personality traits was that it was difficult to differentially identify FAS specific traits

from personality traits exhibited by adult children of alcoholic parents. For example, in a study conducted by Middleton-Moz (1990), adult children of alcoholics were examined and 21 characteristics were identified that could have been attributed to learned alcohol-related behavior.

In sum, the five studies reviewed in this section indicated that individuals with FAS were likely to exhibit adaptive behavior and social skills deficits, increased psychopathology, and various behavioral excesses. These findings have been replicated by additional researchers as well (e.g., Middleton-Moz, 1990; Zucker & Gomberg, 1986). However, relatively little was known at this point regarding specific patterns of behavioral excesses and deficits of FAS individuals, as well as the cultural context wherein these behaviors existed.

Gaps in the Research

Although the research to date on FAS and related issues has provided a wealth of information that was unknown just decades ago, there are still significant gaps in the existing evidence, and many of the reported studies have been plagued by methodological problems and contradictions. In a study of 1,690 mothers, Hingson at Boston City Hospital found that "neither level of drinking prior to pregnancy nor during pregnancy was significantly related to infant growth measure, congenital abnormalities or features compatible with fetal alcohol syndrome" (Hingson, 1982, pp. 541). What did predict FAS and abnormality in this study was the overall lifestyle of the mother's combined drinking smoking and drug use. However, this research failed to note how much alcohol

the mother consumed during pregnancy and the study was based on self-reports of pregnant mothers. There may be some question about the reliability of the self-report data from these mothers because there is a tendency for a majority of alcoholic mothers to report minimal consumption of alcohol during pregnancy.

There is also little research focusing on the psychological and social needs of children with FAS. Berlin researchers were first to quantify the behaviors of children with FAS and found that individuals with the syndrome displayed significantly more psychopathologies, including hyperactivity, difficulty with peers, management problems, clumsiness, head and body rocking, and eating and sleeping difficulties (Steinhausen et al., 1982). Aside from this study, there has been no extensive work in examining psychopathology among school-aged children with FAS.

Thus, while the body of research on FAS is growing, significant additional research is needed to fully understand the characteristics and implications of this condition particularly within specific cultural contexts.

CHAPTER III

METHOD

Subjects

The subjects for this investigation included a population of 450 students enrolled in kindergarten through grade three (ages 4-9) from both the Saipoyi and Levern Elementary schools on the Kainaiwa Indian Reserve in Alberta, Canada.

The subjects consisted of children in three different classification groups: FAS, Special Education, and Regular Education. The FAS group included 20 children who had received a formal medical diagnosis of FAS by a medical dysmorphologist especially trained to diagnose FAS. Most, if not all, of the FAS subjects received special education services due to intellectual and learning disabilities. The special education group (SPEC.ED) included 52 children who received special education services but have not been diagnosed as having FAS. The purpose of the special education group was to provide a comparison group with the FAS subjects where all subjects had been identified as having significant learning and/or behavioral problems. The regular education group (REG.ED) included 378 children who did not receive any special or remedial education services, who were selected and matched to the FAS and SPEC.ED groups based on grade level and gender. This group served as a "normal" comparison group. This group also served to provide a framework in implementing an intervention program based on the strengths and weaknesses of the Kainaiwa Indian children.

There are approximately 6,000 Kainaiwa Indians living on the reserve in Standoff,

Alberta, Canada, with 90% unemployed and living on social assistance. In 1988, the Kainaiwa Tribe undertook control of their educational system from the Federal government. A recent survey of individuals on the Kainaiwa reserve found that English was the dominant language: 7.5% of respondents claimed to speak the Blackfoot language, 31.2% claimed to understand the Blackfoot language, and 44.3% claimed to have minimal knowledge of the Blackfoot language (Towson & Chrisjohn, 1987).

The three group memberships had already been identified prior to assessment: FAS (Fetal Alcohol Syndrome); Special Education, and Regular Education. The FAS students had been diagnosed previous to the study by a pediatric dysmorphologist. The Special Education students had been previously identified by the school psychologist in accordance to the Kainaiwa Board of Education Special Education criterion. The Regular Education students were the rest of the students in the population who did not seem to require any special needs nor were they experiencing any academic difficulty. The students who had been medically diagnosed with FAS attended one of the two elementary schools on the Blood Indian Reserve (Kainaiwa). There were 18 males and 2 females diagnosed with FAS. In the special education group, there were 52 students attending one of the two elementary schools at Kainaiwa. Of the 52 students in special education placement, there were 33 males and 19 females. The special education placement was completed prior to assessment and all of the students were identified by the school psychologist . Each of the special education students were placed according to respective grades from kindergarten to grade 3 in accordance to the criterion established by the Kainaiwa Education Board. The third group, the Regular Education

group (regular students), included a total of 378 students, of which 181 were male and 197 were female. The students were identified according to grade placement (K-3) in one of the two elementary schools, Saipoyi and Levern, on the Kainaiwa reserve. A description of the demographic characteristics of the study sample divided by age, gender, and group are shown in Table 1.

Procedures

To identify a psychoeducational profile for the FAS subjects and to contrast these subjects with the two comparison groups, the subjects were assessed using the following instruments: the Wechsler Intelligence Scale for Children, Third Edition (WISC-III), the Child Behavior Checklist (Achenbach, 1991a; CBCL), Teacher's Report Form (Achenbach, 1991b; TRF), and the School Social Behavior Scales (Merrell, 1993a; SSBS). Additionally, cultural information was obtained on each subject and his/her family.

The intellectual assessments were conducted by a Native school psychologist, who also oversaw the collection of parent reports, teacher reports, and demographic data. The use of a Native school psychologist as the primary examiner enhanced sensitivity to cultural issues and reduced errors associated with the social situation of testing in contrast to the use of an examiner from outside the reservation.

A number of community awareness workshops about FAS were held on the reserve prior to undertaking of the research. Parents and Elders in the community had the opportunity to express their concerns about FAS and they queried the extent of FAS in

Table 1

Demographic Characteristics of the Study Sample, Divided by Age, Gender and Group

Age	Gender	FAS	Spec.Ed	Reg.Ed
4	Female	1		21
	Male	2	1	22
5	Female		2	64
	Male		2	58
6	Female		4	33
	Male	4	6	34
7	Female		4	33
	Male	4	4	31
8	Female	1	8	30
	Male	4	10	31
9	Female		4	11
	Male	4	7	10
Total:	Female	2	19	197
	Male	18	33	181
TOTALS:		20	52	378

the community. Information sessions and feasts were subsequently held in the schools to obtain parental consent to participate in the research project (see Appendix G). The head chief, Roy Fox, urged all parents in the community to seriously consider the support of this type of research that would benefit the children in the educational system. Consequently, 100% of the parents consented to take part in the research and follow up

meetings to report the results were made known to the parents and community members.

A local planning committee for this project was developed, consisting of Kainaiwa participants including Elders and various agencies on the reservation, who were involved to assist in the facilitation and cultural components of the FAS project as necessary. For example, it was necessary to adhere to Kainaiwa tribal protocol because of the nature and sensitivity of the research topic. The Kainaiwa members fully accept and cooperate whenever respected Elders participate in an attempt to solve problems related to community issues. Therefore, both a male and female Elder from the tribe were approached to participate on the planning committee. Further, the Elders have the established rapport with the members of the tribe, which was helpful for mothers of FAS children to report necessary information in an accurate manner.

Meetings were held in each of the two schools (Standoff and Levern) and in communities on the Kainaiwa reserve to inform parents and teachers of the reasons for testing, the instruments to be used, and the usefulness of the data obtained. One hundred percent consent for participation in the project was obtained from parents of all study subjects.

Instruments

Wechsler Intelligence Scale for Children, 3rd Edition

The Wechsler Intelligence Scale for Children, 3rd Edition (WISC-III; Wechsler, 1991) is the most widely used and well-researched intellectual ability measure for use

vith children in the U. S. and Canada. It consists of 12 subtests, which combine to yield a Full Scale IQ score based on a mean of 100 and standard deviation of 15. Six of the WISC-III subtests measure verbal intelligence (where tasks require a language-based esponse from examinee) and six subtests measure performance intelligence (where tasks equire a perceptual-based response such as manipulation of objects and visual-motor coordination). The six subtests within each area are combined to yield verbal and performance area scores, which are based on the same standard score system as the Full Scale IQ score.

The WISC-III is an individually administered battery which requires a highly trained examiner and typically takes 1 to 1.5 hours to complete. It is considered to be relatively interesting for examinees, which facilitates the maintenance of attention. The administration protocol mingles the verbal and performance tests so that examinees alternate between types of tasks. The individually administered aspect of the WISC-III allows for close observation of an examinee's test behavior, and any environmental variables which might affect test results.

The WISC-III (and it's predecessors, the WISC and WISC-R) have a long history of use with children ages 6-16 at all ability levels. It is the single most commonly used assessment instrument for special education classification in North America. The technical properties of the WISC-III are considered to be excellent, and it is considered to be the standard by which all children's intellectual ability tests are judged.

Child Behavior Checklist

All subjects were rated by their primary classroom teacher using the Child Behavior Checklist (CBCL; Achenbach, 1991a), and by a parent or guardian using the Teacher's Report Form (TRF; Achenbach, 1991b) of the CBCL. These instruments were completed to obtain a valid measure of both internalizing and externalizing types of psychopathology for the subjects. These instruments each include 119 similar items for rating a variety of problem behaviors. Both the CBCL and TRF are widely used clinical and research tools, and have been referred to as the most sophisticated rating scale system currently available for assessing childhood psychopathology (Martin, 1988). The CBCL/TRF system is considered to be a "cross-informant system" because the roughly parallel forms allow for a comparison of emotional and behavioral problems symptoms as they are observed across settings and by different raters. When scored, these instruments provide eight "narrow band" symptom scores, which load into two "broad band" syndromes, namely internalizing problems and externalizing problems. A total problem score is also obtained by summing the value of all items. The CBCL/TRF scores are based on the t-score system, with a mean of 50 and standard deviation of 10. The psychometric properties of these instruments are considered to be good to excellent, and an extensive research base on them has been accrued.

School Social Behavior Scales

The School Social Behavior Scales (SSBS; Merrell, 1993a) is a set of nationally norm-referenced behavior rating scales designed for use in assessing social skills and

antisocial behavior patterns with K-12 students in educational settings. The SSBS is unique in that it is designed specifically for use in school settings, and measures both positive and negative social behaviors. It includes a total of 65 items on two major scales, Social Competence and Antisocial Behavior. Each scale includes three empirically derived subscales, which are helpful in measuring specific behavioral components of social skills and antisocial behavior. The subscale scores are reported as raw scores and "social functioning levels," while the total scores for each major scale are converted to standard scores with a mean of 100 and standard deviation of 15. Research reported in the SSBS manual and in subsequent publications (e.g., Merrell, 1993b), indicates that the instrument has adequate to excellent reliability and several forms of test validity.

Kainaiwa Cultural Questionnaire

The Kainaiwa Cultural Questionnaire, a cultural questionnaire constructed by the investigator, was completed by a parent or guardian of each subject (see Appendix F). The acculturation measure was developed through a number of interviews and meetings with the Kainaiwa Elders prior to the research study. The Kainaiwa Tribal system is highly structured and organized within their culture. Strict adherence to protocol as it relates to all aspects of the culture in ceremonies, dance, singing, and socializing is expected especially from members who are involved in various Holy Societies within the Tribe. Some children are often participants in the Holy Societies with their parents and adherence to Kainaiwa protocol is expected in every aspect of their lives. The purpose of

this questionnaire was to obtain information regarding familiarity and/or participation of the Kainaiwa culture. The questionnaire also included information about the socioeconomic status (employment status, educational attainment level, income level), primary language (Blackfoot or English), and level of immersion in the traditional Kainaiwa culture (e.g., level of participation on traditional Kainaiwa cultural activities, rituals, customs, and events).

