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Cultural and Sex Differences in Students' Motivations, Demotivations, Incentives and Disincentives at School

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In an extended series of quantitative studies with Aboriginal Australian and American Indian students, Anglo Australian, Anglo American students, and a range of other cultural groups McInerney (1992, 1994, 1995, 2002, 2003a) found few significant group mean differences with respect to motivational orientations, self-esteem, academic self-concept, sense of purpose for schooling and general level of motivation at school, and few differences in the ability of these factors to predict academic achievement across these diverse groups (see also McInerney, McInerney & Roche, 1994a, 1994b, 1995; McInerney, Roche, McInerney, & Marsh, 1997; McInerney & Sinclair, 1991, 1992; McInerney & Swisher, 1995). Supporting these findings, a more recent study (McInerney, 2003b) found few inter-cultural group differences in the relative salience of a wide range of motivational predictors, or their patterns of prediction to achievement.

Taken together, these studies implicate several, perhaps controversial, findings. First, Indigenous students appear to be more or less motivated in the same ways as non-Indigenous groups, and their achievement values appear to be very similar to non-Indigenous groups (e.g. McInerney, Hinkley, Dowson, & Van Etten, 1998). Second, the academic self-concept of Indigenous students appears to be very similar to that of other non-Indigenous students. This is in contrast to a number of studies, which suggest that the self-concept of minorities is, paradoxically, higher than that of mainstream groups despite poorer school performance (e.g. Parsons, Saye, and McNamara, 1990). Third, there are, in general, no significant differences between Indigenous and non- Indigenous groups on self-esteem, sense of purpose for schooling, and sense of self-reliance. Fourth, groups commonly categorised as 'collectivist' (e.g. Aboriginal and Navajo) were not clearly distinguishable from groups commonly categorised as 'individualist' (e.g. Anglo and other non- Indigenous groups) on the measures used in these studies.

What does this tell us about Indigenous children and their motivation at school? In general terms, and across a broad range of scales, settings, and times, the similarities between Indigenous and non- Indigenous groups appear to far outweigh any differences. Thus, Indigenous students, even from remote locations, appear to be motivated by largely the same motives and self-beliefs that influence children from Anglo and other non- Indigenous backgrounds. Despite this, these results also suggest two further issues. First, if the motivational and sense-of-self profiles of Indigenous and non- Indigenous groups are so similar, why is there such a difference in their educational outcomes (especially given that these motivational motives and sense-of-self variables have been shown to substantially influence students' achievement outcomes)? Second, within Indigenous groups there are always some who achieve well, despite the relatively poor achievement levels of the group as a whole. What is it that the successful Indigenous students 'have' or 'do' that distinguishes them from their unsuccessful peers?

The paradox above suggest at least three key elements may need to be considered in order to further understand the motivational dynamics that influence academic achievement for Indigenous and non- Indigenous students. First, the McInerney research may have failed to uncover motivations (and de-motivations) that may distinguish between Indigenous and non- Indigenous students. In particular, the literature suggests that there may be a need to examine the future time perspective of Indigenous versus non-Indigenous students (e.g. Nurmi, Poole, & Seginer, 1995; Nurmi, Poole, & Kalakoski, 1994). For example, it is plausible that Indigenous students do not do well at school because they have a different sense

of the future and its relationship to their schooling, and therefore do not perceive the instrumental value of schooling in the same way as other, non- Indigenous students.

Second, Indigenous students (in comparison with non- Indigenous students) may be subject to a range of factors, both within and outside the school setting, that differentially and negatively impact upon their opportunities to do well at school, and their desire to stay on at school. For example, the quality of schooling Indigenous students receive may be inferior for a variety of reasons (e.g. isolation, poor teachers, poor school facilities, perceived irrelevance of the curriculum), thus predisposing these students to achieve less, and to leave earlier, than more advantaged (non- Indigenous) groups (e.g. Fernandez, & Shu, 1988; Hernandez, 1995; McCormick, 1989). It may also be that the historical experiences of Indigenous people within assimilationist and often-racist educational institutions moderates Indigenous students' achievement and achievement related behaviours (Barber & McClellan, 1987; Ekstrom, Goertz, Pollack, & Rock, 1987; Triandis, 1995).

Third, student-level variables other than their Indigenousness (for example, their sex), may exert a more profound, or confounding, effect on students' motivation and sense-of-self (e.g. Dowson & McInerney, in review; Meece & Jones, 1996). Thus, it is important to not only investigate cultural differences in students' motivational and achievement profiles, but also how variables like students' sex may interact with their culture to influence the shape of these profiles.

In order to begin a further investigation of these elements, two programs of qualitative research were conducted. First, within the context of many of the studies cited above individual students were interviewed about key elements of their school motivation and goals for the future. Second, in each year of the three-year longitudinal study which forms the basis of more recent research referred to above (i.e. McInerney, 2003a, b), all students were asked to complete a survey that comprised a series of open-ended questions. These questions were designed to ascertain:

(a) what motivated the students to work well at school,
(b) what made it difficult for the students to do well at school,
(c) why participants thought some students leave school before they complete high school, and
(d) what would encourage students to complete high school and to go on to further education, such as college or university.

It was anticipated that there would be qualitatively different responses to each of these questions by Indigenous and non- Indigenous students, and that these differences might provide a clue as to the reasons why Indigenous students do relatively poorly at school. This paper reports the results of this later program of qualitative research and, in particular, compares and contrasts the responses of the Aboriginal Australian, American Indian Navajo and Anglo Australian participants.

Method

Participants

Participants were from Grades 7, 8 and 9 at five rural and six urban high schools in New South Wales, Australia (N=1103), and two Navajo middle schools in the United States (N=870). Of the NSW students, 270 were Aboriginal (129 males and 141 females), and 833 were Anglo-Australian students (432 males and 401 females). Of the Navajo students, 406 were males and 464 were females.

