10 A Psychological Type Comparison of Cree and Non-Native Junior High Students

Pat L. Rosin and Frederic J. Boersma
Department of Educational Psychology
Faculty of Education
University of Alberta
Edmonton, Canada T6G 2E1

INTRODUCTION

Canadian 1981 Census data for Alberta indicated that non-Natives were significantly better educated than Natives, even though Natives have been achieving higher levels of education over the past few years (Alberta Department of Native Affairs, 1985). Yet, "…widespread withdrawal of Indian students from educational institutions before they have completed all of the requirements for a high school diploma has raised concerns as to the quality of Indian education both among educators and Native Elders" (Wall & Madak, 1991, p. 43). For those Native students who remain in school, absenteeism, disciplinary problems, poor motivation, low achievement and negative self-concept are common problems that become noticeable at the junior high school level (Gade, Hurlburt & Fuqua, 1986; Mitchum, 1989).

According to Moore (1987), there are differences in learning style between Native and non-Native students. He does not, however, believe that these differences are sufficiently consistent to suggest a uniquely Native learning style. Moore goes on to suggest that learning style differences may be related to different background experiences, different value systems and different child-rearing practices, rather than to racial or genetic differences. This raises the question as to whether learning style differences might be reflected in distinctly different modal personality types or in specific preferences for Cree junior high students, in comparison to non-Native Canadian students and CAPT junior high data bank samples.

Moody (1992) reported an ESTP modal type for native Hawaiian and part-Hawaiian university students. Based on this information, he described a school program (KEEP) designed to facilitate more effective classroom operation and learning for this type of student, where teachers were instructed in the use of teaching strategies based on Hawaiian culture that were most suitable for working with native Hawaiians. The success of this program was attributed to its focus on training teachers to teach to culture and in the process "to teach to type" (see chapter 12 in this volume).

Type theory, as operationalized by the Myers-Briggs Type Indicator (MBTI) (Myers & McCaulley, 1985), has been commonly linked to learning styles and to academic self-concept (Lathey, 1991; Lawrence, 1984; Tobacyk, Wells & Springer, 1988; Fourqurean, Meisgeier & Swank, 1988). The ability of the MBTI to differentiate between different types of students holds promise for developing curricula material and teacher training

programs to better meet the needs of specific types of students. The MBTI also holds promise for identifying cross-cultural type differences between students.

The purpose of this research was threefold: (1) to determine whether similar gender differences exist in the Cree and non-Native students as were found in the CAPT data base sample; (2) to ascertain if there is a distinct modal type or a specific preference pattern for Cree junior high school students in comparison to the non-Native and CAPT junior high data bank samples; and (3) to examine the methodology and implications for effective cross-cultural research using the MBTI.

METHOD

Cree Students. The Native sample consisted of 107 Cree students (62 males and 45 females) ranging in age from 11-15 years, who were attending an entirely Native junior high school in a lower middle-class urban area in Edmonton, Alberta. The school's focus was on fostering and implementing Cree traditions, values, and customs. The majority of the Cree students came from outlying rural areas, residing with relatives or friends in the city during the week or the school term and returning home on weekends or school holidays.

All students present on the day of testing (N = 119) were invited to participate in the project. Twelve students (4 males and 8 females) chose not to participate or did not complete the MBTI. Thus, 10 per cent of the original total sample were excluded from the analysis. The remaining 107 students included 31 grade 7s (14 males, 17 females, mean age = 12.4), 42 grade 8s (26 males, 16 females, mean age = 13.5) and 34 grade 9s (22 males, 12 females, mean age = 14.4).

Non-Native Students. The non-Native sample consisted of 174 junior high students (99 males and 75 females) from two Edmonton, Alberta schools. Data from the two schools were combined to increase the sample size. Both schools were from lower middle-class urban areas. The age range for the groups was also 11-15 years. Again, all students present were invited to participate. Fourteen students (8 males and 6 females) chose not to participate or failed to complete the MBTI. This resulted in a seven percent decrease in sample size. Of the total 174 students remaining, there were 61 grade 7s (34 males, 27 females, mean age = 12.1), 69 grade 8s (44 males, 25 females, mean age = 13.1) and 44 grade 9s (21 males, 23 females, mean age = 14.0).

CAPT Data Bank Sample. Another comparative sample was obtained from the CAPT-MBTI Data Bank. The sample consisted of 256 male and 321 female junior high school students who completed the MBTI (either Form G or F).

PROCEDURE

All students present who participated in the study were given the MBTI (Form F). Prior to the testing, each teacher was given a letter outlining the procedures to be followed when administering the MBTI. These instructions were reviewed with each teacher on the day of the testing.

Testing was conducted in the Fall of 1992 at three junior high schools over a one week period, at the same time in the afternoon. In all cases, students remained in their homerooms and were supervised by their teacher. Students completed the information section of the MBTI after which the teachers read the test instructions aloud. One researcher was always available to answer queries from teachers, monitor progress and collect completed tests.

Each student was given an identification code, which included school, age, grade, gender and ethnicity, to assist in data analysis. The two non-Native schools requested that students include their names. At the Cree school, the principal felt that the students would be more open and honest in their answers if they could respond anonymously. Thus, Cree students were not identified by name.

RESULTS

Prior to discussion of the results, it is important to clarify the definitions of most frequent type and modal type being used in this paper. *Most frequent type* refers to the individual type table typology which has the highest frequency of occurrence; whereas *modal type* refers to the most frequent response on each preference over the whole group.

The data was analyzed for both for gender and cultural differences. Gender effects will be discussed first, then Cree and non-Native differences, and finally, implications of these findings.