CHAPTER IV

RESULTS

To determine if statistically significant differences existed between the study groups on the combination of dependent measures used in this investigation, a one-way (nonfactorial) multivariate analysis of variance (MANOVA) was conducted, using group membership (FAS, Special Education, Regular Education) as the single independent variable, and the total scores of the various behavioral and intellectual measures (CBCL and TRF total scores, SSBS total scores, and WISC-III Full Scale IQ scores) as a combined dependent variable. The MANOVA produced a significant main effect for group membership: Wilks' Lambda (10,576) = 11.85, $p < .001$. This result indicated that there were some statistically significant differences among the groups with respect to behavioral problems, social skills, and intellectual ability. The significant MANOVA results also indicated that separate univariate analysis of variance (ANOVA) procedures and follow-up post-hoc tests for the effects of group membership on the dependent measures were warranted. Effect size (ES) estimates were also calculated on the mean scores of the various study groups in comparison with each other, to determine the statistical power or practical nature of the differences in scores between the three groups. The standard ES method suggested by Cohen (1988) was used, wherein the mean score of one group is subtracted from the mean score of the other group, and the resulting difference is divided by the harmonic standard deviation of scores for the two groups. According to Cohen's ES paradigm for power analysis, ES estimates of less than .20 are

considered to be nonsignificant, ES estimates between .20 and .49 are considered to have a small effect, ES estimates between .50 and .79 are considered to have a medium effect, and ES estimates of .80 and higher are considered to have a large effect.

Discriminate analysis was not computed due to the uneven numbers in the three groups: FAS (N = 20); Special Education (N = 52); and Regular Education (N = 378). The results of the CBCL Total Problem scores across the three groups, FAS, Special Education, and Regular Education, indicate borderline clinical range (T = 60-63) scores for the FAS, followed by the special education group with lowest scores in the regular education group. Higher scores indicate problematic behavior while scores below 60 indicate no problem behavior. The clinical range for problematic behaviors fall between the range of T = 60-63. The mean scores for the FAS group ranged between 52.89-65.12.(MSD = 10.09) The Special Education group had mean scores ranging between 50.26 - 57.35 (MSD = 13.41). The results of the Regular Education group show mean scores ranging between 49.77 - 55.76 (MSD = 12.82). The Special Education and Regular Education groups' scores were not in the clinical range for behavioral problems. These results are shown in Table 2.

The one-way ANOVA conducted for group membership on the CBCL total scores was statistically significant (F = 7.97, p = .0004). The ANOVA source table for this analysis is presented in Table 3.

The Scheffe post-hoc tests indicated that the CBCL total score of the FAS group (M = 62.59) was significantly higher than the Regular Education group (M = 49.83). The difference between these two groups resulted in an effect size estimate of 1.02, which is

Table 2

Descriptive Statistics of the CBCL by Group

	FAS		Special education		Regular education	
	n = 20		n = 43		n = 274	
Measure	M	SD	M	SD	M	SD
CBCL						
Withdrawn	56.78	13.36	55.16	7.11	54.96	6.31
Somatic complaints	58.11	7.71	56.40	7.27	55.04	7.39
Anxious/depressed	52.89	13.15	53.44	5.89	53.09	6.21
Social problems	62.47	7.60	57.35	9.16	55.76	7.89
Thought problems	59.88	6.25	55.72	8.22	54.64	7.14
Attention problems	65.12	10.09	56.07	8.92	53.09	6.21
Delinquent behavior	62.18	7.17	55.65	8.92	55.36	7.69
Aggressive behavior	59.88	8.97	55.47	9.38	54.20	7.08
Internalizing	56.94	10.44	50.26	11.66	49.77	11.19
Externalizing	60.00	9.30	50.40	13.21	50.09	11.63
Total score	62.59	10.09	50.63	13.41	49.83	12.82

Table 3

One-Way ANOVA by Group and CBCL Total Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	2604.7112	1302.3556	7.9726	.0004
Within groups	331	54070.4415	163.3548		
Total	333	56675.1527			

considered to be a large effect. The FAS CBCL total score (M = 62.59) was also significantly higher than the Special Education group (M = 50.63), and the difference between these two groups resulted in an effect size estimate of 1.11, which is considered to be a large effect. However, the scores of the Regular Education and Special Education groups did not differ significantly.

The descriptive statistics of the CBCL-TRF by group indicated that the FAS group mean score was 70.15 (SD = 10.69). The Special Education group mean score was 56.20 (SD = 10.60), and the Regular Education group mean score was 49.31 (SD = 11.28). Again, higher scores were observed within the FAS group indicative of behavioral problems and lower scores than the Regular Education group. The FAS group obtained a clinical range mean score of 70.15 (SD = 10.69). Overall, the teachers reported behavioral problems for the FAS group in most of the measures of the CBCL-TRF, except for Somatic Complaints. The results are shown in Table 4.

The One-way ANOVA conducted for group membership on the CBCL-TRF total scores was statistically significant ($F = 38.97$, $p = < .0001$). The ANOVA source table for this analysis is presented in Table 5.

The Scheffe post-hoc tests indicated that the CBCL-TRF total mean score of the Special Education group (M = 56.20), was significantly higher than that of the Regular Education group (M = 49.31). The difference between these two groups resulted in an effect size estimate of 0.63, which is considered to be a moderate effect. The FAS group (M = 70.15) was significantly higher than the Regular Education group (M = 49.31), the difference between these two groups resulted in an effect size estimate of 1.90, which was

Table 4

Descriptive Statistics of the CBCL-TRF by Group

	FAS		Special education		Regular education	
	n = 18		n = 51		n = 359	
Measure	M	SD	M	SD	M	SD
CBCL-TRF						
Withdrawn	62.26	7.36	57.04	9.18	53.99	6.20
Somatic complaints	59.05	7.83	54.53	7.85	52.64	5.34
Anxious/depressed	61.21	6.92	53.59	5.98	52.20	4.72
Social problems	67.30	9.23	56.39	7.66	54.14	6.05
Thought problems	64.45	12.70	54.04	8.45	52.47	5.80
Attention problems	71.40	13.15	58.63	8.56	54.21	6.65
Delinquent behavior	64.95	10.04	57.94	6.82	55.74	7.87
Aggressive behavior	69.65	14.887	56.88	9.37	54/56	7.56
Internalizing	62.60	6.95	51.53	10.91	46.82	9.79
Externalizing	67.15	12.33	55.35	10.03	51.85	10.00
Total score	70.15	10.69	56.20	10.60	49.31	11.28

Table 5

One-Way ANOVA by Group and CBCL-TRF Total Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	9733.8218	4866.9109	38.9687	<.0010
Within groups	427	53329.2689	124.8929		
Total	429	63063.0907			

considered to be a large effect. The FAS group (M = 71.150) was significantly higher than the Special Education group (M = 56.20). The difference between these two groups resulted in an effect size estimate of 1.44, which was considered to be a large effect. The Regular Education group did not differ significantly from the Special Education group.

Descriptive statistics for the SSBS scores by group membership were computed. Two total scores were obtained: Scale A, Social Competence Total; and Scale B, Antisocial Behavior Total. For the Social Competence total score, higher scores indicated greater levels of social-behavioral adjustment in this test. For Scale B, the Antisocial Behavior total score indicated greater levels of social behavior problems. The FAS group obtained a total mean score of 74.89 (SD = 23.97) on Scale A (the Social Competence). This score indicated an overall moderate deficit in social functioning. The Special Education group obtained a total score of 102.20 (SD = 31.75). The Regular Education group obtained a mean total score of 114.16 (SD = 24.95). Both the Special Education group and the Regular Education group obtained scores in the average range of social functioning. These results are shown in Table 6.

On SSBS Scale B (Antisocial Behavior), the FAS group obtained a mean score of 88.16 (SD = 30.74), and the Special Education group obtained a mean score of 63.33 (SD = 31.44), whereas the Regular Education group obtained a mean score of 52.75 (SD = 24.95). The FAS group obtained the highest scores within the three groups indicating significant problems for Antisocial Behavior, while the Special Education group and the Regular Education group obtained successively lesser scores. The results are shown in Table 6.

Table 6

Descriptive Statistics of SSBS by Group Membership

	FAS		Special education		Regular education	
	n = 19		n = 49		n = 360	
Measure	M	SD	M	SD	M	SD
SSBS						
Interpersonal	30.05	9.82	42.63	7.11	54.96	6.31
Self-management	24.79	8.72	34.69	7.27	55.04	7.39
Academic	20.05	7.06	25.25	5.89	53.09	6.21
Social comp total	74.89	23.97	102.20	9.16	55.76	7.89
Hostile irritable	36.2	13.88	13.25	8.22	54.64	7.14
Antisocial-aggressive	23.74	10.13	18.71	8.92	53.09	6.21
Demanding-disruptive	28.47	8.94	18.65	8.92	55.36	7.69
Antisocial beh total	88.16	30.74	63.33	9.38	54.20	7.08

The one-way ANOVA conducted for group membership on the SSBS-Social Competence total scores was statistically significant ($F = 19.82$, $p = < .0001$). The ANOVA source table for this analysis is presented in Table 7.

The Scheffe post-hoc tests indicated that the SSBS-Social Competence Total (SSBS-AT) scores of the Special Education group ($M = 102.20$) was significantly higher than the FAS group ($M = 74.89$). The difference between these two groups resulted in an effect size estimate of .98, which was considered to be a large effect. Additionally, the Regular Education group ($M = 114.16$) was significantly higher than the FAS group ($M = 74.89$). The difference between these two groups resulted in an effect size estimate of

Table 7

One-Way ANOVA by Group and SSBS-AT Total Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	32143.1190	16071.5595	19.8289	<.001
Within groups	425	344467.0375	810.5107		
Total	427	376610.1565			

1.51, which is considered to be a large effect. The Regular Education group (M = 114.16) was significantly higher than the Special Education group (M = 102.20). The difference between the two groups resulted in an effect size estimate of .40, which is considered to be a small effect.

The one-way ANOVA conducted for group membership on the SSBS-Antisocial Behavior Total (SSBS-BT) scores was statistically significant (F = 19.18, p = < .0001). The ANOVA source table is presented in Table 8.

The Scheffe post-hoc tests indicated that the SSBS-Antisocial Behavior Totals (SSBS-BT) scores of the Special Education group (M = 63.33) were significantly higher than the Regular Education group (M = 52.75). The difference between these two groups resulted in an effect size estimate of .38, which is considered to be a small effect. The FAS group (M = 88.16) was significantly higher than the Regular Education group (M = 52.75). The difference between these two groups resulted in an effect size estimate of 1.27, which is considered to be a large effect. The FAS group (M = 88.16) was significantly higher than the Special Education group (M = 63.33). The difference

Table 8

One-Way ANOVA by Group and SSBS-BT Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	25993.3061	12996.6530	19.1807	<.0001
Within groups	425	287975.2995	677.5889		
Total	427	313968.6051			

between these two groups resulted in an effect size estimate of .80, which is considered to be a large effect. The Regular Education group did not differ significantly.

Descriptive statistics of the WISC-III scores by group membership were computed. The Full Scale IQ score for the FAS group was M = 67.67 (SD = 12.67). This group scored the lowest of the three groups. The Special Education group showed a Full Scale IQ score of M = 80.77 (SD = 11.41), and the Regular Education group obtained a score of M = 90.25 (M = 11.41). The results are presented in Table 9.

A one-way ANOVA conducted for group membership on the WISC-III, Verbal performance IQ (VB) score was statistically significant (F = 30.31, p = < .0001). The ANOVA source table is presented in Table 10.