Survey Instrument

The survey instrument consisted of four open-ended items that supplied a frame of reference for respondents' answers, but placed no constraints on the content or expression of those answers. The specific questions were:

(a) What types of things motivate you to work well at school?
(b) What things make it difficult for you to do well at school?
(c) Why do you think some students leave school before they finish high school?

(d) What types of things would encourage you to complete high school and to go on to some further education such as college or university?

Ethics and Administration

Permission for the research was obtained from the New South Wales Department of Education and Training (DET), the University's Human Ethics Committee, and the Unified School District Administration in Arizona. Parents of the students completed informed consent forms, and all students were informed that their participation in the study was entirely voluntary. Details of the purpose of the study were stated at the beginning of each survey session. Students were then asked to complete the four open-ended questions. Survey sessions were conducted with intact class groups, or where the numbers were small, as in the rural centres, in full school groups. No teachers were involved in the administration of the survey.

Coding Processes

Before any coding processes were conducted, each response was assigned a designated participant code that indicated the participant's cultural background (Aboriginal, Navajo or Anglo) and sex. This allowed participants' responses to be categorised by culture and sex later in the research process. After initially reviewing a large number of responses, a preliminary content coding master sheet was prepared by the chief investigator and two research assistants. This master sheet guided the initial categorisation of responses within each of the questions, with new categories being developed in an iterative fashion according to emerging themes in the data, until content saturation was achieved. After saturation had been achieved, the responses were numerically coded prior to the coded data being entered into SPSS for further analysis. Each student could make more than one response to each question, but each specific response was counted only once. Thus, in the numerical coding process, if a particular student made the same response twice within an answer it was only counted once. In order to ensure that the coding was reliable and accurate, inter-rater reliability checks were regularly conducted. These checks indicated a very high degree of consistency between each rater.

Frequency Analyses

In order to analyse the numerically coded data, 'raw' percentages were initially constructed, that is the percentage of students who made a particular response to a particular question. This provided an unweighted measure of the number of responses in each response category, broken down by cultural and sex group. Then, in order to estimate the relative importance of a particular group response in comparison with all other responses within a category, a weighted percentage for each response (again broken down by culture and sex) was calculated. For example, if there were a total of 500 responses in a category, and a particular response within that category was made 250 times, it comprised 50% of the total number of within-category responses. This figure (50%) was the response's weighted percentage by group. This weighted percentage provided a relative measure of the importance of each response within each category. As groups and individuals made different numbers of responses within each category a weighted percentage gives an indication of how salient a particular response was relative to the total number of responses made. A way of summarising the above is that the first (unweighted) percentage is a within-group, across-category percentage, whereas the second (weighted) percentage is a within-category, across-group percentage.

Chi-Square Analyses

We conducted a series of Chi-square analyses (using the frequency counts with respect to each variable) to determine whether any of the cultural and/or sex groups reported responses in each of the categories more frequently than others. Two separate sets of chi-square analyses were conducted, one with culture (3 groups) as the grouping variable and one with sex as the grouping variable. We also conducted a third set of chi-square analyses using sex x culture (6 groups) as the grouping factor. However, the cell frequencies in this latter set of

analyses were often too small to make valid comparisons. Hence, the focus of our reporting of the chi-square analyses is on the cultural and sex group differences separately, where cell sizes were typically more than adequate.

Results

Content analysis of the responses to the four survey questions provided the following categories (with sample summary responses included in the brackets following each category where appropriate).

What types of things motivate you to work well at school?
Categories emerging from participants' responses to this question were:

(a) extrinsic rewards (including tangible rewards, awards and certificates).
(b) intrinsic rewards (including learning for its own sake, doing 'interesting things', working for personal goals, meeting challenges, and being able to working at one's own pace).
(c) school marks and reports i.e. working for grades.
(d) sport.
(e) curriculum (including general subject interest, and enjoyment of, or attraction to, specific subjects).
(f) friends (including experiencing the support of friends, helping others, being able to work together, or being affirmed and praised by friends).
(g) parents and family (including experiencing the support of parents and family, and being encouraged and affirmed by parents and family).
(h) teacher (including encouragement from teachers, teachers establishing a 'good' learning environment, and teachers using stimulating teaching resources).
(i) future orientation (including the expressed desire for money, for a specific career, for further education, or to 'do better' than parents).
(j) self-evaluation (including satisfaction from doing better than last time, knowing one has 'done well', and believing in self as a competent person).
(k) nothing (i.e. expressions that 'nothing' motivates because, for example, students perceive they are not good at school or not interested in school).
(l) don't know.

What things make it difficult for you to do well at school?
Categories emerging from participants' responses to this question were:

(a) negative peer influence (including bullies, gangs, drugs, too much socialising, peers that make trouble or talk too much in class, and peers who don't learn as quickly as others).
(b) negative teacher influence (including teacher absence, teachers not explaining things well, teachers not answering questions, not being supported by teachers, and general disrespect shown by teachers).
(c) specific subjects (such as maths, science or English).
(d) difficult schoolwork (excluding specific subjects but including not understanding concepts, assignments or tests, not having enough time to complete work, and feelings that one is 'not getting anywhere').
(e) boring schoolwork (including expressed feelings of inattention, lack of concentration or tiredness).
(f) nothing (i.e. nothing makes it difficult for me to do well at school).
(g) learning difficulty (including specific problems such as ADHD, and more general problems such as behavioural problems, and lack of confidence).
(h) don't know.
(i) negative parental influence (including stress within the family, and too much parental pressure to do well).