Gender Comparisons

CAPT males vs. CAPT females. The CAPT-MBTI Data Bank provides separate data tables for male and female junior high school students. A comparison of CAPT males (N = 256) with CAPT females (N = 321) revealed many significant gender differences.

The most frequent type for males was **ISTP** (12.89%, I = 3.76, <.001), followed closely by ESTP (12.11%). The modal type was **ESTP—E** (57%), **S** (55%), **T** (66%), **P** (69%). Compared to CAPT females, the CAPT males were less E (57% vs. 66%, I = .87, <.05), more T (66% vs. 38%, I = 1.7, <.001), and more P (69% vs. 55%, I = 1.25, <.001). Furthermore, there were almost twice as many ST males as females (41% vs. 23%, I = 1.82, <.001), and almost two and one-half times as many TP males than females (43% vs. 18%, I = 2.36, <.001). At the .01 level, males were more IP (I = 1.44), NT (I = 1.55), SP (I = 1.35), and IS (I = 1.61) compared to CAPT females. The males also exhibited a greater frequency of T dominance (32% vs. 22%, I = 1.47, <.01).

CAPT-MBTI Data Bank data for junior high school females indicated the most frequent type to be **ENFP** (14.95%). The modal type was **ESFP—E** (66%), **S** (54%), **F** (62%), **P** (55%). Females, in comparison to males, also had a greater frequency of F dominance (27% vs. 12%, I = 2.34, <.001). Based on the above, the present researchers felt there was enough evidence of junior high gender differences to warrant separate analyses for males and females in the present study.

Non-Native males vs. non-Native females. Comparison of the non-Native males to the non-Native females is shown in Table 10.1. These results are very similar to CAPT data findings. Here the most frequent male type was also **ISTP** (18.18%, I = 2.73, <.05), with ESTP again being a close second (17.17%). The modal type for males in this sample was **ESTP—E** (53%) **S** (73%) **T** (84%) **P** (59%).

Table 10.1
Non-Native Males Compared with Non-Native Females
N = 99

ISTJ	**ISFJ**	**INFJ**	**INTJ**
N = 12	N = 2	N = 1	N = 6
% = 12.12	% = 2.02	% = 1.01	% = 6.06
I = 3.03	I = 0.19*	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝	⁝	⁝⁝⁝⁝⁝⁝
ISTP	**ISFP**	**INFP**	**INTP**
N = 18	N = 2	N = 1	N = 5
% = 18.18	% = 2.02	% = 1.01	% = 5.05
I = 2.73*	I = 0.15**	I = 0.11*	I = 0.95
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝	⁝	⁝⁝⁝⁝⁝
ESTP	**ESFP**	**ENFP**	**ENTP**
N = 17	N = 4	N = 4	N = 7
% = 17.17	% = 4.04	% = 4.04	% = 7.07
I = 2.58	I = 0.43	I = 0.51	I = 0.66
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝	⁝⁝⁝⁝	⁝⁝⁝⁝⁝⁝⁝
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
N = 15	N = 2	N = 0	N = 3
% = 15.15	% = 2.02	% = 0.00	% = 3.03
I = 2.27	I = 0.38	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝		⁝⁝⁝

	N	%	I
E	52	52.53	1.04
I	47	47.47	0.96
S	72	72.73	1.16
N	27	27.27	0.73
T	83	83.84	2.10***
F	16	16.16	0.27***
J	41	41.41	1.35
P	58	58.59	0.84
IJ	21	21.21	1.45
IP	26	26.26	0.76
EP	32	32.32	0.93
EJ	20	20.20	1.26
ST	62	62.63	2.61***
SF	10	10.10	0.26***
NF	6	6.06	0.28**
NT	21	21.21	1.33
SJ	31	31.31	1.17
SP	41	41.41	1.15
NP	17	17.17	0.52*
NJ	10	10.10	2.53
TJ	36	36.36	3.41***
TP	47	47.47	1.62*
FP	11	11.11	0.28***
FJ	5	5.05	0.25**
IN	13	13.13	0.90
EN	14	14.14	0.62
IS	34	34.34	0.99
ES	38	38.38	1.37
Sdom	35	35.35	1.15
Ndom	18	18.18	0.97
Tdom	41	41.41	2.22**
Fdom	5	5.05	0.16***

Note: ⁝ = 1 person. Print date: 10/4/93 < .05, ** < .01, *** < .001
Base total N = 75. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

0.10	0.02	1.00	0.04
0.04	0.01	0.01	1.00
0.06	0.21	0.33	0.70
0.10	0.40	0.08	0.26

E	0.06	IJ	1.22	SJ	0.44	IN	0.08
I	0.06	IP	1.44	SP	0.53	EN	2.12
S	2.00	EP	0.11	NP	6.09	IS	0.00
N	2.00	EJ	0.50	NJ	0.15	ES	2.05
T	36.02	ST	25.63	TJ	14.91	Sd	0.42
F	36.02	SF	20.02	TP	5.87	Nd	0.01
J	2.12	NF	9.01	FP	19.77	Td	10.21
P	2.12	NT	0.75	FJ	0.00	Fd	0.00