The Scheffe post-hoc tests indicated that the WISC-III Verbal IQ scores of the Regular Education group (M = 89.28) was significantly higher than the FAS group (M = 69.56); the difference between these two groups resulted in an effect size estimate of 1.44, which is considered to be a large effect. The Regular Education group (M = 89.28) was significantly higher than the Special Education group (M = 77.66), and

Table 9

Descriptive Statistics of WISC-III by Group Membership

	FAS		Special education		Regular education	
	n = 18		n = 44		n = 334	
Measure	M	SD	M	SD	M	SD
WISC-III						
Information	3.94	2.18	5.39	2.04	6.63	2.46
Similarities	4.50	2.18	6.34	2.30	7.34	2.66
Arithmetic	3.94	2.24	5.84	2.69	7.73	2.76
Vocabulary	4.22	2.13	5.95	3.08	7.20	3.02
Comprehension	4.22	3.19	5.77	2.88	7.33	2.92
Verbal IQ	69.56	13.60	77.66	11.18	89.28	13.76
Picture completion	6.83	2.18	9.16	2.68	10.69	2.54
Coding	2.22	3.06	6.57	3.42	5.20	5.27
Picture arrangement	2.72	3.04	6.32	3.46	5.11	5.15
Block design	6.17	2.43	9.16	3.283	10.19	2.91
Object assembly	6.44	2.94	8.45	3.22	10.00	2.90
Performance IQ	70.94	12.48	87.93	14.08	93.98	15.18
Full scale IQ	67.67	12.67	80.77	11.41	90.25	11.41

the difference between these two groups resulted in an effect size estimate of .93, which is considered to be a large effect. The FAS group and the Special Education group did not differ significantly.

A one-way ANOVA conducted for group membership on the WISC-III, Performance IQ (PF) score was statistically significant ($F = 22.33$, $p = < .0001$). The

Table 10

One-Way ANOVA by Group and WISC-III, Verbal IQ Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	11047.2917	5523.6458	30.3143	<.0001
Within groups	393	71609.4356	182.2123		
Total	395	82656.7273			

ANOVA source table is presented in Table 11.

The Scheffe post-hoc tests indicated that the WISC-III Performance IQ scores of the Regular Education group (M = 93.98) were significantly higher than the Special Education group (M = 87.93). The difference between these two groups resulted in an effect size estimate of .41, which is considered to be a small effect. The Regular Education group (M = 93.98) was significantly higher than the FAS group (M = 70.94); the difference between these two groups resulted in an effect size estimate of 1.67, which is considered to be a large effect. The Special Education group (M = 87.93) was significantly higher than the FAS group (M = 70.94). The difference between these two groups resulted in an effect size estimate of 1.23, which is considered to be a large effect.

A one-way ANOVA conducted for group membership on the WISC-III, Full Scale IQ scores was statistically significant (F = 43.42, p = < .0001). The ANOVA source table is presented in Table 12.

The Scheffe post-hoc tests indicated that the WISC-III, Full Scale IQ scores of the Regular Education group (M = 90.25) were significantly higher than the FAS group

Table 11

One-Way ANOVA by Group and WISC-III, PF IQ Scores

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	9993.0548	4996.5274	22.3258	<.0001
Within groups	393	87953.6321	223.8006		
Total	395	97946.6869			

Table 12

One-Way ANOVA by Group and WISC-III, Full Scale IQ Score

Source	DF	Sum of squares	Mean squares	F ratio	F prob
Between groups	2	11421.7217	5710.8609	43.4243	<.0001
Within groups	393	51684.6015	131.5130		
Total	395	63106.3232			

(M = 67.67); the difference between these two groups resulted in an effect size estimate of 1.88, which is considered to be a large effect. The Regular Education group (M = 90.25) differed significantly from the Special Education group (M = 80.77). The difference between these two groups resulted in an effect size estimate of .83, which is considered to be a large effect. The Special Education group (M = 80.77) was significantly higher than the FAS group (M = 67.67). The difference between these two groups resulted in an effect size estimate of 1.09, which is considered to be a large effect.

Means and standard deviations for the cultural variables of traditional

participation and traditional familiarity are presented by group in Table 13. An inspection of these data indicate that the respective acculturation scores were essentially the same across groups meaning that there was no significant group effect for acculturation. The effect sizes for group comparisons on these scores are all well below the -20 minimum required for a practically important group effect.

Table 13

Correlations Between Cultural Variables and Group Membership

	FAS		Special education		Regular education	
Cultural Variables	M	SD	M	SD	M	SD
Traditional participation	8.18	7.44	7.40	5.61	8.54	6.61
Traditional familiarity	15.29	9.74	16.78	7.72	16.94	8.66

CHAPTER V

DISCUSSION

The present study examined the cognitive, behavioral and social characteristics of Kainaiwa children diagnosed with FAS in early school years from Kindergarten to grade three in comparison to their peers in special and regular education programs. The results indicated that FAS children differed significantly from their special and regular education peers. However, no statistically significant differences were found on measures of cultural variables. This study provided insight into important correlates of behavioral, social and cognitive variables in differentially classifying the students into their respective educational status/disability group.

The study also showed that children in whom FAS was detected early tend to have clinical problems in all aspects of internalizing and externalizing problem behaviors. The FAS children obtained higher scores on clinical scales measuring problem behaviors and significantly higher scores in tests measuring antisocial behaviors in comparison to their same age and grade peers. At the same time, FAS children had significantly lower scores on teacher ratings of social competence.

These findings are congruent with a number of previous studies showing that FAS children are particularly impaired in intellectual and behavioral functioning (Streissguth et al., 1991). Further, children diagnosed with FAS tended to demonstrate lower intelligence and lower adaptive behavior scores than their controls (Arviso, 1996).

In the FAS group, there were noticeably more males than females (18 males and 2

females). Previously, Riese (1989) found that FAS males' behavioral scores were more likely to deviate from the standardized mean than the females scores. Future research might examine gender differences in FAS and whether spontaneous abortion rates for FAS babies were gender related.

Intellectual Findings

The three study groups of FAS, Special Education and Regular Education demonstrated significant group differences on WISC-III subtest scores. The average difference among the three groups was approximately 11 points, with the FAS group receiving the lowest scores. These results placed them in the "Intellectually Deficient" category of intellectual ability on average.

The FAS group differed significantly from the Special and Regular Education groups on the Verbal, Performance, and Full Scale IQ. The mean Full Scale score for the FAS group was 67.67, also in the "Intellectually Deficient" range.

The Special Education group did not differ significantly in their Verbal IQ scores from the FAS children; however, their Performance IQ scores were significantly higher than the FAS group. The mean Full Scale IQ score of the Special Education group was significantly higher than the scores of the FAS group, with an effect size of 1.09. Within the Special Education group there was overall average difference of 10.27 between Verbal and Performance IQ scores.

The Regular Education group showed significantly higher scores than the FAS and Special Education groups in all aspects of the WISC-III test with large effect sizes.

Behavioral Findings (CBCL--Parent and Teacher Ratings)

On the CBCL (Parent and Teacher Ratings), the FAS group had significantly higher scores and more scores in the clinical range than the Regular and Special Education groups, whereas the latter two groups did not differ significantly. That is, the FAS subjects were reported by their parents and caregivers to have significantly more problem behaviors in the borderline clinical range ($\underline{T}$ = 60-63) than their peers. At this level, the FAS children appeared to be exhibiting behavior problem patterns in all aspects of internalizing and externalizing syndromes.

On the Teacher Ratings, the FAS group scores were in the Borderline Clinical range ($\underline{T}$ = 70.15). The FAS group was rated significantly higher on this measure than the Regular Education group or the Special Education group with large effect sizes. The teachers of the FAS group reported slightly more problem behaviors than did the parents and caregivers of these children.

Social Behavior Findings

On the School Behavioral Scales, the FAS group showed significantly greater deficits in social competence behaviors than their same-grade peers. On this scale, higher scores were indicative of more positive behaviors. This finding indicates that the Special Education group subjects were more likely to engage in positive behaviors than the FAS subjects. The Regular Education group also evidenced significantly better social skills than did the FAS group.

The SSBS scale measuring "antisocial" behavior patterns indicated significantly greater problems for the FAS group as compared to the Regular and Special Education groups. The FAS group appeared to have many behaviors that deterred socialization with their peers, possibly resulting in negative social outcomes. These results indicated that FAS children appeared to disregard the rights and properties of others, and that they were more likely to be rejected by their peers. Such findings were similar to those reported by Streissguth et al. (1988).

Kainaiwa Cultural Traditions

The Kainaiwa Cultural survey was designed to measure cultural knowledge and participation in the traditional culture on the first section. Higher scores represented knowledge of various aspects of the culture, including language. The second section of the test measured participation in the culture. The Kainaiwa culture has stringent and intricate protocols for social and behavioral interactions. That is, the expectations for participation in the Kainaiwa culture demand adherence to detailed behaviors in their ceremonies and dances. It also requires that individuals participating in the cultural ceremonies and way of life demonstrate appropriate and acceptable behavior conducive to the expectations of the Elders within the sacred societies. Socialization skills among the tribal members are valued highly, especially if the individual is participating in the cultural activities. On this Kainaiwa Cultural Survey, the scores of the three groups were essentially similar. In other words, knowledge and participation in traditional Kainaiwa culture was not a factor in the separation of the three groups. The Kainaiwa Culture

survey may need to be refined for validation of the acculturation measures of First Nations cultures. Development of psychometric properties with standard cutoff points would more accurately measure participation and knowledge of First Nations culture.

Clinical/Education Implications

The psychoeducational measures in this study appeared to appropriately classify FAS children based on the differences in mean scores across all test measures. For the FAS children in the Kainaiwa schools from kindergarten to grade three, these findings were useful for diagnostic purposes because there were significantly large differences in test scores across the three groups. These findings may be useful for program placement in early school years, for early intervention and treatment. The children in the FAS group demonstrated problem scores on the CBCL (Teacher and Parent Form) placing them at the "Borderline" range. With early identification and intervention it may be possible to work with FAS children and their families to alleviate, or at least attenuate, future problem behaviors.

The present research was unique in that it was based on a more sample-specific focus with little age variance. The children selected ranged in ages from 4 to 9 years and were all from a specific cultural background in a specific geographic location. No previous studies had examined sample-specific groups to include factors such as age, gender, culture and group membership. It was suggested in Streissguth et al. (1991) study that individual IQ tests be administered during the early school years to facilitate academic placement and that the degree of cognitive disabilities in FAS is often

unrecognized. The evidence from this study indicated the possible existence of specific cognitive ability patterns for FAS children in the early school years. The IQ scores in this study did not vary as much in comparison to those found in Streissguth et al. (1991) study. In the present study, the standard deviation for the FAS Full Scale scores was 12.67, and there were also no significant differences between Verbal and Performance IQ for the FAS group. For the FAS group this would mean that no discrepancies appeared to exist in examining their cognitive patterns for acquiring learning, rather there appeared to be equally depressed Verbal and Performance abilities. In comparison to their peers in special education, the children did not differ significantly in the Verbal IQ score. However, FAS children were significantly lower than the special education children on the performance area score. This finding was congruent with previous studies examining children for learning disabilities when there was a significantly large difference between their Verbal and Performance IQ.

There were also no previous studies conducted examining the social behavior of the FAS child. While there may have been some studies reporting socialization scales of the Vineland Adaptive Behavior Scales describing FAS children as people oriented and gregarious as a positive trait in young adolescent FAS (Streissguth et al., 1989), the studies were not specifically focused on children in early school years. In this study the results showed some specific patterns of behavioral problem excesses and social skills deficits of FAS children in early school years.

Limitations

In this study there are some limitations that need to be examined. The sample population of FAS children in this study was small, with a total of 2 females and 18 males.

It was necessary to drop the academic achievement tests for the three groups because the FAS children were excluded from the regular curriculum program in their Individualized Education Program Plan. The FAS children in early school years received a program with a greater emphasis on behavioral management. Therefore, the results of the achievement tests would not have accurately represented the entire study sample. The standardized approach in collecting achievement tests reflected the curriculum of the day as it pertained to each grade for the entire population of schools in the province.