Why do you think some students leave school before they finish high school?
Categories emerging from participants' responses to this question were:

(a) for help with schoolwork).
(b) don't know ability (including low confidence in ability and negative feelings about ability as well as scoring low school marks).
(c) school work (i.e. school work being 'too hard').
(d) school alienation (including not liking school, feeling that school is boring or irrelevant, lacking of freedom at school, and lacking application at school).
(e) job opportunity (including specific job offers, and more general opportunities for career and money).
(f) substance abuse.
(g) pregnancy (including wanting to be married or to live with a boy or girl friend).
(h) negative parental influence (including conflicting home and family responsibilities and pressures, and lack of parental interest and support).
(i) negative peer influence (including – interestingly - pressure to impress others or 'look cool' by leaving school).
(j) negative teacher influence (including teachers who can't control classes so that students don't learn well, and teachers who are 'always on the student's back').
(k) lack of effort (including not having a goal or ambitions, not feeling motivated, and not being willing to ask

What types of things would encourage you to complete high school?
Categories emerging from participants' responses to this question were:

(a) extrinsic rewards (including awards, certificates and scholarships).
(b) intrinsic rewards (including general interest in subjects, satisfaction from 'trying your best in everything', and enjoying challenging work).
(c) school marks.
(d) sport.
(e) curriculum (including expressed interest in specific subjects or learning activities).
(f) friends (including positive mentoring and academic modelling experiences with older and same-age/grade peers).
(g) parent (including general and specific family support and encouragement).
(h) teacher (including teachers providing good advice and tutoring, and teachers building good relationships with students).
(i) future orientation (including the desire for money, a career, further education, or to get married).
(j) self-evaluation (including satisfaction from pushing oneself further, feeling competent - 'smart'- at academic work, and 'believing' in oneself).
(k) nothing (i.e. nothing would encourage me to complete high school).
(l) don't know.

Responses Within Categories
Figures 1 to 4 show the breakdown of weighted responses to each question across the cultural groups. Tables 1 to 4 show the unweighted and weighted percentages for the top three response categories across each of the four survey questions, broken down by cultural group and sex.

Motivations to Do Well At School

Figure 1: Motivation to Work Well at School by Culture (Weighted % Response).

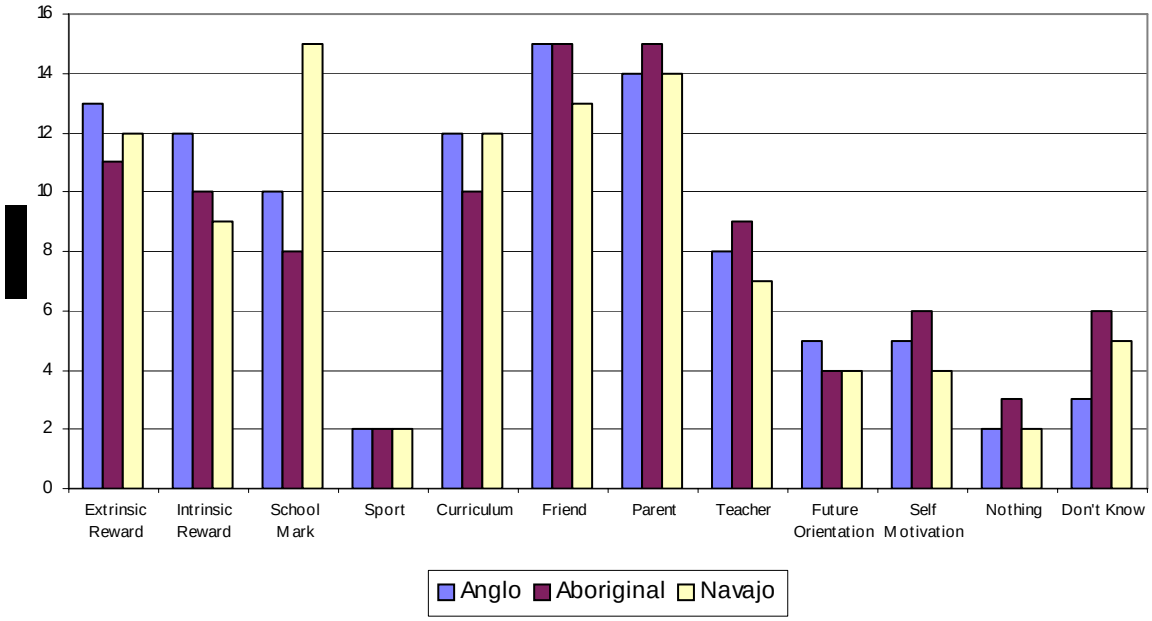

Table 1
Top 3 Motivations to Do Well at School

Cultural Group		**Sex Group**	
		Male	Female
Aboriginal	Unweighted %	Parent (13%) Extrinsic Reward (12%) Friend/Curriculum (9%)	Friend (20%) Parent (16%) Intrinsic Reward (14%)
	Weighted %	Parent (17%) Extrinsic Reward (16%) Friend (12%)	Friend (18%) Parent (14%) Intrinsic Reward (13%)
Navajo	Unweighted %	Parent (15%) Friend (15%) Curriculum (14%)	School Mark (22%) Parent (19%) Friend (17%)
	Weighted %	Friend (14%) Parent (13%) Curriculum (13%)	School Mark (17%) Parent (15%) Friend (14%)
Anglo	Unweighted %	Extrinsic Reward (22%) Parent (19%) Friend (16%)	Friend (27%) Intrinsic Reward (22%) Parent (22%)
	Weighted %	Extrinsic Reward (17%) Parent (15%) Friend (13%)	Friend (17%) Parent (14%) Intrinsic Reward (14%)

In general, Figure 1 illustrates that a wide range of factors influence students to do well at school, and the salience of these factors are broadly similar across the groups. More specifically, parents and friends are perceived by all groups as a major influence in their motivation to do well at school. Also, extrinsic rewards appear to be a significant motivator across the three groups. Moreover, if school marks (which could be construed as a specific

form of extrinsic reward) are considered alongside extrinsic rewards, these two categories together comprise by far the predominant set of reasons given for students doing well at school. Finally, intrinsic rewards, while important, are mentioned less frequently than extrinsic rewards, parents or friends.