Table 10.2
Cree Males Compared with Cree Females
N = 62

ISTJ	**ISFJ**	**INFJ**	**INTJ**
N = 8	N = 0	N = 0	N = 0
% = 12.90	% = 0.00	% = 0.00	% = 0.00
I = 5.81	I = 0.00	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝			
ISTP	**ISFP**	**INFP**	**INTP**
N = 16	N = 7	N = 4	N = 5
% = 25.81	% = 11.29	% = 6.45	% = 8.06
I = 2.90*	I = 0.42*	I = 1.45	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝	⁝⁝⁝⁝⁝
ESTP	**ESFP**	**ENFP**	**ENTP**
N = 6	N = 2	N = 1	N = 2
% = 9.68	% = 3.23	% = 1.61	% = 3.23
I = 1.45	I = 0.18*	I = 0.36	I = 1.45
⁝⁝⁝⁝⁝⁝	⁝⁝	⁝	⁝⁝
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
N = 6	N = 3	N = 0	N = 2
% = 9.68	% = 4.84	% = 0.00	% = 3.23
I = 1.09	I = 0.73	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝	⁝⁝⁝		⁝⁝

	N	%	I
E	22	35.48	0.67
I	40	64.52	1.38
S	48	77.42	0.97
N	14	22.58	1.13
T	45	72.58	2.33***
F	17	27.42	0.40***
J	19	30.65	1.06
P	43	69.35	0.98
IJ	8	12.90	1.94
IP	32	51.61	1.29
EP	11	17.74	0.57
EJ	11	17.74	0.80
ST	36	58.06	2.18**
SF	12	19.35	0.36***
NF	5	8.06	0.52
NT	9	14.52	3.27
SJ	17	27.42	1.37
SP	31	50.00	0.83
NP	12	19.35	1.74
NJ	2	3.23	0.36
TJ	16	25.81	1.94
TP	29	46.77	2.63**
FP	14	22.58	0.42**
FJ	3	4.84	0.31
IN	9	14.52	2.18
EN	5	8.06	0.60
IS	31	50.00	1.25
ES	17	27.42	0.69
Sdom	16	25.81	0.89
Ndom	3	4.84	0.54
Tdom	29	46.77	2.63**
Fdom	14	22.58	0.51*

Note: ⁝ = 1 person. Print date: 9/30/93 * < .05, ** < .01, *** < .001
Base total N = 45. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

0.08	0.42	1.00	0.42
0.04	4.22	0.70	0.07
0.73	0.02	0.57	1.00
1.00	1.00	0.07	0.51

E	3.39	IJ	0.35	SJ	0.78	IN	0.23
I	3.39	IP	1.41	SP	1.05	EN	0.52
S	0.10	EP	2.60	NP	0.29	IS	1.05
N	0.10	EJ	0.33	NJ	0.40	ES	1.87
T	18.13	ST	10.39	TJ	2.48	Sd	0.13
F	18.13	SF	13.48	TP	9.69	Nd	0.45
J	0.04	NF	0.35	FP	10.77	Td	9.69
P	0.04	NT	0.11	FJ	0.09	Fd	5.75

As in the comparison of CAPT males to CAPT females, the non-Native male sample had more Ss (73% vs. 63%) and significantly more Ts (84% vs. 40%, I = 2.19, <.001) than the females. There were also significantly more ST males (63% vs. 24%, I = 2.61, <.001), TJ males (36% vs. 11%, I = 3.41, <.001) and TP males (47% vs. 29%, I = 1.62, <.05) than females. The non-Native males, like the CAPT males, also exhibited significant T dominance (41% vs. 19%, I = 2.22, <.01) and conversely, a low preference for F dominance (5% vs. 32%, I = .16, <.001).

The data for non-Native males compared to non-Native females did not have as many significant differences overall as the corresponding CAPT male to female comparison. However, due to the similarities in most frequent type, modal type, ST and TP, it was felt that the local sample was sufficiently representative of the CAPT sample to be used as a comparison group. Differences between the non-Native and CAPT samples could be due, in part, to the relatively small local sample size, which resulted in the use of Fisher's exact probability tests in 94% (15 of 16) of the calculations.

Cree males vs. Cree females. Table 10.2 compares Cree males with Cree females. Here the most frequent type for males was **ISTP** (25.81%, I = 2.90, <.05), being almost three times more frequent than in Cree females. The modal type for the Cree male group was **ISTP—I** (65%) **S** (77%) **T** (73%) **P** (69%) with a strong T dominance (47% vs. 18%, I = 2.63, <.01).

There were 2.3 times as many Cree males showing a T preference as Cree females (72.58% vs. 31.11%, I = 2.33, <.001). Males were also more ST (58% vs. 27%, I = 2.18, <.01 level) and more TP (47% vs. 18%, I = 2.63, <.01 level) compared to females. Here again, Cree males exhibited a strong T dominance (47%) while Cree females exhibited F dominance (44%).

In summary, the above gender comparisons reflect similar patterns in all three samples. Gender differences do indeed exist, thus supporting the need for separate gender analyses of the Cree data. The following section will therefore include separate tables for Cree males and females in comparison to non-Native and CAPT samples.

Cree Comparisons

Cree males vs. non-Native males. In comparing the Cree males with non-Native males (see Table 10.3), the most frequent type for the Cree males was **ISTP** (25.81%, I = 1.42) and the modal type was **ISTP—I** (65%) **S** (77%) **T** (73%) **P** (69%).

Here a significant difference was observed between Cree males and non-Native males in the incidence of Is and Es. Cree males were 65% I, whereas non-Native males were 47% I (I = 1.36, <.05). A further breakdown of the data revealed that there were almost twice as many Cree IPs (52% vs. 26%, I = 1.97, <.01) and FPs (23% vs. 11%, I = 2.03, <.05), and more ISs (50% vs. 34%, I = 1.46, <.01) than in the non-Native group. Cree males also showed a T dominance preference (47%), which was similar to that obtained for the non-Native sample (41%). Of possible additional interest was the fact that Cree males had 4.5 times the incidence of F dominance (23% vs. 5%) in comparison to non-Native males.