The intelligence scores of the three groups were reported for Full Scale IQ, and Verbal and Performance IQ. This study did not examine the analysis of the subtest scores in comparison to group membership. Future research might analyze the subtest scores in comparison to group membership. Future research might analyze the WISC-III to determine more exact differences in intelligence that would determine and assist the intervention and program planning in the schools. There was also a need to study the subtest patterns of the WISC-III to examine possible test bias in diagnosing Native children with FAS. In a previous item analysis study with the WISC-R (Pace, 1995), it was determined there was test bias on some of the subtests regarding item difficulty. This bias placed the Native children at a disadvantage.

In the present study, subtest analyses of group differences were not conducted for behavioral and social measures; only the total scores were examined. In determining the exact profile strengths and weaknesses of FAS children as they pertained to social and behavioral measures, it may be desirable to conduct further analyses of the subtest results in each of the behavioral and social measures for more accurate diagnoses of FAS children for program planning and early intervention.

Future studies could examine the stability of IQ measures over time as discussed by Streissguth et al. (1991). With the sample of FAS children in the present study, the identification of FAS in early school years may have affected subsequent cognitive, behavioral and social development over time and provided indications of whether or not early intervention impacts the learning, behavioral, and social skills of FAS children.

In this study, there were significant differences among groups with regard to behavior. The FAS group scored at the clinical range for "Borderline" problem behaviors as reported by their parents and teachers. Future research could examine further the problem behaviors reported and develop an intervention program that would address those problem behaviors. Effective behavioral management programs may alleviate escalating problem behaviors in later ages. There is also a need to examine the CBCL (Parent and Teacher Form Ratings) on these children in longitudinal studies to determine if behaviors become more pathological in nature with or without treatment. Knight (1993) suggested a statistical procedure that would effectively and more exactly determine the cognitive effects over time. The replication of future longitudinal studies might consider Knight's statistical procedure as well.

There is also the need to examine the WISC-III for cultural bias, as mentioned earlier. The WISC-III psychometric properties are good, but there is nevertheless a need to examine cultural and geographic differences in this test for reliability and validity.

According to a correlational study of psychopathology and intelligence in children with FAS (Steinhausen, Willms, & Spohr, 1994), IQ was a significant predictor of psychopathology. Future research with Kainaiwa FAS children may be conducted in conjunction with behavioral and social longitudinal studies to determine whether or not their IQ scores would correlate with adult psychopathology.

For the purposes of diagnosing for FAS there appears to be a need to examine and consider neurological assessment. Neuropsychological measures may be a valuable supplement to intellectual measures for the purposes of assessing alcohol effects because they are less vulnerable than intellectual measures to the influence of cultural and educational experiences.

In this study, there were more males diagnosed with FAS than females. Follow-up studies with FAS as it relates to gender may be examined to determine whether or not there is a genetic factor influencing higher incidences of FAS in the male population than females.

There is a need for further research in cross-sectional or longitudinal studies to examine similar patterns of cognitive and behavioral characteristics in adolescent FAS subjects. This may provide more accurate diagnosis and treatment planning for adolescents with FAS.

Future studies on FAS children ought to include academic achievement data such

as individually administered achievement tests or curriculum-based assessment. In this study, the Canadian Test of Basic Skills, a nationally normed achievement test, was dropped from the study. The achievement test was not valid for the FAS and Special Education groups due to Individual Education Program Plans focussing mainly on behavioral management. The curriculum of the day would not be accurately assessed for these two groups.

Finally, the Kainaiwa Cultural Test needs to be reexamined or redesigned to better capture "knowledge" and "participation" to determine if this would have an effect on the scores of FAS, special education, and regular education children in reserve schools.

Conclusion

Early identification and intervention are necessary to examine the needs of FAS children. Specifically, a psychoeducational assessment should accurately identify the FAS children in early grades. In the present study, attempts were made to assist in psychoeducational diagnosis of FAS children, examining their intellectual, behavioral, and social status in comparison to their peers in the early school years. The results showed significant group differences for FAS, Special Education and Regular Education that may assist in clinical classification. The implications may enable more of a focus on treatment programs for FAS children to ensure appropriate early intervention and treatment.

REFERENCES

Aase, J. M. (1981). The fetal alcohol syndrome in American Indians. A high risk group. Neurobiological Toxicology and Teratology, 3, 143-156.

Abel, E. L., & Sokol, R.J. (1986). Fetal alcohol syndrome is now leading cause of mental retardation. Lancet, 8517, 1222.

Abel, E. L., & Sokol, R. J. (1987a). Incidence of fetal alcohol syndrome and economic impact of FAS related anomalies. Drug Alcohol Dependency, 19, 51-70.

Abel, E. L., & Sokol, R. J. (1987b). Sixth special report to U.S. Congress on alcohol and health from the Secretary of Health and Human Services. (DHHS Publication No. ADM 87-1519). Washington, DC: U.S. Government Printing Office.

Achenbach, T. M. (1991a). Child Behavior Checklist/4-18 and 1991 profile. Burlington: University of Vermont, Department of Psychiatry.

Achenbach, T. M. (1991b). Manual for the Teacher's Report Form and 1991 profile. Burlington: University of Vermont, Department of Psychiatry.

Arviso, A. A. (1995, June). Adaptive and cognitive functioning of children with fetal alcohol syndrome and matched controls. Paper presented at the 8th Annual Convention of American Indian Psychologists and Psychology Graduate Students, Utah State University, Logan.

Atkinson, L. (1992). Fetal alcohol syndrome. A letter to the editor. Journal of American Academy of Child Adolescent, 3, 563.

Burd, L., & Martsolf, J. T. (1989). Fetal alcohol syndrome: Diagnosis and syndromal variability. Physiology and Behavior, 46, 39-43.

Clarren, S. K. (1982). The diagnosis and treatment of fetal alcohol syndrome. Comprehensive Therapy, 8(10), 41-46.

Clarren, S. K., & Smith, D. W. (1978). The fetal alcohol syndrome. New England Journal of Medicine, 298, 1063-1067.

Cohen, J. (1988). Statistical power analysis for the behavioral science (2nd ed.). Hillsdale, NJ: Erlbaum.

Conry, J. (1990). Neuropsychological deficits in fetal alcohol syndrome and fetal alcohol effects. Alcoholism: Clinical and Experimental Research, 14(5), 650-655.

Hingson, R. (1982). Effects of maternal drinking and marijuana use on fetal growth and development. Pediatrics, 70, 539-546.

Holy Bible (1979). Salt Lake City, UT: The Church of Jesus Christ of Latter-day Saints.

Jones, K. L., & Smith, D. W. (1973). Recognition of the fetal alcohol syndrome in early infancy. Lancet, 2, 999-1001.

Knight, R. G. (1993). On interpreting the several standard errors of the WAIS-R: Some further tables. Journal of Consulting Clinical Psychology, 51, 671-673.

Lemoine, P., Harroussseau, H., Borteyru, J. P., & Menuet, J. C. (1968). Infants of alcoholic parents: Anomalies observed in 127 cases. Quest Medicine, 21, 476-482.

Levy, J. E., & Kunitz, S. J. (1974). Indian drinking: Navajo practices and Anglo-American theories. New York: Wiley Interscience.

Martin, R. P. (1988). Assessment of personality and behavior problems. New York: Guilford Press.

May, P. A., Hymbaugh, K. J., Aase, J. M., & Samet, J. M. (1983). Epidemiology of fetal alcohol syndrome among American Indians of the Southwest. Social Biology, 30, 374-387.

Merrell, K. W. (1993a). School Social Behavior Scales. Austin, TX: Pro-Ed.

Merrell, K. W. (1993b). Using behavior rating scales to assess social skills and antisocial behavior in school settings: Development of the school social behavior scales. School Psychology Review, 22, 115-133.

Middleton-Moz, J. (1990). From nightmare to vision: A training manual for Native American adult children of alcoholics. Seattle, WA: National Association for Native American Children of Alcoholics.

Pace, D. F. (1993). An Analysis of item bias in the WISC-R with Kainaiwa Native Canadian Children. Unpublished master's thesis, Utah State University, Logan.

Phelps, L., & Grabowski, J. (1992). Fetal alcohol syndrome: Diagnostic features and psychoeducational risk factors. School Psychology Quarterly 7,(2), 112-128.

Pieto, D. O. (1989). Native Americans in medicine: The need for Indian healers. Academic Medicine, 64, 388-389.

Rice, K. S. (1992). Mountain Plains Information Bulletin. Des Moines, IA: Mountain Plains Regional Resource Center.

Riese, R. P. (1989). Maternal alcohol and pentazocine abuse: Neonatal behavior and morphology in an opposite-sex twin pair. *Aeta-Geneticae-Medicae-et-Gemellologiae--Research, 38*(1-2), 49-56.

Robinson, G. C., Conry, J. L., & Conry, R. F. (1987). Clinical profile and prevalence of fetal alcohol syndrome in an isolated community in British Columbia. Canadian Medical Association Journal, 137, 203-207.

Steinhausen, H. C., Nestler, V., & Spohr, H. L. (1982). Development and psychopathology of children with fetal alcohol syndrome. Developmental and Behavioral Pediatrics, 3,(2) 49-54.

Steinhausen, H. C., Willms, J., & Spohr, H. L. (1994). Correlates of psychopathology and intelligence in children with fetal alcohol syndrome. Journal of Child Psychology, 35(2), 323-331.

Streissguth, A. P. (1986). Alcohol and motherhood: Physiological findings and the fetal alcohol syndrome. (DHHS Publication No. 16). Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.

Streissguth, A. P., Barr, H. M., & Sampson, P. D. (1990). Moderate prenatal alcohol exposure: Effects on child IQ and learning problems at age 7 ½ years. Alcoholism: Clinical and Experimental Research, 14, 662-669.

Streissguth, A. P., Barr, H. M., Sampson, P. D., Darly, B. L., & Martin, D. C. (1989). IQ at age 4 in relation to maternal alcohol use and smoking during pregnancy. Developmental Psychology, 25(1) 3-11.

Streissguth, A. P., & LaDue, R. A. (1987). Fetal alcohol: Teratogenic causes of developmental disabilities. In S. R. Schroeder (Ed.), Toxic substances and mental retardation (pp. 1-32). Washington, DC: American Association on Mental Deficiency.

Streissguth, A. P., LaDue, R. A., & Randels, S. P. (1989). A manual on adolescents and adults with Fetal Alcohol Syndrome with reference to American Indians (2nd ed.). Albuquerque, NM: Indian Health Services.

Streissguth, A. P., Randels, S. P., & Smith, D. F. (1991). A test-retest study of intelligence in patients with Fetal Alcohol Syndrome: Implications for care. Journal of American Academy of Child Adolescents Psychiatry, 30(4) 584-587.

Towson, S. M., & Chrisjohn, R. J. (1987, March). Student and parental attitude survey results. (Kainaiwa Comprehensive Education Assessment Project: Final Report). Standoff, Alberta, Canada: Kainaiwa Indian Reserve.

Warner, P. H., & Roset, H. L. (1975). The effects of drinking on offspring: An historical survey of the American and British literature. Journal of Studies on Alcohol, 36(11), 1395-1420.

Wechsler, D. (1991). Wechsler Intelligence Scale for Children (3rd ed.). Toronto, Harcourt, Brace, Jovanovich.

Zucker, R. A.,& Gomberg, E. S. L. (1986). Etiology of alcoholism reconsidered: The case for biopsychosocial process. American Psychologist, 41(7) 783-793.