The most obvious pattern in Table 1 is that 'Parent' or 'Friend' appears in every cell of Table 1 (albeit in different orders within each cell). Thus, for every cultural by sex group, and whether taken as a 'raw' or weighted percentage, Parent and Friend are significant motivators to do well at school. The examination by sex and cultural groups in Table 1, however, also reveals a number of differences in the third most important motivator to do well at school that might be useful for interpreting academic achievement differences between the sub-groups. With respect to this third motivator, Extrinsic Reward features for Aboriginal (16%) and Anglo (17%) males, while Curriculum features for Navajo males (13%). In contrast, Intrinsic Reward features for Aboriginal (13%) and Anglo (14%) females, while School Mark features for Navajo females (17%). Thus, male Anglos and Aboriginals share the same third motivator, female Anglos and Aboriginals share the same third motivator, and these two motivators are different across the sex groups. Similarly, both male and female Navajos espouse a different third motivator from each other, but these third motivators are also different from their same-sex counterparts in the other two cultural groups.

Barriers to Doing Well at School

Figure 2 indicates that the predominant reasons students give for why it is difficult for them to do well at school are very similar across the groups, with the three predominant factors being negative peer pressure, difficult school work, and negative teacher influence. More specifically, Figure 2 indicates that negative peer group influence is perceived as the most significant barrier to doing well at school by all groups, but that this barrier is reported more frequently by Aboriginal males and females. Difficult school work is also perceived as a significant barrier for all groups, but relatively less so for the Aboriginal groups. Negative teacher influence is perceived as a significant barrier by all groups but relatively less so by Aboriginal students.

Figure 2: Difficult to Do Well at School by Culture (Weighted % Response).

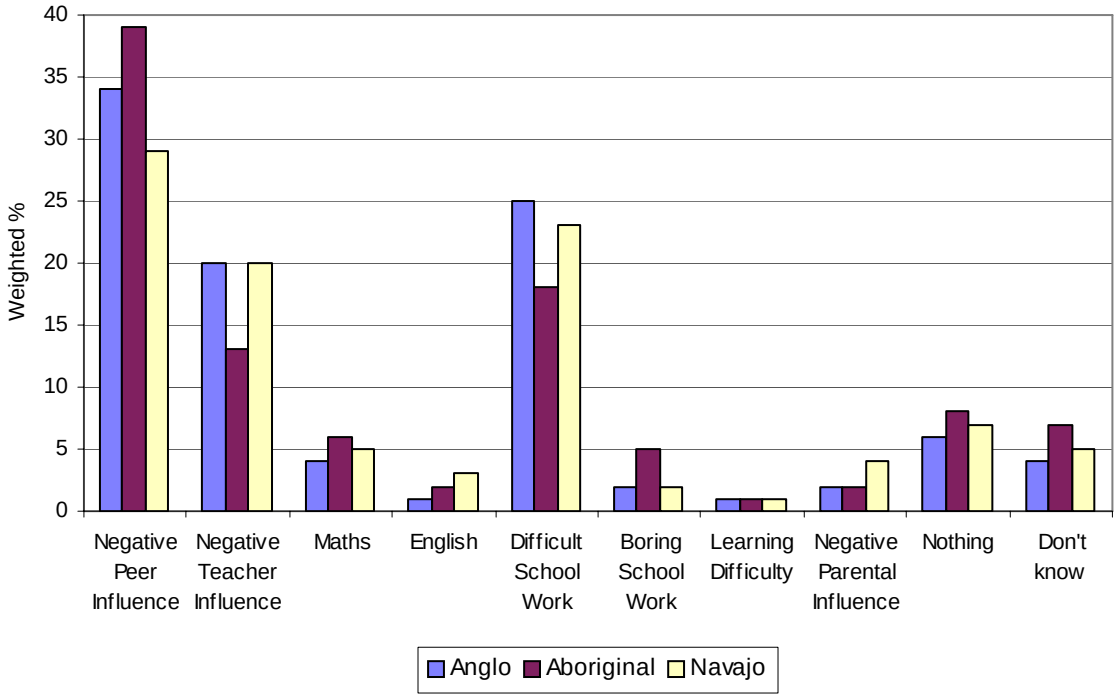

Table 2 also indicates a remarkable similarity between cultural and sex groups with respect to the things that make it difficult for students do well at school.

Table 2
Top 3 Barriers to Doing Well at School

Cultural Group		Sex Group: Male	Sex Group: Female
Aboriginal	Unweighted %	Negative Peer (20%) Difficult Schoolwork (7%) Negative Teacher (7%)	Negative Peer (31%) Difficult Schoolwork (16%) Negative Teacher (11%)
	Weighted %	Negative Peer (37%) Difficult Schoolwork (13%) Negative Teacher (13%)	Negative Peer (40%) Difficult Schoolwork (21%) Negative Teacher (16%)
Navajo	Unweighted %	Negative Peer (23%) Negative Teacher (20%) Difficult Schoolwork (19%)	Negative Peer (27%) Difficult Schoolwork (21%) Negative Teacher (17%)
	Weighted %	Negative Peer (27%) Negative Teacher (23%) Difficult Schoolwork (21%)	Negative Peer (31%) Difficult Schoolwork (23%) Negative Teacher (19%)
Anglo	Unweighted %	Negative Peer (32%) Difficult Schoolwork (22%) Negative Teacher (17%)	Negative Peer (37%) Difficult Schoolwork (30%) Negative Teacher (24%)
	Weighted %	Negative Peer (34%) Difficult Schoolwork (23%) Negative Teacher (17%)	Negative Peer (33%) Difficult Schoolwork (27%) Negative Teacher (21%)