Cree males vs. CAPT males. For this analysis, Cree males were compared to CAPT males (see Table 10.4). Here Cree males were found to be 65% I, which was

Table 10.3
Cree Males Compared with Non-Native Males
N = 62

ISTJ	ISFJ	INFJ	INTJ
N = 8	N = 0	N = 0	N = 0
% = 12.90	% = 0.00	% = 0.00	% = 0.00
I = 1.06	I = 0.00	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝			
ISTP	**ISFP**	**INFP**	**INTP**
N = 16	N = 7	N = 4	N = 5
% = 25.81	% = 11.29	% = 6.45	% = 8.06
I = 1.42	I = 5.59*	I = 6.39	I = 1.60
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝	⁝⁝⁝⁝⁝
ESTP	**ESFP**	**ENFP**	**ENTP**
N = 6	N = 2	N = 1	N = 2
% = 9.68	% = 3.23	% = 1.61	% = 3.23
I = 0.56	I = 0.80	I = 0.40	I = 0.46
⁝⁝⁝⁝⁝⁝	⁝⁝	⁝	⁝⁝
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
N = 6	N = 3	N = 0	N = 2
% = 9.68	% = 4.84	% = 0.00	% = 3.23
I = 0.64	I = 2.40	I = 0.00	I = 1.06
⁝⁝⁝⁝⁝⁝	⁝⁝⁝		⁝⁝

	N	%	I
E	22	35.48	0.68*
I	40	64.52	1.36*
S	48	77.42	1.06
N	14	22.58	0.83
T	45	72.58	0.87
F	17	27.42	1.70
J	19	30.65	0.74
P	43	69.35	1.18
J	8	12.90	0.61
IP	32	51.61	1.97**
EP	11	17.74	0.55*
EJ	11	17.74	0.88
ST	36	58.06	0.93
SF	12	19.35	1.92
NF	5	8.06	1.33
NT	9	14.52	0.68
SJ	17	27.42	0.88
SP	31	50.00	1.21
NP	12	19.35	1.13
NJ	2	3.23	0.32
TJ	16	25.81	0.71
TP	29	46.77	0.99
FP	14	22.58	2.03*
FJ	3	4.84	0.96
IN	9	14.52	1.11
EN	5	8.06	0.57
IS	31	50.00	1.46*
ES	17	27.42	0.71
Sdom	16	25.81	0.73
Ndom	3	4.84	0.27*
Tdom	29	46.77	1.13
Fdom	14	22.58	4.47**

Note: ⁝ = 1 person. Print date: 10/21/93 * < .05, ** < .01, *** < .001
Base total N = 99. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

0.02	0.52	1.00	0.08
1.33	0.02	0.07	0.51
1.75	1.00	0.65	0.48
1.01	0.37	1.00	1.00

E	4.46	IJ	1.78	SJ	0.28	IN	0.06
I	4.46	IP	10.63	SP	1.14	EN	0.32
S	0.44	EP	4.14	NP	0.12	IS	3.88
N	0.44	EJ	0.15	NJ	0.13	ES	2.04
T	2.97	ST	0.33	TJ	1.94	Sd	1.61
F	2.97	SF	2.77	TP	0.01	Nd	0.02
J	1.89	NF	0.75	FP	3.82	Td	0.45
P	1.89	NT	1.13	FJ	1.00	Fd	0.00

Table 10.4
Cree Males Compared with CAPT Data Bank Junior High Males
N = 62

ISTJ	ISFJ	INFJ	INTJ
N = 8	N = 0	N = 0	N = 0
% = 12.90	% = 0.00	% = 0.00	% = 0.00
I = 1.57	I = 0.00	I = 0.00	I = 0.00
⁝⁝⁝⁝⁝⁝⁝⁝			
ISTP	**ISFP**	**INFP**	**INTP**
N = 16	N = 7	N = 4	N = 5
% = 25.81	% = 11.29	% = 6.45	% = 8.06
I = 2.00*	I = 4.13**	I = 1.50	I = 1.09
⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝⁝⁝⁝	⁝⁝⁝⁝	⁝⁝⁝⁝⁝
ESTP	**ESFP**	**ENFP**	**ENTP**
N = 6	N = 2	N = 1	N = 2
% = 9.68	% = 3.23	% = 1.61	% = 3.23
I = 0.80	I = 0.55	I = 0.13*	I = 0.29
⁝⁝⁝⁝⁝⁝	⁝⁝	⁝	⁝⁝
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
N = 6	N = 3	N = 0	N = 2
% = 9.68	% = 4.84	% = 0.00	% = 3.23
I = 1.18	I = 2.06	I = 0.00	I = 1.03
⁝⁝⁝⁝⁝⁝	⁝⁝⁝		⁝⁝

	N	%	I
E	22	35.48	0.62**
I	40	64.52	1.52**
S	48	77.42	1.41**
N	14	22.58	0.50**
T	45	72.58	1.11
F	17	27.42	0.80
J	19	30.65	0.98
P	43	69.35	1.01
IJ	8	12.90	0.85
IP	32	51.61	1.89***
EP	11	17.74	0.43***
EJ	11	17.74	1.11
ST	36	58.06	1.40*
SF	12	19.35	1.42
NF	5	8.06	0.39*
NT	9	14.52	0.60
SJ	17	27.42	1.28
SP	31	50.00	1.49*
NP	12	19.35	0.55*
NJ	2	3.23	0.33
TJ	16	25.81	1.16
TP	29	46.77	1.08
FP	14	22.58	0.89
FJ	3	4.84	0.54
IN	9	14.52	0.91
EN	5	8.06	0.28***
IS	31	50.00	1.88***
ES	17	27.42	0.96
Sdom	16	25.81	0.89
Ndom	3	4.84	0.17***
Tdom	29	46.77	1.48*
Fdom	14	22.58	1.93*