APPENDICES

Appendix A:

Fetal Alcohol Syndrome Checklist

FAS Checklist

PATIENT IDENTIFICATION _____

A. History

Maternal Alcohol Consumption during Pregnancy

1.	None or minimal	0
2.	Moderate (at least weekly or major binge)	30
3.	Heavy	50
	Subtotal	___

B. Radiologic Findings (if available)

4.	Hypoplasia of distal phalanges	4
5.	Bone age 1 to 2 S.D. below mean	1
6.	Bone age more than 2 S.D. below mean	3
	Subtotal	___

C. Growth and Development

7.	Prenatal growth deficiency	
	a. OFC < 10th percentile	10
	b. Length < 10th percentile	6
	c. Weight < 10th percentile	4
8.	Postnatal slow growth	
	a. OFC < 2nd percentile	10
	b. Height < 5th percentile	4
	c. Weight < 5th percentile	6
9.	Delayed motor milestones (D.Q. or I.Q. 70)	10
10.	Poor fine motor coordination (Tremulousness)	2
11.	Hyperactivity/irritability	6
12.	Feeding problems (infancy)	2
	Subtotal	___

D. Clinical Observations

General

13.	Generalized hirsutism (before 6 months)	3

FAS Checklist (continued)

Lateral Facial Profile

14. Small nose	4
15. Hypoplastic midface	4

Ear

16. Prominent helical root	3
17. Protruding auricle	3

Eye

18. Small palpebral fissures	5
19. Strabismus	2
20. Ptosis	4

Nose

21. Short nose, manifested by	
a. Epicanthic folds	1
b. Low nasal bridge	1
c. Anteverted nostrils	2
22. Long philtrum	3
23. Smooth philtrum	4
24. Narrow smooth vermillion border	4
25. Cleft palate (U-shaped)	3
26. Relative prognathism (after infancy)	2

Neck

27. Short (may appear broad)	3

Chest

28. Pectus excavatum	2

Arms and Hands

29. Inability to fully supinate forearm	3
30. Short 5th metacarpal (clinically or by x-ray)	3

FAS Checklist (continued)

31. Clinodactyly of 5th fingers	2
32. Camptodactyly (or contractures) of fingers	3
Heart	
33. Heart murmur	2
34. Known cardiac malformation	4
Back	
35. Meningomyelocele	3
Skin	
36. Multiple and/or raised hemangiomas	3
Subtotal	___
TOTAL SCORE	___

Appendix B:

Prenatal Questionnaire

Prenatal Questionnaire

Please answer these questions honestly so we can help you receive the best possible care for you and your baby. Ask the nurse for help if you have difficulty with these questions. Your answers will be a confidential part of your medical record.

* A drink equals one 12-ounce bottle or can of beer, or one 4-ounce glass of wine, or one shot (one ounce) of hard liquor.

1. How many drinks does it take you to first feel the effects of alcohol?
   ___ (number of drinks)
   ___ never drink enough to feel effects

2. When was your last drink? (PLEASE CHECK JUST ONE ITEM, OR FILL IN NUMBER OF MONTHS IN "C")
   a) __ within the last week
   b) __ within the last month
   c) __ (number) of months ago
   d) __ more than a year ago
   e) __ never

3. Did you drink any alcohol during this pregnancy? YES __ No __

4. Do you ever feel that you should cut down on your drinking? YES __ No __

5. Do any friends or family ask you to drink less? YES __ No __

6. Do you ever have a drink in the morning as an eye opener or to prevent yourself from getting sick (hangover)? YES __ No __

7. Does your partner or anyone else in your home have problems with alcohol or drugs? YES __ No __

8. Have you ever been treated for problems from alcohol or drugs? YES __ No __

   How many years ago? _____

Appendix C:

Teacher's Report Form

Please Print

TEACHER'S REPORT FORM FOR AGES 5–18

For office use only
ID #

Your answers will be used to compare the pupil with other pupils whose teachers have completed similar forms. The information from this form will also be used for comparison with other information about this pupil. Please answer as well as you can, even if you lack full information. Scores on individual items will be combined to identify general patterns of behavior. Feel free to print additional comments beside each item and in the spaces provided on page 2.

PUPIL'S FULL NAME FIRST	MIDDLE	LAST	PARENTS' USUAL TYPE OF WORK, even if not working now *(Please be as specific as you can—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*
PUPIL'S SEX ☐ Boy ☐ Girl	PUPIL'S AGE	ETHNIC GROUP OR RACE	FATHER'S TYPE OF WORK: _____
TODAY'S DATE Mo. _____ Date _____ Yr. _____	PUPIL'S BIRTHDATE (if known) Mo. _____ Date _____ Yr. _____		MOTHER'S TYPE OF WORK _____
GRADE IN SCHOOL	NAME AND ADDRESS OF SCHOOL		THIS FORM FILLED OUT BY: ☐ Teacher (full name) _____ ☐ Counselor (full name) _____ ☐ Other (specify position & give full name): _____

I. For how many months have you known this pupil? _____ months

II. How well do you know him/her? 1. ☐ Not Well 2. ☐ Moderately Well 3. ☐ Very Well

III. How much time does he/she spend in your class or service per week?

IV. What kind of class or service is it? (Please be specific, e.g., regular 5th grade, 7th grade math, learning disabled, counseling, etc.)

V. Has he/she ever been referred for special class placement, services, or tutoring?
☐ Don't Know 0. ☐ No 1. ☐ Yes—what kind and when?

VI. Has he/she repeated any grades?
☐ Don't Know 0. ☐ No 1. ☐ Yes—grades and reasons

VII. Current school performance—list academic subjects and check box that indicates pupil's performance for each subject:

Academic subject	1. Far below grade	2. Somewhat below grade	3. At grade level	4. Somewhat above grade	5. Far above grade
1. _____	☐	☐	☐	☐	☐
2. _____	☐	☐	☐	☐	☐
3. _____	☐	☐	☐	☐	☐
4. _____	☐	☐	☐	☐	☐
5. _____	☐	☐	☐	☐	☐
6. _____	☐	☐	☐	☐	☐

4-95 Edition

VIII. **Compared to typical pupils of the same age:**	1. Much less	2. Somewhat less	3. Slightly less	4. About average	5. Slightly more	6. Somewhat more	7. Much more
1. How hard is he/she working?	☐	☐	☐	☐	☐	☐	☐
2. How appropriately is he/she behaving?	☐	☐	☐	☐	☐	☐	☐
3. How much is he/she learning?	☐	☐	☐	☐	☐	☐	☐
4. How happy is he/she?	☐	☐	☐	☐	☐	☐	☐

IX. **Most recent achievement test scores** (optional).

Name of test	Subject	Date	Percentile or grade level obtained

X. **IQ, readiness, or aptitude tests** (optional).

Name of test	Date	IQ or equivalent scores

Does this pupil have any illness or disability (either physical or mental)? ☐ No ☐ Yes—please describe:

What concerns you most about this pupil?

Please describe the best things about this pupil:

Please feel free to write any comments about this pupil's work, behavior, or potential, using extra pages if necessary.

Please Print

Below is a list of items that describe pupils. For each item that describes the pupil ***now or within the past 2 months,*** please circle the ***2*** if the item is ***very true or often true*** of the pupil. Circle the ***1*** if the item is ***somewhat or sometimes true*** of the pupil. If the item is ***not true*** of the pupil, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to this pupil.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 1. Acts too young for his/her age
0 1 2 2. Hums or makes other odd noises in class
0 1 2 3. Argues a lot
0 1 2 4. Fails to finish things he/she starts
0 1 2 5. Behaves like opposite sex
0 1 2 6. Defiant, talks back to staff
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Fidgets
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Daydreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys property belonging to others
0 1 2 22. Difficulty following directions
0 1 2 23. Disobedient at school
0 1 2 24. Disturbs other pupils
0 1 2 25. Doesn't get along with other pupils
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Eats or drinks things that are not food – *don't* include sweets (describe):_____
_____
0 1 2 29. Fears certain animals, situations, or places other than school (describe): _____
_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe):
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, high-strung, or tense
0 1 2 46. Nervous movements or twitching (describe):
_____
_____
0 1 2 47. Overconforms to rules
0 1 2 48. Not liked by other pupils
0 1 2 49. Has difficulty learning
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Talks out of turn
0 1 2 54. Overtired
0 1 2 55. Overweight
56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (*not* stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feel sick
0 1 2 d. Problems with eyes (*not* if corrected by glasses) (describe):
_____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe):_____
_____
_____

Please see other side

Please Print

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
_____
0 1 2 59. Sleeps in class
0 1 2 60. Apathetic or unmotivated
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older children or youths
0 1 2 64. Prefers being with younger children
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____
_____
0 1 2 67. Disrupts class discipline
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe):
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Messy work
0 1 2 73. Behaves irresponsibly (describe): _____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Explosive and unpredictable behavior
0 1 2 77. Demands must be met immediately, easily frustrated
0 1 2 78. Inattentive, easily distracted
0 1 2 79. Speech problem (describe):_____
_____
0 1 2 80. Stares blankly
0 1 2 81. Feels hurt when criticized
0 1 2 82. Steals
0 1 2 83. Stores up things he/she doesn't need (describe):
_____
_____
0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe):_____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Underachieving, not working up to potential
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Seems preoccupied with sex
0 1 2 97. Threatens people
0 1 2 98. Tardy to school or class
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Fails to carry out assigned tasks
0 1 2 101. Truancy or unexplained absence
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe): _____
_____
0 1 2 106. Overly anxious to please
0 1 2 107. Dislikes school
0 1 2 108. Is afraid of making mistakes
0 1 2 109. Whining
0 1 2 110. Unclean personal appearance
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries

113. Please write in any problems the pupil has that were not listed above:

0 1 2 _____
0 1 2 _____
0 1 2 _____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS

CHILD BEHAVIOR CHECKLIST FOR AGES 4-16

For office use only
ID #

CHILD'S NAME

SEX ☐ Boy ☐ Girl

AGE

ETHNIC GROUP OR RACE

TODAY'S DATE Mo._____ Date_____ Yr._____

CHILD'S BIRTHDATE Mo._____ Date_____ Yr._____

GRADE IN SCHOOL

NOT ATTENDING SCHOOL ☐

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now. ***(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)***

FATHER'S TYPE OF WORK: _____

MOTHER'S TYPE OF WORK: _____

THIS FORM FILLED OUT BY:

☐ Mother (name): _____

☐ Father (name): _____

☐ Other—name & relationship to child: _____

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

☐ None

	Compared to other children of the same age, about how much time does he/she spend in each?				Compared to other children of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, singing, etc. (Do not include listening to radio or TV.)

☐ None

	Compared to other children of the same age, about how much time does he/she spend in each?				Compared to other children of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

III. Please list any organizations, clubs, teams, or groups your child belongs to.

☐ None

	Compared to other children of the same age, how active is he/she in each?			
	Don't Know	Less Active	Average	More Active
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

IV. Please list any jobs or chores your child has. For example: paper route, babysitting, making bed, etc. (Include both paid and unpaid jobs and chores.)

☐ None

	Compared to other children of the same age, how well does he/she carry them out?			
	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

11-88 Edition

V. 1. About how many close friends does your child have? (Do not include brothers & sisters) ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

2. About how many times a week does your child do things with friends outside of regular school hours? (Do not include brothers & sisters) ☐ Less than 1 ☐ 1 or 2 ☐ 3 or more

VI. Compared to other children of his/her age, how well does your child:

	Worse	About Average	Better	
a. Get along with his/her brothers & sisters?	☐	☐	☐	☐ Has no brothers or sisters
b. Get along with other children?	☐	☐	☐	
c. Behave with his/her parents?	☐	☐	☐	
d. Play and work by himself/herself?	☐	☐	☐	

VII. 1. For ages 6 and older—performance in academic subjects: (If child is not being taught, please give reason)

	Failing	Below average	Average	Above average
a. Reading, English, or Language Arts	☐	☐	☐	☐
b. History or Social Studies	☐	☐	☐	☐
c. Arithmetic or Math	☐	☐	☐	☐
d. Science	☐	☐	☐	☐
Other academic subjects—for example: computer courses, foreign language, business. Do not include gym, shop, driver's ed., etc. e. _____	☐	☐	☐	☐
f. _____	☐	☐	☐	☐
g. _____	☐	☐	☐	☐

2. Is your child in a special class or special school? ☐ No ☐ Yes—what kind of class or school?

3. Has your child repeated a grade? ☐ No ☐ Yes—grade and reason

4. Has your child had any academic or other problems in school? ☐ No ☐ Yes—please describe

When did these problems start?