Table 2 indicates that *in every case* the same three barriers to doing well (Negative Peer Influence, Difficult Schoolwork, and Negative Teacher Influence) ranked in the Top 3 and, with one exception (Navajo males) in exactly that order. A comparison of the percentages across the groups indicates that negative peer pressure is perceived as the dominant barrier to doing well at school across all groups. However, a comparison of the weighted percentages indicates that Aboriginal male and female students (37% & 40% respectively) mention negative peer pressure more frequently as a percentage of their total responses to this question than either of the other two groups. So, it would appear that negative peer pressure has a stronger effect for Aboriginal than Navajo or Anglo students. Based on weighted percentages negative teacher effect, surprisingly, was less dominant for the Aboriginal male and females (13% & 16% respectively) than the other two groups. Aboriginal females (21%) rate difficulties with schoolwork more strongly than Aboriginal males (13%) who mention this less frequently than any other group. Stat sig diff

Factors in Leaving School Early

Figure 3 presents the reasons given by students (in their cultural groups) as to why students leave school early.

Figure 3: Why Students Leave School Before They Finish High School by Culture (Weighted % Response).

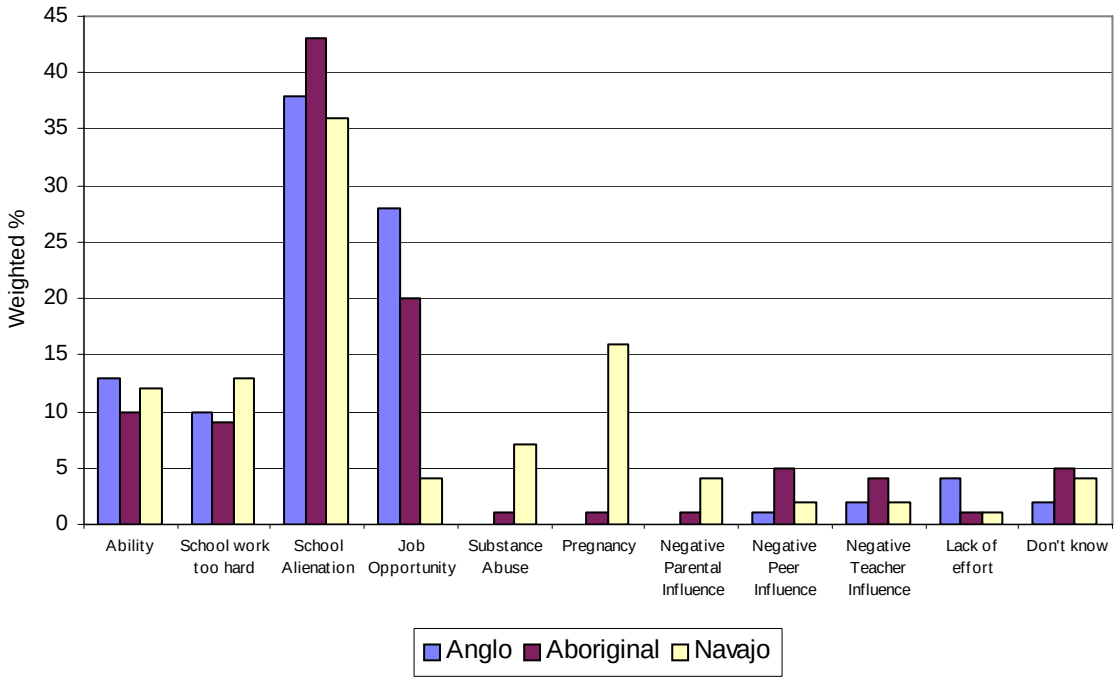

Table 3 presents the three major reasons students (in their culture by sex groups) believe students leave school early.

Table 3
Top 3 Factors for Leaving School

Cultural Group		Sex Group: Male	Sex Group: Female
Aboriginal	Unweighted %	School Alienation (25%) Job Opportunity (15%) Ability/Difficult Schoolwork (5%)	School Alienation (39%) Job Opportunity (13%) Ability (10%)
	Weighted %	School Alienation (41%) Job Opportunity (23%) Difficult Schoolwork (9%)	School Alienation (43%) Job Opportunity (15%) Ability (11%)
Navajo	Unweighted %	School Alienation (42%) Pregnancy (15%) Ability/Difficult Schoolwork (12%)	School Alienation (41%) Pregnancy (20%) Difficult Schoolwork (17%)
	Weighted %	School Alienation (39%) Pregnancy (14%) Ability/Difficult Schoolwork (11%)	School Alienation (33%) Pregnancy (16%) Difficult Schoolwork (15%)
Anglo	Unweighted %	School Alienation (44%) Job Opportunity (25%) Ability (15%)	School Alienation (44%) Job Opportunity (41%) Ability (16%)
	Weighted %	School Alienation (42%) Job Opportunity (24%) Ability (15%)	School Alienation (34%) Job Opportunity (31%) Ability (13%)

Figure 3 illustrates that school alienation is the dominant reason given by students for leaving school early across the three groups. This finding is reiterated in Table 3 which provides break downs by raw and weighted percentages by cultural group and sex. This table indicates that, in every case, and by large percentage margin in almost every case, school alienation is the major perceived reason why male and female students drop out of school. School alienation is mentioned almost twice as frequently as the next most frequently mentioned cause, job opportunity for male Aboriginal and male Anglo students, and pregnancy by Navajo male and female students. The one exception to the 'large margin' pattern for school alienation is for Anglo females who mention job opportunities essentially equally frequently as school alienation (44% & 41% respectively). Also, in every case, lack of ability and/or difficult schoolwork is frequently mentioned by each group, but less so than for school alienation and job opportunity.