Note: ⁝ = 1 person. Print date: 9/30/93 * < .05, ** < .01, *** < .001
Base total N = 256. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

1.33	0.35	0.59	0.35
6.39	8.68	0.50	1.00
0.29	0.54	0.02	0.09
0.14	0.38	0.36	1.00

E	9.65	IJ	0.22	SJ	1.00	IN	0.08
I	9.65	IP	13.49	SP	5.78	EN	0.00
S	10.33	EP	12.02	NP	5.72	IS	12.79
N	10.33	EJ	0.11	NJ	0.13	ES	0.03
T	1.09	ST	5.60	TJ	0.35	Sd	0.24
F	1.09	SF	1.28	TP	0.24	Nd	0.00
J	0.01	NF	0.03	FP	0.21	Td	5.05
P	0.01	NT	2.71	FJ	0.32	Fd	4.94

Table 10.5
Cree Females Compared with Non-Native Females
N = 45

ISTJ	ISFJ	INFJ	INTJ
N = 1 % = 2.22 I = 0.56	N = 1 % = 2.22 I = 0.21	N = 0 % = 0.00 I = 0.00	N = 1 % = 2.22 I = 0.00
ISTP	ISFP	INFP	INTP
N = 4 % = 8.89 I = 1.33	N = 12 % = 26.67 I = 2.00	N = 2 % = 4.44 I = 0.48	N = 0 % = 0.00 I = 0.00
ESTP	ESFP	ENFP	ENTP
N = 3 % = 6.67 I = 1.00	N = 8 % = 17.78 I = 1.90	N = 2 % = 4.44 I = 0.56	N = 1 % = 2.22 I = 0.21
ESTJ	ESFJ	ENFJ	ENTJ
N = 4 % = 8.89 I = 1.33	N = 3 % = 6.67 I = 1.25	N = 3 % = 6.67 I = 1.67	N = 0 % = 0.00 I = 0.00

	N	%	I
E	24	53.33	1.05
I	21	46.67	0.95
S	36	80.00	1.28*
N	9	20.00	0.54*
T	14	31.11	0.78
F	31	68.89	1.15
J	13	28.89	0.94
P	32	71.11	1.03
IJ	3	6.67	0.45
IP	18	40.00	1.15
EP	14	31.11	0.90
EJ	10	22.22	1.39
ST	12	26.67	1.11
SF	24	53.33	1.38
NF	7	15.56	0.73
NT	2	4.44	0.28
SJ	9	20.00	0.75
SP	27	60.00	1.67*
NP	5	11.11	0.33**
NJ	4	8.89	2.22
TJ	6	13.33	1.25
TP	8	17.78	0.61
FP	24	53.33	1.33
FJ	7	15.56	0.78
IN	3	6.67	0.45
EN	6	13.33	0.59
IS	18	40.00	1.15
ES	18	40.00	1.43
Sdom	13	28.89	0.94
Ndom	4	8.89	0.48
Tdom	8	17.78	0.95
Fdom	20	44.44	1.39

Note: ⁝ = 1 person. Print date: 10/4/93 * < .05, ** < .01, *** < .001
Base total N = 75. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

0.67	0.15	1.00	0.37
0.73	3.34	0.48	0.30
1.00	1.83	0.49	0.15
0.73	1.00	0.67	1.00

E	0.08	IJ	0.25	SJ	0.68	IN	0.25
I	0.08	IP	0.34	SP	6.55	EN	1.58
S	3.96	EP	0.16	NP	0.01	IS	0.34
N	3.96	EJ	0.73	NJ	0.42	ES	1.85
T	0.96	ST	0.11	TJ	0.19	Sd	0.04
F	0.96	SF	2.45	TP	2.00	Nd	0.19
J	0.04	NF	0.61	FP	2.02	Td	0.01
P	0.04	NT	0.08	FJ	0.37	Fd	1.88

Table 10.6
Cree Females Compared with CAPT Data Bank Junior High Females
N = 45

ISTJ	ISFJ	INFJ	INTJ
N = 1 % = 2.22 I = 0.59	N = 1 % = 2.22 I = 0.48	N = 0 % = 0.00 I = 0.00	N = 1 % = 2.22 I = 0.89
ISTP	ISFP	INFP	INTP
N = 4 % = 8.89 I = 2.59	N = 12 % = 26.67 I = 5.71***	N = 2 % = 4.44 I = 0.68	N = 0 % = 0.00 I = 0.00
ESTP	ESFP	ENFP	ENTP
N = 3 % = 6.67 I = 1.07	N = 8 % = 17.78 I = 1.68	N = 2 % = 4.44 I = 0.30	N = 1 % = 2.22 I = 0.51
ESTJ	ESFJ	ENFJ	ENTJ
N = 4 % = 8.89 I = 0.95	N = 3 % = 6.67 I = 0.61	N = 3 % = 6.67 I = 1.26	N = 0 % = 0.00 I = 0.00