Have these problems ended? ☐ No ☐ Yes—when?

Does your child have any illness, physical disability, or mental handicap? ☐ No ☐ Yes—please describe

What concerns you most about your child?

Please describe the best things about your child:

Below is a list of items that describe children. For each item that describes your child **now or within the past 6 months**, please circle the **2** if the item is **very true or often true** of your child. Circle the **1** if the item is **somewhat or sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 1. Acts too young for his/her age
0 1 2 2. Allergy (describe): _____
_____
0 1 2 3. Argues a lot
0 1 2 4. Asthma
0 1 2 5. Behaves like opposite sex
0 1 2 6. Bowel movements outside toilet
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Cruel to animals
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Day-dreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys things belonging to his/her family or other children
0 1 2 22. Disobedient at home
0 1 2 23. Disobedient at school
0 1 2 24. Doesn't eat well
0 1 2 25. Doesn't get along with other children
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Eats or drinks things that are not food—don't include sweets (describe): _____
_____
0 1 2 29. Fears certain animals, situations, or places, other than school (describe): _____
_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with children who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe): _____
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Likes to be alone
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe): _____
_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other children
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired
0 1 2 55. Overweight
56. Physical problems without known medical cause:
0 1 2 a. Aches or pains
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (describe): _____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe): _____
_____

Please see other side

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
_____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers playing with older children
0 1 2 64. Prefers playing with younger children
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____
_____
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe):
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe):
_____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Sleeps less than most children
0 1 2 77. Sleeps more than most children during day and/or night (describe): _____
_____
0 1 2 78. Smears or plays with bowel movements
0 1 2 79. Speech problem (describe): _____
_____
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up things he/she doesn't need (describe):
_____
0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe):
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe):
_____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanlines
0 1 2 100. Trouble sleeping (describe):
_____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe):
_____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with othe
0 1 2 112. Worrying
113. Please write in any problems your child h that were not listed above:
0 1 2 _____
0 1 2 _____
0 1 2 _____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS.

UNDERLINE ANY YOU ARE CONCERNED ABOU

Appendix E:

School Social Behavior Scales

School Social Behavior Scales

SSBS

Kenneth W. Merrell, Ph.D.

Student Information

Student Name _____
Last

_____
First Middle

Grade _____ Age _____ Sex: M F

School _____

If this student receives special education services, please list the special education service category or classification:

_____

If this student participates in any other educational program(s), please list the program name (Talented and Gifted, Chapter 1, Remedial Education, etc.):

Rater Information

Rated By _____

Position _____

Date Completed _____

List the setting(s) in which you observe or interact with the student:

_____

_____

_____

_____

Instructions

After you have completed the student and rater information sections, please rate the student on each of the items on pages 2 and 3 of this rating form. The rating points after each item appear in the following format:

Never Sometimes Frequently
1 2 3 4 5

Never If the student does not exhibit a specified behavior, or if you have not had an opportunity to observe it, circle 1, which indicates *Never*.

Sometimes Circle the numbers 2, 3, or 4, (which indicate *Sometimes*) if the student exhibits these behaviors somewhere in between the two extreme rating points, based on your estimation of how frequently the specified behavior occurs.

Frequently If the student often exhibits a specified behavior, circle 5, which indicates *Frequently*.

Please complete all items, and do not circle between numbers.

SSBS

Scale A
Social Competence

	Never		Sometimes		Frequently	Scoring Key		
1. Cooperates with other students in a variety of situations	1	2	3	4	5			
2. Appropriately transitions between classroom activities	1	2	3	4	5			
3. Completes individual seatwork without being prompted	1	2	3	4	5			
4. Offers help to other students when needed	1	2	3	4	5			
5. Effectively participates in group discussions and activities	1	2	3	4	5			
6. Understands other students' problems and needs	1	2	3	4	5			
7. Remains calm when problems arise	1	2	3	4	5			
8. Listens to and carries out directions from teacher	1	2	3	4	5			
9. Invites other students to participate in activities	1	2	3	4	5			
10. Asks for clarification of instructions in an appropriate manner	1	2	3	4	5			
11. Has skills or abilities that are admired by peers	1	2	3	4	5			
12. Is accepting of other students	1	2	3	4	5			
13. Accomplishes assignments and other tasks independently	1	2	3	4	5			
14. Completes assigned activities on time	1	2	3	4	5			
15. Will compromise with peers when appropriate	1	2	3	4	5			
16. Follows classroom rules	1	2	3	4	5			
17. Behaves appropriately in a variety of school settings	1	2	3	4	5			
18. Appropriately asks for assistance as needed	1	2	3	4	5			
19. Interacts with a wide variety of peers	1	2	3	4	5			
20. Produces work of acceptable quality for his/her ability level	1	2	3	4	5			
21. Is skillful at initiating or joining conversations with peers	1	2	3	4	5			
22. Is sensitive to feelings of other students	1	2	3	4	5			
23. Responds appropriately when corrected by teacher	1	2	3	4	5			
24. Controls temper when angry	1	2	3	4	5			
25. Appropriately enters ongoing activities with peers	1	2	3	4	5			
26. Has good leadership skills	1	2	3	4	5			
27. Adjusts to different behavioral expectations across school settings	1	2	3	4	5			
28. Compliments others' attributes or accomplishments	1	2	3	4	5			
29. Is appropriately assertive when he/she needs to be	1	2	3	4	5			
30. Is sought out by peers to join activities	1	2	3	4	5			
31. Shows self-restraint	1	2	3	4	5			
32. Is "looked up to" or respected by peers	1	2	3	4	5			
					Totals			
						A1	A2	A3

SSBS

Scale B
Antisocial Behavior

	Never		Sometimes		Frequently	Scoring Key		
1. Blames other students for problems	1	2	3	4	5			
2. Takes things that are not his/hers	1	2	3	4	5			
3. Defies teacher or other school personnel	1	2	3	4	5			
4. Cheats on schoolwork or in games	1	2	3	4	5			
5. Gets into fights	1	2	3	4	5			
6. Lies to the teacher or other school personnel	1	2	3	4	5			
7. Teases and makes fun of other students	1	2	3	4	5			
8. Is disrespectful or "sassy"	1	2	3	4	5			
9. Is easily provoked; has a short fuse	1	2	3	4	5			
10. Ignores teacher or other school personnel	1	2	3	4	5			
11. Acts as if he/she is better than others	1	2	3	4	5			
12. Destroys or damages school property	1	2	3	4	5			
13. Will not share with other students	1	2	3	4	5			
14. Has temper outbursts or tantrums	1	2	3	4	5			
15. Disregards feelings and needs of other students	1	2	3	4	5			
16. Is overly demanding of teacher's attention	1	2	3	4	5			
17. Threatens other students; is verbally aggressive	1	2	3	4	5			
18. Swears or uses obscene language	1	2	3	4	5			
19. Is physically aggressive	1	2	3	4	5			
20. Insults peers	1	2	3	4	5			
21. Whines and complains	1	2	3	4	5			
22. Argues and quarrels with peers	1	2	3	4	5			
23. Is difficult to control	1	2	3	4	5			
24. Bothers and annoys other students	1	2	3	4	5			
25. Gets in trouble at school	1	2	3	4	5			
26. Disrupts ongoing activities	1	2	3	4	5			
27. Is boastful; brags	1	2	3	4	5			
28. Cannot be depended on	1	2	3	4	5			
29. Is cruel to other students	1	2	3	4	5			
30. Acts impulsively or without thinking	1	2	3	4	5			
31. Unproductive; achieves very little	1	2	3	4	5			
32. Is easily irritated	1	2	3	4	5			
33. Demands help from other students	1	2	3	4	5			
					Totals			
						B1	B2	B3

SSBS

Additional Information

Please use the following lines to provide any additional information about this student that you believe would be useful.

SSBS Score Grid

SSBS Score	Raw Score	Standard Score	Percentile Rank	Social Functioning Level
A1 Interpersonal Skills				
A2 Self-Management Skills				
A3 Academic Skills				
AT Social Competence Total				
B1 Hostile-Irritable				
B2 Antisocial-Aggressive				
B3 Demanding-Disruptive				
BT Antisocial Behavior Total				

Note: For Scale A, higher scores indicate greater levels of social-behavioral adjustment; for Scale B, higher scores indicate greater levels of social behavior problems.

Appendix F:

Kainaiwa Cultural Questionnaire

Kainaiwa Cultural Questionnaire

Blood Tribe Education
Standoff, Alberta
March, 1994

Child's Name: _____

Child's School: _____

Your Name: _____

Your Relationship to Child: _____

Marital Status: _____

Your Sex: MALE/FEMALE (circle one)

Your Age: _____

Community you reside: (circle one)
Levern Standoff Moses Lake Old Agency Other: (specify) _____

I WOULD LIKE TO ASK YOU SOME QUESTIONS CONCERNING YOUR NATIVE BACKGROUND. THESE QUESTIONS WILL COVER SUCH THINGS AS EDUCATION, NATIVE LANGUAGE AND CULTURE AND HEALING.

THIS SECTION DEALS WITH YOUR EDUCATIONAL EXPERIENCES. PLEASE THINK ABOUT WHERE YOU AND YOUR PARTNER WENT TO SCHOOL.

A.1 WHERE DID YOU GO TO ELEMENTARY SCHOOL? (MARK ALL THAT APPLY.)

1) Did not attend elementary school.
2) On the Blood Reserve (St. Mary's).
3) Off-Reserve Day School (St. Paul's).
4) Off-Reserve.
5) Off-Reserve Indian Residential School.
6) Off-Reserve Integrated Residential School (i.e., Calgary St. Mary).
7) Other

A.2 WHERE DID YOU GO TO HIGH SCHOOL? (MARK ALL THAT APPLY.)

1. Did not attend high school.
2. On the Blood Reserve.
3. Off-Reserve Day School.
4. Off-Reserve Boarding Home.
5. Off-Reserve Indian Residential School.
6. Off-Reserve Integrated Residential School.
7. Other (Please specify in long form)

_____
_____
_____
_____

A.3 WHERE DID YOUR SPOUSE GO TO ELEMENTARY SCHOOL?

1. Did not attend elementary school.
2. On the Reserve.
3. Off-Reserve Day School.
4. Off-Reserve Boarding Home.
5. Off-Reserve Indian Residential School.
6. Off-Reserve Integrated Residential School.
7. Other. (Please specify in long form.)

_____
_____
_____
_____

A.4 WHERE DID YOUR SPOUSE GO TO HIGH SCHOOL? (MARK ALL THAT APPLY.)

1. Did not attend high school.
2. On the Reserve.
3. Off-Reserve Day School.
4. Off-Reserve Boarding Home.
5. Off-Reserve Indian Residential School.
6. Off-Reserve Integrated Residential School.
7. Other. (Please specify in long form.)

_____
_____
_____
_____

SOMETIMES THE WAY WE FEEL ABOUT OUR OWN EXPERIENCES IN SCHOOL CAN INFLUENCE THE WAY WE FEEL ABOUT OUR CHILDREN'S EDUCATION. THINK ABOUT YOUR TIME IN SCHOOL AND DECIDE HOW MUCH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS, WHERE ONE 1 IS DEFINITELY NO AND 5 IS DEFINITELY YES.

		Definitely NO				Definitely Yes
A.5	I LIKED SCHOOL.	1	2	3	4	5
A.6	MY TEACHERS RESPECTED INDIAN STUDENTS	1	2	3	4	5
A.7	MY TEACHERS ENCOURAGED ME TO GO AS FAR AS I COULD IN SCHOOL. (PLEASE SPECIFY IN LONG FORM.)	1	2	3	4	5

_____
_____
_____
_____

A.8 IS THERE ANYTHING ELSE THAT YOU WOULD LIKE TO SAY ABOUT YOUR OWN SCHOOL EXPERIENCES? (PLEASE SPECIFY IN LONG FORM.)