To summarise, the combined results of Figure 3 and Table3 indicate that school alienation is perceived by all groups as the major reason students leave school early. However, it is perceived as more influential by Aboriginal students. Difficult school work/ability, conversely, is mentioned by all groups at about the same frequency. Job opportunities, a positive reason for leaving school, are mentioned frequently by Anglo and Aboriginal students. However, more female Anglo students mention job opportunities than Anglo males, while more Aboriginal male students mention this reason than Aboriginal females. This interesting sex-group reversal probably reflects actual socio-demographic factors operating in the two communities. Finally, job opportunities were not mentioned by Navajo students, but pregnancy is mentioned as a major factor by both male and female Navajo students (but not by the other groups).

Factors in Completing School

Figure 4 and Table 4 present the category labels and percentages for factors that encourage students to complete school and go on to further education.

Figure 4: Motivation to complete school and pursue further education by culture (Weighted % Response)

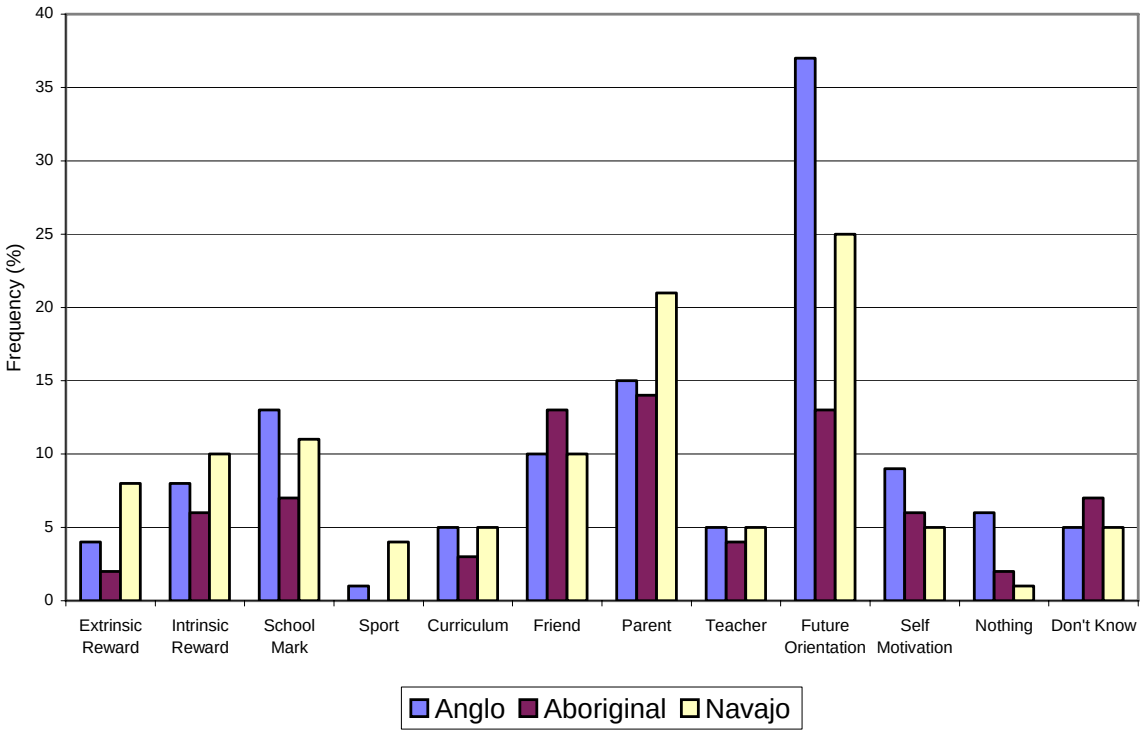

Figure 4 presents a dramatic picture with future orientation being the major reason to complete school given by Anglo and Navajo students, but not by Aboriginal students. The relative importance of parents to the Navajo group is also distinctive. Friends also appear to be a significant influence for Aboriginal students, and Aboriginal females in particular (comprising 20% of their responses- see Table 4), but less so for Navajo and Anglo students. Intrinsic rewards and school marks appear influential for Navajo and Anglo students but less so for Aboriginal students.

Table 4 presents a breakdown of reasons to complete school by sex and culture.

Table 4
Top 3 Factors for Staying on at School and Going on to Further Education

Cultural Group		**Sex Group**	
		Male	Female
Aboriginal	Unweighted %	Future Orientation (12%) Parent (10%) Friend (6%)	Friend (19%) Parent (17%) Future Orientation (13%)
	Weighted %	Future Orientation (22%) Parent (17%) Friend (11%)	Friend (20%) Parent (17%) Future Orientation (14%)
Navajo	Unweighted %	Future Orientation (27%) Parent (17%) Intrinsic Reward (11%)	Parent (25%) Future Orientation (22%) School Mark (13%)
	Weighted %	Future Orientation (26%) Parent (16%) Intrinsic Reward/School Mark (10%)	Parent (22%) Future Orientation (19%) School Mark (11%)
Anglo	Unweighted %	Future Orientation (37%) Parent (15%) Friend/School Mark (9%)	Future Orientation (38%) School Mark (17%) Parent (15%)
	Weighted %	Future Orientation (34%) Parent (14%) Friend/School Mark (8%)	Future Orientation (29%) School Mark (13%) Parent (11%)

Clearly the major reason given by Anglo males and Anglo females for continuing with school is their future orientation with 37% & 38% respectively of these students listing this as their first reason (and it comprising 34% and 29% of their responses to this question respectively). Navajo male and female students also listed future orientation as an influential factor along with parent influence, which was less frequently reported amongst the Anglo group. Future orientation was not as frequently reported amongst Aboriginal students, and in particular Aboriginal females (14%) where it ranked behind friends (20%) and parents (17%). The influence of parents seems to be more significant for Navajo females (22%) than Navajo males (16%) ranking above future orientation for Navajo females (19%).