	N	%	I
E	24	53.33	0.81
I	21	46.67	1.37
S	36	80.00	1.49***
N	9	20.00	0.43***
T	14	31.11	0.81
F	31	68.89	1.12
J	13	28.89	0.64*
P	32	71.11	1.29*
IJ	3	6.67	0.45
IP	18	40.00	2.10**
EP	14	31.11	0.86
EJ	10	22.22	0.74
ST	12	26.67	1.17
SF	24	53.33	1.73**
NF	7	15.56	0.50*
NT	2	4.44	0.29
SJ	9	20.00	0.70
SP	27	60.00	2.41***
NP	5	11.11	0.37**
NJ	4	8.89	0.55
TJ	6	13.33	0.67
TP	8	17.78	0.97
FP	24	53.33	1.45*
FJ	7	15.56	0.62
IN	3	6.67	0.38
EN	6	13.33	0.46*
IS	18	40.00	2.42***
ES	18	40.00	1.08
Sdom	13	28.89	1.14
Ndom	4	8.89	0.34*
Tdom	8	17.78	0.83
Fdom	20	44.44	1.62*

Note: ⁝ = 1 person. Print date: 9/30/93 * < .05, ** < .01, *** < .001
Base total N = 321. Groups are independent.
Calculated values of Chi Square or Fisher's exact probability (underlined).

Type Table Significance

0.72	0.70	0.24	1.00
0.10	27.94	0.75	0.23
1.00	2.01	0.06	0.71
1.00	0.45	0.72	0.23

E	2.78	IJ	0.17	SJ	1.48	IN	0.08
I	2.78	IP	10.28	SP	23.47	EN	4.89
S	11.23	EP	0.44	NP	0.01	IS	13.93
N	11.23	EJ	1.13	NJ	0.27	ES	0.14
T	0.88	ST	0.34	TJ	1.11	Sd	0.28
F	0.88	SF	8.95	TP	0.01	Nd	0.01
J	4.11	NF	4.48	FP	4.57	Td	0.33
P	4.11	NT	0.06	FJ	1.91	Fd	5.50

approximately 1.5 times the 43% incidence of Is in the CAPT Data Bank male sample (I = 1.52, <.01). Cree males were also observed to be more S (77% vs. 55%, I = 1.41, <.01). Several other differences were noted. For example, there were almost twice as many IPs (52% vs. 27%, I = 1.89, <.001) and ISs (50% vs. 27%, I = 1.88, <.001) in the Cree male sample. There were also more Cree STs (58% vs. 41%, I = 1.4, <.05) and SPs (50% vs. 34%, I = 1.49, <.05). The frequency of T dominance for Cree males was 47%, whereas it was 32% in the CAPT male sample (I = 1.48, <.05). Of further interest was the fact that N dominance was strongly under represented in the Cree sample (5% vs. 28%, I = .17, <.001).

Cree females vs. non-Native females. Table 10.5 compares Cree females to non-Native females. The most frequent type here was **ISFP** (26.67%, I = 2.00) and the second most frequent type was **ESFP** (17.78%, I = 1.90). The modal type was **ESFP—E** (53%) **S** (80%) **F** (69%) **P** (71%). The only significant main effect noted was that Cree females were more S (80% vs. 63%, I = 1.28, <.05) than the non-Native female sample. In terms of combined effects, Cree females were over-represented on SP (60% vs. 36%, I = 1.67, <.05) and under-represented on NP (11% vs. 33%, I = .33, <.01). Cree females also seemed to have a greater preference for F dominance (44% vs. 32%), although this was not a statistically significant effect.

Cree females vs. CAPT females. Table 10.6 presents a comparison of Cree females to CAPT females. A greater number of significant differences were observed here than in the comparable CAPT male comparison. Significant S-N and J-P effects are obvious. In terms of S-N preferences, there were 1.5 times more Ss in the Cree female sample (80% vs. 53%, I = 1.49, <.001) and fewer Ns (20% vs. 46%, I = .43, <.001) than in the CAPT female sample. Cree females were also more P (71% vs. 55%, I = 1.29, <.05) and less J (29% vs. 44%, I = .64, <.05).

The most frequent type for Cree females was **ISFP** (26.67%, I = 5.71, <.001)**,** which was almost six times as frequent as in the CAPT sample. Several other differences were noted. Crees were more IP (40% vs. 19%, I = 2.10, <.01), SF (53% vs. 31%, I = 1.73, <.01), SP (60% vs. 25%, I = 2.41, <.001) and IS (40% vs. 17%, I = 2.42, <.001). Cree females showed a higher frequency of F dominance (44% vs. 27%, I = 1.62, <.05) and a lower level of N dominance (9% vs. 26%, I = .34, <.05). Thus, while the Cree female and the non-Native female samples were very similar, more differences were observed when Cree females were compared to the CAPT sample.

SUMMARY OF RESULTS

Table 10.7 summarizes the data and highlights differences of plus or minus 15 percentage points. The table shows that Cree males have a stronger preference for **I** than either non-Native males or CAPT males, and that the modal type for Cree males is **ISTP,** in contrast to ESTP for the other two groups. This table also shows Cree males to be more **S**, especially in comparison to the CAPT male sample, and that all groups have **ISTP** as the most frequent type.

Cree females, on the other hand, appear to have an even stronger **S** preference than Cree males, as reflected by both non-Native and CAPT sample differences. Cree females also tend to be more **P** than the CAPT sample. The modal type for all three female groups was **ESFP**. The most frequent type for Cree and non-Native females was **ISFP**, while the most frequent type for CAPT females was ENFP.