_____
_____
_____
_____

A.9 IS THERE ANYTHING THAT YOU WOULD LIKE TO SAY ABOUT YOUR FAMILY'S SCHOOL EXPERIENCES? (PLEASE SPECIFY IN LONG FORM.)

_____
_____
_____
_____

THIS SECTION DEALS WITH QUESTIONS ABOUT YOUR KNOWLEDGE OF YOUR INDIAN BACKGROUND.

B.1 WHAT IS YOUR INDIAN ANCESTRY? (MARK ALL THAT APPLY.)

1. Kainaiwa
2. Peigan
3. Non-Indian
4. Siksika
5. Other (Please specify)

B.2 DO YOU BELONG TO A CLAN?

1. NO

2. YES:
   WHAT CLAN DO YOU BELONG TO? (SPECIFY IN LONG FORM.)
   WHAT CLAN DOES YOUR MOTHER BELONG TO? (SPECIFY IN LONG FORM.)

_____
_____
_____
_____

WHAT CLAN DOES YOUR FATHER BELONG TO? (SPECIFY IN LONG FORM.)

_____
_____
_____

B.3 DO YOU HAVE AN INDIAN NAME?

0. NO 1. YES

I WOULD LIKE TO ASK YOU TO THINK ABOUT ANY TRADITIONAL TEACHINGS THAT YOU MAY HAVE HAD WHEN YOU WERE A CHILD. (PLEASE SPECIFY IN LONG FORM.)

_____
_____
_____

C.1 IS YOUR CHILD RECEIVING ANY TRADITIONAL TEACHINGS?

0. NO 1. YES (PLEASE SPECIFY IN LONG FORM.)

C.2 WHO IS TEACHING YOUR CHILD (IN REFERENCE TO OUR TRADITIONS)? (CIRCLE ALL THAT APPLY.)

1. SELF
2. SPOUSE/PARTNER
3. CHILD'S OTHER PARENT (IF DIFFERENT FROM 2)
4. CHILD'S GRANDPARENT
5. OTHER RELATIVE (AUNT, UNCLE, ETC.)
6. FRIENDS
7. ELDER
8. TEACHER (PLEASE SPECIFY ON LONG FORM.)

9. OTHER

KAINAIWA PEOPLE HAVE MANY TRADITIONAL CUSTOMS AND ACTIVITIES. HERE IS ALIST OF SOME OF THE CUSTOMS AND ACTIVITIES. PLEASE FOLLOW ALONG WITH ME AND AS I READ THEM, PLEASE INDICATE THOSE YOU HAVE SOME UNDERSTANDING OF OR ARE FAMILIAR WITH. SECONDLY, PLEASE INDICATE THOSE YOU HAVE PARTICIPATED IN.

C.3 FAMILIAR WITH:
HUNTING? 0. NO 1. YES
PARTICIPATED IN?
C.4. 0. NO
1. YES

C.5 FAMILIAR WITH:
FISHING 0. NO 1. YES
PARTICIPATED IN?
C.6. 0. NO
1. YES

C.7 FAMILIAR WITH:
TRAPPING 0. NO 1. YES
PARTICIPATED IN?
C.8. 0. NO
1. YES

C.9 FAMILIAR WITH:
TANNING HIDES 0. NO 1. YES
PARTICIPATED IN?
C.10. 0. NO
1. YES

C.11 FAMILIAR WITH:
QUILTING 0. NO 1. YES
PARTICIPATED IN?
C.12. 0. NO
1. YES

C.13 FAMILIAR WITH:
BEADING 0. NO 1. YES
PARTICIPATED IN?
C.14. 0. NO
1. YES

C.15 FAMILIAR WITH:
NURSING YOUR BABY 0. NO 1. YES
PARTICIPATED IN?
C.16. 0. NO
1. YES

C.17 FAMILIAR WITH:
MIDWIFERY 0. NO 1. YES
PARTICIPATED IN?
C.18. 0. NO
1. YES

C.19 FAMILIAR WITH:
PICKING PLANTS, WILD
BERRIES FOR FOOD? 0. NO 1. YES
PARTICIPATED IN?
C.20. 0. NO
1. YES

C.21 FAMILIAR WITH:
PICKING PLANTS AND
HERBS FOR MEDICINE 0. NO 1. YES
PARTICIPATED IN?
C.22. 0. NO
1. YES

C.23 FAMILIAR WITH:
TRADITIONAL MEDICINES
AND METHODS 0. NO 1. YES
PARTICIPATED IN?
C.24. 0. NO
1. YES

C.25 FAMILIAR WITH:
COOKING AND FOOD
PREPARATION FOR
FEASTS/CEREMONIES 0. NO 1. YES
PARTICIPATED IN?
C.26. 0. NO
1. YES

C.27 FAMILIAR WITH: SWEAT LODGE CEREMONY 0. NO 1. YES
PARTICIPATED IN? C.28. 0. NO 1. YES

C.29 FAMILIAR WITH: SUNDANCE CEREMONIES 0. NO 1. YES
PARTICIPATED IN? C.30. 0. NO 1. YES

C.31 FAMILIAR WITH: PAINTING FACES 0. NO 1. YES
PARTICIPATED IN? C.32. 0. NO 1. YES

C.33 FAMILIAR WITH: NAMING CEREMONIES 0. NO 1. YES
PARTICIPATED IN? C.34. 0. NO 1. YES

C.35 FAMILIAR WITH: PIPE CEREMONIES (WINTERTIME PIPE CEREMONY) 0. NO 1. YES
PARTICIPATED IN? C.36. 0. NO 1. YES

C.37 FAMILIAR WITH: TRADITIONAL/SOCIAL INDIAN DANCES 0. NO 1. YES
PARTICIPATED IN? C.38. 0. NO 1. YES

C.39 FAMILIAR WITH:
INDIAN SONGS AND
DRUMMING 0. NO 1. YES

PARTICIPATED IN?
C.40. 0. NO
1. YES

C.41 FAMILIAR WITH:
TRADITIONAL
GIVE-AWAYS 0. NO 1. YES

PARTICIPATED IN?
C.42. 0. NO
1. YES

C.43 FAMILIAR WITH:
HONOUR SONGS 0. NO 1. YES

PARTICIPATED IN?
C.44. 0. NO
1. YES

C.45 FAMILIAR WITH:
SMUDGING 0. NO 1. YES

PARTICIPATED IN?
C.46. 0. NO
1. YES

C.47 FAMILIAR WITH:
MEDICINE PIPE
CEREMONIES.
DANCING WITH PIPE
(NINAMISKAM) 0. NO 1. YES

PARTICIPATED IN?
C.48. 0. NO
1. YES

C.49 FAMILIAR WITH:
PRESENTING OFFERING
TO HOLY PERSON FOR
HEALING 0. NO 1. YES

PARTICIPATED IN?
C.50. 0. NO
1. YES

C.51 FAMILIAR WITH:
SACRED SOCIETIES 0. NO 1. YES
PARTICIPATED IN?
C.52. 0. NO
1. YES

C.53 FAMILIAR WITH:
NAPI LEGENDS 0. NO 1. YES

C.54 FAMILIAR WITH:
LULLABIES 0. NO 1. YES

C.55 FAMILIAR WITH:
TRADITIONAL MORALS
AND VALUES STORIES O. NO 1. YES

NOW I WILL ASK YOU ABOUT YOUR BACKGROUND AND FAMILIARITY WITH THE BLACKFOOT LANGUAGE.

D.56 WHAT LANGUAGE DO YOU SPEAK IN THE HOME?

a. Blackfoot
b. English
c. Both

D.57 WHAT LANGUAGE DO YOU SPEAK FLUENTLY?

a. Blackfoot
b. English
c. Both
d. Other

D.58 WHAT IS YOUR CHILD'S FIRST LANGUAGE?

a. Blackfoot
b. English
c. Both
d. Other

D.59 DO YOU WRITE FLUENTLY IN BLACKFOOT?

A. YES B. NO C. SOME

D.60 DO YOU READ FLUENTLY IN BLACKFOOT?

A. YES B. NO C. SOME

D.61 DO YOU HAVE THE DESIRE TO HAVE YOUR CHILDREN SPEAK BLACKFOOT FLUENTLY?

A. YES B. NO C. SOME

D.62 DO YOU UNDERSTAND THE BLACKFOOT SIGN LANGUAGE?

A. YES B. NO C. SOME

D.63 DO YOU HAVE ADDITIONAL CONCERNS THAT YOU WOULD LIKE TO EXPRESS. PLEASE DO SO AT THIS TIME.

_____
_____
_____
_____
_____
_____
_____

Appendix G:

Parent Consent Forms

March 01, 1994

Dear Parents:

The Special Student Services of the Education Department, in conjunction with the Utah State University, will be undertaking research on intellectual, behavioral and social characteristics of children in grades K-3. This research will involve various assessments in grades Kindergarten to grades three for the 1993-94 school term. We would like to test all the children to determine if there are any group score differences between children in regular education classes, special education classes, and children diagnosed as having Fetal Alcohol Syndrome. The results may provide a diagnostic criteria for the FAS group and help in designing an intervention program for FAS children. The assessments will also provide your child with a educational report which will benefit him/her in the best possible education opportunities.

The measures we will be administering include a cognitive test, an achievement test, behavioral tests, a school social behaviours test, and a demographic questionnaire.

The tests will be administered to your child by a trained psychologist and by teachers. These tests will not cause any harm or damage to your child and the tests will be administered throughout the course of the school year. The results of the test will be discussed with the parent. The test records will be kept in a secured locked cabinet in the school. The tests will be confidential documents that may not be released without your written permission.

Would you please sign the enclosed form indicating your permission to have your child assessed in the research project. If you have any questions regarding this procedure, please contact Deborah Pace or Evelyn Goodstriker at 737-3966 during office hours (8 a.m. to 4 p.m. Monday-Friday).

Sincerely,

Deborah Pace, Special Student Services Coordinator

KAINAIWA EDUCATION BOARD
P.O. BOX 240
STANDOFF, ALBERTA
CANADA TOL 1Y0
TELEPHONE: (403)737-3966
FAX: (403) 737-2361

PARENT CONSENT FORM

I hereby give my permission for my child;.....

.....to be tested.

I understand that the results of my child's test scores will be used in the research project on Fetal Alcohol Syndrome and that the results of my child's test scores will be discussed with me. I also understand that the test results are confidential information and will not be released without my permission.

Parents signature

VITA

DEBORAH FAITH PACE

Residence
P. O. Box 1335
Cardston, Alberta T0K 0K0
(403) 737-2370

EDUCATION

1985 B.Ed. Major in Special Education Graduate, 1985
Minor in Generalist Education
University of Alberta, Edmonton, Alberta, Canada

1988 Diploma Specialization in Language Arts/Reading, Graduate 1988
University of Lethbridge, Alberta, Canada

1995 Master's of Science in Psychology
Utah State University, Logan, Utah, USA

1997 Doctorate of Philosophy in Psychology
(Clinical emphasis, APA Approved)
Utah State University, Logan, USA

CLINICAL EXPERIENCE

9/1/95 - 8/30/96 University of Alberta Hospital, Edmonton
Supervisor: Dr. L. L. Mayo, Clinical Director, General Psychology
Responsibilities:

Rotation One: Geriatrics and Community Psychiatry. The Community Psychiatric Program included providing readily accessible referral, assessment, and specially adapted interventions to individuals, families and groups with identified severe or persistent dysfunction, disorder or disease whose symptoms have affected functioning in major life areas or have resulted in a significant level of disability. Services are developed provided and evaluated collaboratively with clients, families and friends, health professionals and efficient use of resources. Treatment was also provided for clients discharged from inpatient programs and to clients referred from health

CLINICAL EXPERIENCE (continued)

professionals, agencies, government departments and the community at large. Treatment was also provided for any client experiencing a psychiatric crisis.
Supervisor: Dr. L. L. Mayo, Geriatrics

Rotation Two: Forensic Assessment and Community Services (FACS). Provided multidisciplinary assessment and treatment services for sentenced young offenders (12-18 years), with mental health problems. Referrals from 'Turning Point and Counterpoint' programs, the Probation Division of the Alberta Justice Department and other treatment/program service agencies serving young offender population. Treatment services provided were individual, group and family therapy, psychoeducational/skills groups (including anger management, social skills training, relapse prevention and parent management), pharmacotherapy and psychiatric consultation. Program goals were to reduce psychiatric and behavioral symptomatology, to improve mental health and to reduce recidivism. Assessments for Adult offenders were also provided. This included Pre-sentence reports formulated to assist the courts in considering disposition/treatment alternatives, and Treatment reports, prepared to provide a foundation for effective treatment. Treatment included individual group and family therapy, psychoeducational and skills groups. Treatment to violent and sexual offenders was provided and to those who suffer from serious mental illnesses or functional deficits. Supervisor: Dr. Andrew Howell.