Group Differences: Chi-Square Analyses

The results reported above indicate substantial similarity between the cultural groups with respect to the various motivations and demotivations identified in the study. Table 5, however, records the significance of differences in the raw percentages between the culture, sex and sex x culture groups with respect to each category. These differences indicate that group differences are still widespread amongst participants in the sample. For example, even

though extrinsic reward is reported as a salient motivator (Question 1) by all cultural groups (see Figure 1), the Anglo group reports this motivation significantly more frequently than the other two groups. Similarly, school alienation is reported frequently by all groups as a reason for leaving school (Question 3) early, but significantly more so by the Anglo and Navajo groups.

Differences were also found between the sex groups. For example, both groups reported that negative peer influence made it difficult to do well at school. However, girls reported this significantly more frequently that boys. Similarly, school marks were a significant motivation to complete school for both sexes, but significantly more so for females.

A parsimonious way of summarising the results in Table 5 is to say that, in any given question:

(a) some categories were reported frequently by all groups, but more frequently by one or other of the groups (e.g., extrinsic rewards, intrinsic reward and school mark in Question 1);

(b) some categories were reported less frequently (or even infrequently) overall (e.g., substance abuse and pregnancy with respect to Question 3), but much more frequently by one or other of the groups (in the present case, Navajo students).

(c) some categories displayed a relatively even profile across cultural and sex groups, whether or not they were more of less frequently reported overall (the latter being the more common).

Another way of summarising the data in Table 5 is to highlight that:

(d) of the 10 substantive categories (i.e., excluding “Nothing” and “Don’t Know”) in Question 1 there are 9 categories with cultural group differences and 6 categories with sex group differences.

(e) of the 8 substantive categories in Question 2 there are 3 categories with cultural group differences and 3 categories with sex group differences (on, as it turns out, the same categories).

(f) of the 9 substantive categories in Question 4 there are 7 categories with cultural group differences and 4 categories with sex group differences.

(g) of the 11substantive categories in Question 4, there are 7 categories with cultural group differences and 5 categories with sex group differences.

In total this means that of the 38 categories identified across the four questions, there were 26 categories with cultural group differences and 16 categories with sex group differences. Thus, both cultural and sex group differences are common in the data, with cultural group differences being particularly frequent.

Table 5
Frequency Percentages of Responses to Survey Questions

1: Motivation to work well at school

	Anglo-Saxon		*Aboriginal*		*Navajo*						
	Male	Fem.	Male	Fem.	Male	Fem.	Anglo Total	Abor Total	Navaj Total	Fem Total	Male Total
Extrinsic Reward	22	13	12	9	12	14	35[a]	21[b]	26[b]	36	46
Intrinsic reward	12	22	5	14	9	12	34[a]	19[b]	21[b]	48[a]	26[b]
School Mark	14	15	8	8	12	22	29[a]	16[b]	34[a]	45[a]	34[b]
Sport	1	0	2	2	3	3	1	4	6	5	6
Curriculum	15	18	9	11	14	13	33[a]	20[b]	27	42	38
Friend	16	27	9	20	15	17	43[a]	29[b]	32[b]	64[a]	40[b]
Parent	19	22	13	16	15	19	41[a]	29[b]	34	57[a]	47[b]
Teacher	8	16	8	10	7	9	24[a]	18	16[b]	35[a]	23[b]
Future Orientation	6	7	2	5	4	6	13[a]	7[b]	10	18	12
Self Motivation	4	10	4	7	5	4	14[a]	11	9[b]	21[a]	13[b]
Nothing	4	1	3	4	4	2	5	7	6	7	11
Don't Know	3	5	4	7	8	6	8	11	14	18	15

2: Difficult to do well at school

	Anglo-Saxon		*Aboriginal*		*Navajo*						
	Male	Fem.	Male	Fem.	Male	Fem.	AnglTotal	Abor Total	Navaj Total	Fem Total	Male Total
Negative Peer Influence	32	37	20	31	23	28	69[a]	51[b]	51[b]	96[a]	75[b]
Negative Teacher Influence	17	24	7	11	20	17	41[a]	18[b]	37[a]	52[a]	44[b]
Maths	3	5	5	3	2	6	8	8	8	14	10
English	2	1	2	1	4	2	3	3	6	4	8
Difficult School Work	22	30	7	16	19	21	52[a]	23[b]	40[c]	67[a]	48[b]
Boring School Work	3	2	3	4	1	2	5	7	3	8	7
Learning Difficulty	2	1	2	0	1	1	3	2	2	2	5
Negative Parental Influence	1	4	1	1	3	4	5	2	7	9	5
Nothing	8	4	4	6	7	5	12	10	12	15	19
Don't Know	5	4	4	6	6	3	9	10	9	13	15

3: Why students leave school before they finish high school

	Anglo-Saxon		*Aboriginal*		*Navajo*						
	Male	Fem.	Male	Fem.	Male	Fem.	Anglo Total	Abor Total	Navaj Total	Fem Total	Male Total
Ability	15	16	5	10	12	16	31[a]	15[b]	28[a]	42[a]	32[b]
School work too hard	10	14	5	8	12	18	24	13[a]	30[b]	40[a]	27[b]
School Alienation	44	44	26	39	42	41	88[a]	65[b]	83[a]	124	112
Job Opportunity	25	41	18	13	5	5	66[a]	31[b]	10[c]	59[a]	48[b]
Substance abuse	0	1	0	2	8	8	1[a]	2[a]	16[b]	11	8
Pregnancy	0	1	0	1	15	20	1[a]	1[a]	35[b]	22[a]	15[b]
Negative Parental Influence	1	0	0	2	3	5	1[a]	2[a]	8[b]	7	4
Negative Peer Influence	1	3	1	6	2	3	4	7	5	12	4
Negative Teacher Influence	2	4	4	3	2	2	6	7	4	9	8

Lack of Effort	4	7	0	2	1	2	11[a]	2[b]	3[b]	11	5
Don't Know	2	1	5	3	6	3	3	8	9	7	13