Table 10.7
MBTI Form-F Junior High Percentages

Male	**CAPT** N = 256	**Non-Native** N = 99	**Cree** N = 62
E	57.42 (+21.94)*	52.53 (+17.05)*	35.48
I	42.58 (-21.94)	47.47 (-17.05)	64.52
S	55.08 (-22.34)*	72.73	77.42
N	44.92 (+22.34)	27.27	22.58
T	65.62	83.84	72.58
F	34.38	16.16	27.42
J	31.25	41.41	30.65
P	68.75	58.59	69.35
Modal type	ESTP	ESTP	ISTP
Frequent Type	ISTP	ISTP	ISTP
Females	**CAPT** N = 321	**Non-Native** N = 75	**Cree** N = 45
E	66.04	50.67	53.33
I	33.96	49.33	46.67
S	53.58 (-26.42)*	62.67 (-17.33)*	80.00
N	46.42 (+26.42)	37.33 (+17.33)	20.00
T	38.32	40.00	31.11
F	61.68	60.00	68.89
J	44.86 (+15.97)*	30.67	28.89
P	55.14 (15.97)	69.33	71.11
Modal Type	ESFP	ESFP	ESFP
Frequent Type	ENFP	ISFP	ISFP

Note: * Difference from Cree sample of plus or minus 15 points.

In summary, the data suggest that Cree males are more introverted than other male junior high students, and that both Cree males and females tend to prefer sensate focus when observing their world. Gender differences usually found in junior high students were also observed for the Cree, with males being more T and females more F. All junior high groups had a definite P "go-with-the-flow" preference.

Discussion

The present research provides evidence of a distinctly Native modal type based on gender differences, with Cree males being ISTP and Cree females being ESFP. As well, significant differences were found between males and females in the three samples. Males were significantly overrepresented on T and under-represented on F (that is, females were significantly overrepresented on F). Males were also significantly more ST than females (2 to 2.5 times more ST than females). This was the case in all three samples. These findings lend further support to the importance of conducting separate male/female data analyses with the MBTI, especially with junior high school students.

The study also provides evidence of cultural type differences between Cree and non-Natives based on specific preference patterns. Cree males were found to be strongly I and S, compared to both non-Native and CAPT males, and to have a different modal type (ISTP vs. ESTP). Cree females, on the other hand, appeared to be strongly S, in comparison to non-Native and CAPT females, and also more P, even though the modal type for all three groups was the similar (ESFP).

The results of this study suggest that the MBTI has cross-cultural discriminant validity. The ISTP modal type of the Cree junior high school males was different from the ESTP modal type of the non-Native samples. More specifically, this suggests that introversion is a specific cultural characteristic of Cree males. This finding is hardly surprising as Native males frequently do not establish eye contact and their body language often suggests a wish to be left alone. Cree introversion could also reflect perceived self-reliance and personal strength, as well as a need for privacy. Further research is needed to examine these possibilities and their implications.

Cree males and females both showed a very strong S preference (77% and 80%, respectively), especially in comparison to the CAPT samples (55% and 54%), which also suggests a likely cultural difference. Native people have traditionally been seen as present-oriented, relying on well-developed "felt" sensory skills for survival. Ross (1992) suggests that "a people whose knowledge is 'felt' knowledge, sensory knowledge, will look at the world very differently from those whose knowledge is primarily intellectual" (p. 81). Native people may also have developed a hunter archetype which heightens their sensory awareness. This could be reflected in highly-honed, present-oriented sensory skills which allow them to process sensory data unconsciously, because "it just feels right," rather than associatively. The very low incidence of N preference for both Cree males and females (23% and 20%) is also interesting. The data suggests that Cree junior high school students, as a group, probably have little insight into the implications of their actions, and concomitantly, fewer long term goals.

Two interesting Cree female effects were also observed. One was that Cree females were more P than CAPT females (71% vs. 55%), which could reflect a tendency for Cree females to be especially spontaneous and reactive to life experiences. Cree males were also quite P (69%). The second was that Cree females were more frequently F dominant than the CAPT females (44% vs. 27%). People with F dominance tend to make decisions based on personal values and consideration of the impact of their decisions on others. The F dominance preference of Cree females might be reflective of cultural traditions and values which foster consensus decision-making and concern for others (Ross, 1992). Traditionally, Native people have tended to be more group-focused than the Caucasian

North American who seems to value individuality. In Native culture, high value is placed on personal choice and absolute non-interference in the lives of other people.

Cree males, on the other hand, showed greater T dominance (47%), especially in comparison to the CAPT male sample (32%). Individuals with T dominance tend to make decisions deductively on the basis of rational linear logic. The strong T dominance preference in Cree males could reflect a pragmatic day-to-day approach to life. Also of interest is the fact that Cree male F dominance (23%) was 4.5 times greater than the non-Native male sample (5%) and 1.9 times greater than the CAPT male sample (12%). This finding could again reflect a culture that values consensus decision-making ahead of individualism.

The fact that the Cree to CAPT comparisons often revealed more significant (or stronger) effects than non-Native comparisons could be due to cultural differences between Canadian and American junior high students. It could also be due to the smaller size of the local sample. Further research comparing Canadian and American males and females is necessary to ascertain the significance of these findings.

The significant I difference with Cree males, the significant S difference with Cree males and females, the significant P difference with Cree females, and the differential gender dominance effects, have implications for child-rearing, education, counseling and vocational placement of Cree junior high students.

While elementary schools often value mastery and discipline for success (an SJ preference), junior high school students have to deal with increasingly complex conceptual material. Since S junior high students prefer to deal with present factual data, the demand to conceptualize and abstract information, an N activity, may contribute to such students becoming increasingly frustrated with school. Expanding upon this, one needs to consider the SP (Dionysian) temperament, which occurred in 50% of Cree males and 60% of Cree females. Kiersey and Bates (1978) characterize people with this temperament as being impulsive, present-oriented, and needing action. They also state that SPs tend to abandon formal education more often than any other temperament. Thus, the high incidence of SP temperaments in Cree junior high students may be associated with their high dropout rate. Research is needed to explore this possibility.