Rotation Three: General Psychiatry. Treatment and Assessment/Diagnosis was provided to adults (ages 19-65) with severe and persistent mental illness in both the inpatient and outpatient units. focus on treatment are to prevent unnecessary and lengthy hospital stays and to improve the length and quality of the client's tenure in the community. Supervisor: Dr. Wendy Hawkins, General Psychiatry.

6/89 - 8/89 Utah State University Psychology Community Clinic
Supervisor: Dr. Jay R. Skidmore
Responsibilities: Provided individual and marital therapy. Conducted intake and discharge interviews. Conducted psychological

CLINICAL EXPERIENCE (continued)

assessments including interviewing, administration of objective tests, test interpretation and report writing. Psychotherapy with adult and child clients with a variety of presenting problems and diagnoses, including depression, personality disorders, interpersonal difficulties, adjustment to adult life changes and marital problems. Presented cases to practicum group, including video taped samples of therapy work.

9/91 - 6/92 (12 hrs/week)
Center for Persons with Disabilities (CPD), Children's Outpatient Clinic, Utah State University, Logan, Utah
Supervisors: Drs. Phyllis Cole and Pat Truhn
Responsibilities: Served as a team member on multidisciplinary team. Conducted psychological assessments including parent and child interviews, administration of intellectual, projective and achievement tests, and assistance in report writing. Provided follow-up counseling and behavior therapy services with children.

9/92 - 6/93 (12 hrs/week)
Counseling Center, Utah State University, Logan, Utah
Supervisors: Drs. Mary Doty and Mark Nafziger
Responsibilities: Provided individual and group therapy. Conducted intake interviews and psychological assessments including interviewing, administration of objective and projective tests, test interpretation, of presenting problems and diagnosis, including depression, personality disorders, post traumatic stress disorder, adjustment to adult life situations, marital problems, interpersonal problems, eating disorders. Presented cases to practicum group on a weekly basis including video-taped samples of therapy work.

Bear River Head Start, Logan, Utah
Supervisor: Dr. Elwin Nielsen
Responsibilities: Provided counseling, intervention and referrals to parents and children. Provided services on a referral from Head Start teachers and coordinating staff conduct pre-service training to staff regarding issues related to mental health; conducted workshops for parents focussed on child development, individual differences, parenting, childhood disorders; consult with parents and teachers in a team-approach regarding children at Head Start; observe children in the classroom setting; assist staff in screening of children with delays as needed; consulted with personnel on team meetings regarding 'Individual Program plans' of a child; conduct group therapy and individual therapy.

CLINICAL EXPERIENCE (continued)

9/93 - 12/93 (12 hrs/week)	Primary Children's Hospital - Psychiatric Inpatient Salt Lake City, Utah Supervisor: Dr. Nina Parker-Choen Responsibilities: Served as a member on a multidisciplinary team. Provided individual and group therapy for children. Conducted intake interviews, objective and projective tests, test interpretations, and report writings. Short term individual and group therapy with patients presenting with a variety of problems and diagnosis, including depression, personality disorders, interpersonal problems, eating disorders, anxiety disorders.

PROFESSIONAL EXPERIENCE SUMMARY

1995 - present	Kainai Education Board: Student Services Director: Student Services
1997	Red Crow Community College (University of Lethbridge - transfer) Instructor: Psychology 2800
1996	Mount Royal College, Department of Behavioral Sciences Instructor: Psychology 2000
1994 - 1995	University of Alberta Hospital, Edmonton Intern: Geriatric, Community Health, Forensics, General Psychiatry
1992 - 1993	Utah State University, Department of Psychology Graduate Assistant: American Indian Support Project
1992	Utah State University, Department of Psychology Graduate Assistant: Instructor, Intelligence Testing I (Graduate classes)
1991	Utah State University, Department of Psychology Center for Persons with Disabilities: Agent Orange--Family Assistance Program. Case Manager/Researcher for Vietnam veterans and families.
1998	Kanai Education Board, Kainai High School Teacher: Special Education Junior/Senior High School

PROFESSIONAL EXPERIENCE SUMMARY (continued)

1985	Cardston School Division Teacher: Special Education, Grade One Research Coordinator: Native Project

CONTRACT RESEARCH GRANTS:

1997	Treaty Seven Tribal Council, Calgary, Alberta Consultant: Treaty 7 Special Education Policy Development
1995 - Present	Kainai Education Board, Standoff, Alberta Consultant: Early Intervention and Research Principal Investigator: Deborah F. Pace
1994	Brighter Futures, Standoff, Alberta Consultant: Fetal Alcohol Syndrome Research Principal Investigator: Deborah F. Pace
1992	AADAC, Fetal Alcohol Syndrome--Curriculum Development Principal Investigator: Deborah F. Pace

REPORTS

Pace, D. F., Fox, M., Zaharia, F., & Goodstriker, E. (1997, January). Kainaiwa's Teachings: A First Nations Model to Curriculum Development (near completion).

Pace, D. F., et al. (1997, March). Treaty 7 Special Education Policy.

Pace, D. F., & Mayo, L. L. (1995, June). First Nations Perspective on Mental Health.

Pace, D. F., Mayo, L. L., & Reimer, D. (1996, June). Treaty 7 First Nations Perspective on Mental Health.

Chrisjohn, R. D., Towson, S. M. J., & Chrisjohn, R. D. (1987, January). An evaluation of the present educational system on the Blood Band Reserve and recommendation for change.

REPORTS (continued)

Pace, D. F., Towson, S. M. J., & Chrisjohn, R. D. (1986, September). A Model of Special Education for the Blood Reserve. Paper presented at MOKAKIT Indian Education Research Association Conference, Winnipeg, Manitoba, Canada.

Chrisjohn, R. D., Pace, D. F., Mrochuk, M., & Young, S. (1993, April). The Ethics of Cross Cultural Assessment. Paper presented at Treaty 7 First Nations Educational Leadership Conference, Calgary, Alberta, Canada.

PUBLICATIONS

Chrisjohn, R. D., Towson, S., Pace, D. F., & Peters, M. (1988). The WISC-R in a Native application: Internal and external analysis. In J. W. Berry & R. Annis (Eds.), *Ethnic Psychology: Research and practice with immigrants, refugees, Native peoples.* Sojourners. Amsterdam: Swets & Zeitlinger.

Chrisjohn, R. D., Pace, D. F., Young, S., & Mrochuk, M. (1993). Psychological assessment and First Nations, ethics, theory and practice, *Mokakit Research Journal*, Vancouver, British Columbia, Canada.

INVITED ADDRESSES/WORKSHOPS/COLLOQUIA/PRESENTATIONS

"Walking Together Towards a Healthy Educational Environment," Westcase, 1997 Conference. Partnerships in Education. Presentation at University of Lethbridge, Lethbridge, Alberta, Canada.

"First Nations and Assessment," Alexis Treaty Six Education Conference, Alexis (Edmonton), Alberta, Canada, February, 1997.

"Napii, Alive and Well in Kainaiwa," World Indigenous Conference, 1996 Conference. Presentation at Albuquerque, New Mexico, USA.

"First Nations Perspectives in Mental Health," Native Psychologists Conference, Utah State University, Logan, Utah, Logan, 1995.

"Childhood Disorders," Presentation at Treaty 7 Wellness Conference, Calgary, Alberta, Canada, November 4, 1993.

INVITED ADDRESSES/WORKSHOPS/COLLOQUIA/PRESENTATIONS (continued)

"Childhood Disorders," Presentation at Treaty 7 Education Conference, Lethbridge Lodge, Lethbridge, Alberta, Canada, October 1993.

"Fetal Alcohol Syndrome," Presentation at Treaty 7 First Nations Education Leadership Conference, Blackfoot Inn, Calgary, Alberta, Canada., April 22 and 23, 1993.

"Teaching Reading Methods in Native Schools," Presentation at Crowfoot Elementary School (with E. Goodstriker), Gleichen, Alberta, Canada, January 29, 1993.

"Fetal Alcohol Syndrome," Issues in Schools and Communities. Presentation at Blood Tribe Interagency Conference, Standoff, Alberta, Canada, November, 1992.

"Fetal Alcohol Syndrome," Approaches to the Classroom Teacher. Presentation at 'Approaches to Developing our Gifts' Conference, Treaty 7 Teachers Conference, Calgary, Alberta, Canada, October, 1992.

"Fetal Alcohol Syndrome and Effects," Recognition, Prevention and Implications for the classroom. Presentation at Utah State University Education Conference, Eccles Conference Center, Logan, Utah, June 1992.

Kainai Educational Assessment Project: A model for community initiated educational research, (with R. Chrisjohn, S. Kechnie, D. Pace, M. Fox, & J. Goodstriker). New Roads to Education Conference, University of Lethbridge, Lethbridge, Alberta, Canada, February 1986.

HISTORY OF EMPLOYMENT

1969 - 1973	Kainai Industries Limited, Standoff, Alberta, Canada. Position: Secretary.
1974 - 1975	Guarantee Trust Company of Canada, Calgary, Alberta, Canada. Position: Supervisor, Stocks and Bonds Department.
1975 - 1977	Blood Tribe Administration, Standoff, Alberta, Canada. Position: Comptroller/Finance.

HISTORY OF EMPLOYMENT (continued)

1977-1979	Alberta Native Communications Society, Edmonton, Alberta, Canada. Position: Executive Secretary.
1979 - 1980	Employment and Immigration Canada, Edmonton, Alberta, Canada. Position: Federal/Provincial Coordinator for Intergovernmental Affairs.
1980 - 1981	Indian Association of Alberta, Edmonton, Alberta, Canada Position: Consultant, Public Relations
1985 - 1986	Blood Tribe Education Department, Standoff, Alberta, Canada Position: Research Coordinator
1985 - 1988	Cardston School Division No. 2, Cardston, Alberta, Canada Position: Grade One Special Education Teacher and Coordinator of Native Project.
1988-1991	Blood Tribe Education, Standoff, Alberta, Canada. Position: Special Education Teacher and Coordinator.
1991 - 1992	Utah State University, Center for Persons with Disabilities, Agent Orange Project: Family Assistance Program, Logan, Utah, USA. Position: Case Manager for Vietnam veterans.
1992	Utah State University, Department of Psychology, Logan, Utah, USA. Position: Instructor, Intelligence Testing I.
1992 - 1993	Utah State University, Department of Psychology, Logan, Utah, USA. Position: Graduate Assistant, AISP (American Indian Support Project).
1993 - 1994	Utah State University, Bear River Mental Health, Logan, Utah, USA. Position: Coordinator/Therapist for Bear River Head Start Program..
1995 - 1996	University of Alberta Hospital, Edmonton, Alberta, Canada. Position: Psychology Intern.
1996 - Present	Kainai Education Board, Standoff, Alberta, Canada. Position: School Psychologist/Director, Special Student Services.