Due to the strong S preference exhibited by both Cree males and females, as well as the strong male I preference and strong female P preference, there is a need to develop complementary functions in these students. Instructing teachers in type theory and the implications of type for teaching may facilitate such development. Some of the problems faced by Cree junior high students may also be due to their tendency to "go-with-the-flow." Additional efforts need to be made to encourage Cree students to stay in school and plan for the future. A better understanding of Native culture, traditions and values would also help teachers more fully appreciate Native typology and temperament, which in turn, could lead to the development of more appropriate curricula for these students. For example, adopting a consensus-oriented approach in the classroom, rather than an authoritative approach, might encourage greater compliance from Native students. This could be complemented by a curriculum which values I, S and P preferences, but yet encourages long-term goal setting and discipline.

Finally, it is important to comment on the implications of these findings for child-rearing. In discussing the data with several "transitional" Natives, their comments revealed that Native children traditionally grow up in extended family systems where the cardinal rules are: "Don't talk" (about family secrets), "Don't get involved" (in other people's business), "Don't cry" (feel), and "Don't trust" (people from other cultures). This traditional approach to child-rearing does not encourage the development of a

strong personal sense of self, self-discipline or long-term goal setting. Thus, by default, this becomes the responsibility of the schools. Schools need to develop curricula which foster the development of such skills so that Native children can pass these skills on to future children. In this way Natives will be able to develop more effective child-rearing practices.

The above discussion, complemented by the summary from Table 10.7, illustrates the complexity inherent in looking at cross-cultural research and points out the necessity of a consistent methodological approach when conducting cross-cultural research. There are four points the writers consider to be important, based on these results.

One is the need for separate gender analyses based on the differences found in this research and past research supporting gender differences. Separate gender analysis is also warranted due to the differing values attributed to male and female roles in most cultures. Separate gender analyses would assist in reducing confounding variables and maintaining specificity rather than global generalizations.

Two, the writers consider that it is important to avoid global generalizations about a culture, utilizing instead specific subgroup references based on gender, age, sample group, etc. It appears that different ages and different subgroups react differently cross-culturally and intra-culturally. Therefore, it would seem to be dangerous to lump people together and make generalizations between various cultures when there are variations even within cultures.

The third point is the importance of semantic clarity and the use of statistical significance in interpreting the research findings. Utilizing only the most frequent type from the type table may mask significant effects. Therefore, the writers believe it is important to also look at the modal type and other secondary effects. Cross-cultural research is inherently complex and, as such, to ensure clarity and accuracy, requires complex, in-depth analyses of the data.

Fourth, from an education perspective, consideration should be given to the acknowledgment of individual, as well as gender and cultural differences, in order to assist teachers in developing the most suitable curricula to help all of their students succeed in school.

If our educational systems promote cultural values and cultural values influence our educational systems, perhaps the implementation of type theory in the classroom would give an appreciation of psychological type in schools and an appreciation of inter-cultural and intra-cultural differences in children.

In conclusion, it is obvious that type theory, and in particular the MBTI, holds considerable promise for cross-cultural research. Such research should lead to a greater appreciation of those whose culture, customs, values, and typologies are different from ours.

References

Alberta Department of Native Affairs. (1985). *Native education*. Alberta Department of Native Affairs. Edmonton, AB: Department of Native Affairs.

Fourqurean, J., Meisgeier, G., & Swank, P. (1988). The Murphy-Meisgeier Type Indicator for Children: Exploring the link between psychological type preferences of children and academic achievement. *Journal of Psychological Type, 16,* 42-46.

Gade, E., Hurlburt, G., & Fuqua, D. (1986). Study habits and attitudes of American Indian students: Implications for counselors. *The School Counselor,* Nov., 135-139.

Kiersey, D., & Bates, M. (1978). *Please understand me: Character and temperament types.* Del Mar, CA: Prometheus Nemesis Book Co.

Lathey, J. W. (1991). Temperament style as a predictor of academic achievement in early adolescence. *Journal of Psychological Type, 22,* 52-58.

Lawrence, G. (1984). A synthesis of learning style research involving the MBTI. *Journal of Psychological Type, 8,* 2-15.

Mitchum, N. T. (1989). Increasing self-esteem in Native- American children. *Elementary School Guidance & Counseling, 23* (4), 266-271.

Moody, R. (1992, January). *Personality and ethnic-culture in Hawaii.* Paper presented to the MBTI Luncheon Group, Gainesville, Florida.

Moore, A. J. (1987). Native Indian students and their learning styles: Research results and classroom applications. *B.C. Journal of Special Education, 11* (1), 23-37.

Myers, I., & McCaulley, M. H. (1985). *Manual: A guide to the development and use of the Myers-Briggs Type Indicator.* Palo Alto, CA: Consulting Psychologists Press.

Ross, R. (1992). *Dancing with a ghost: Exploring Indian reality.* Markham, Ontario: Octopus Publishing Group.

Tobacyk, J. J., Wells, D. H., & Springer, T. P. (1988). Jungian type and self-concept in junior high school students at high risk for dropout. *Journal of Psychological Type, 16,* 47-53.

Wall, C. S., & Madak, P. R. (1991). Indian students' academic self-concept and their perceptions of teacher and parent aspirations for them in a band-controlled school and a provincial school. *Canadian Journal of Native Education, 18,* 43-51.