4: Motivation to complete school and pursue further education

	Anglo-Saxon		*Aboriginal*		*Navajo*						
	Male	Fem.	Male	Fem.	Male	Fem.	Angl Tot	Abor Tot	Navaj Tot	Fem Tot	Male Tot
Extrinsic Reward	4	4	2	3	7	9	8[a]	5[a]	16[b]	16	13
Intrinsic reward	5	12	4	7	11	10	17	11[a]	21[b]	29[a]	20[b]
School Mark	9	17	5	9	10	13	26[a]	14[b]	23[a]	39[a]	24[b]
Sport	1	1	0	0	5	4	2[a]	0[a]	9[b]	5	6
Curriculum	4	6	4	3	4	5	10	7	9	14	12
Friend	9	12	6	19	7	12	21	25	19	43[a]	22[b]
Parent	15	15	10	17	17	25	30[a]	27[a]	42[b]	57[a]	42[b]
Teacher	5	6	2	7	5	5	11	9	10	18	12
Future Orientation	37	38	12	13	27	22	75[a]	25[b]	49[c]	73	76
Self Motivation	6	14	5	6	4	6	20[a]	11[b]	10[b]	26[a]	15[b]
Nothing	8	3	2	2	1	1	11[a]	4[b]	2[b]	6	11
Don't Know	6	4	5	9	6	4	10	14	10	17	17

Note: The figures in Table 5 are Frequency Percentages. So, the first figure in the table indicates that 22% of Anglo males reported that Extrinsic Reward was an important motivator at school. The superscripts in the last five columns of the Table compare the totals within culture (5th, 4th, and 3rd last columns) and within sex (last two columns). Frequency percentages that share the same superscript (within their respective set of columns) are not statistically different to each other. Frequencies that share different superscripts (again, within their columns) are statistically different from each other at the .05 level or smaller.

Discussion

At the beginning of the paper we identified a number of research directions that could be fruitfully pursued in order to provide additional information that might shed further light on the differential academic performance of Indigenous and non-Indigenous students. First, we suggested that previous quantitative research may have failed to address a range of motivational goals that might be more salient for Indigenous (versus non-Indigenous) students in school settings. Whilst not specifically targeting student perceptions of particular motivational goals, the questions asked did provide scope for students to identify goals that were particularly motivational for them. Despite this scope, this qualitative research did not discover any further goal orientations other than mastery (represented by intrinsic motivation), performance (represented by school marks), social (represented by parents, fiends and teachers) and extrinsic goals that might be salient for the Aboriginal and Navajo (or indeed the Anglo) groups.

The Chi-square analyses, however, do reveal some interesting nuances in the data. For example, referring to Question 1, the Anglo group identified more frequently than one or both the other groups intrinsic rewards, parents, fiends and teachers. However, the Navajo group reported school marks more frequently than both other groups, and significantly so with respect to the Aboriginal group. Thus, performance goals (as represented by school marks) may be one key to Navajo students motivation to do well at school.

Second, we suggested that Indigenous students might have a limited future time perspective, and a different sense of the future and its relationship to their schooling than non-Indigenous students. Indigenous students may not perceive the instrumental value of schooling in the same way as other students. This research certainly reveals that there are considerable differences between the groups on the salience of future orientation (particularly

in Question 4). For the Anglo males and females future orientation was the most important reason given for completing school and pursuing further education, far outstripping any other reason. Future time perspective was also important for the Navajo males and females, although not to the same degree as for the Anglo students, and not that much more important than parent influence. The relative importance of parent influence for the Navajo group also stands in contrast to the Anglo group. Future orientation was considerably less dominant for the Aboriginal male and females groups, and no more important than parents and friends. The differences in future orientation may represent a crucial dimension that may indeed provide clues as to the reason why many Indigenous students, and in particular Aboriginal students, do not complete school and go on to further education. Moreover, while parents and friends were important to Anglos for being motivated at school, they appear to be relatively unimportant to motivation to complete school. It appears that Anglo students are more internally motivated by the perceived positive opportunities that schooling will provide them in the future, in contrast to the two Indigenous groups for whom more external social factors (parents and friends) appear to be important. Figure 4 and Table 5 also show other patterns that are of interest such as the relative influence of intrinsic and extrinsic reinforcers across the three groups.

A further issue we thought should be addressed is the nature of the factors that might inhibit students doing well at school, and whether these were similar or different across the groups. Again, while there was broad similarity in the overall rankings of the factors mentioned across the groups, and in particular the common occurrence of negative peer influences, difficult schoolwork, and negative teacher influences, there were some striking differences. In each of the three categories, Anglo students reported responses more frequently than one or both of the other groups. Conversely, negative teacher and difficult schoolwork were not nearly as important for the Aboriginal group. This is very interesting given the common hypotheses that Aboriginal students may not have as positive experiences of teachers as non-indigenous groups, and that cultural mismatches between curriculum and culture may account for lower academic performance amongst Indigenous Australians. The data in this study would not appear to support these hypotheses

Alienation was the most frequent reason respondents gave for students leaving school early across each of the groups, far outweighing other factors, such as ability and difficult schoolwork that might have been presumed to be more important, particularly for the Anglo group. However, school alienation appears somewhat less salient (Table 5) for the Aboriginal students (but only in comparisons with the other groups). Moreover, although alienation is the most frequent reason given by the Navajo group, pregnancy is the second most frequently given reason. Substance abuse seems to be also salient for the Navajo group in contrast to the Aboriginal and Anglo groups.

The frequency with which job opportunity is mentioned by the Anglo group (greater than both the other groups combined) suggests that the labour market may more clearly support the employment of Anglo early school leavers in contrast to the other two groups. Ability is mentioned with much less frequency amongst the aboriginal group and difficult schoolwork with higher frequency in the Navajo group. Hence, as with future orientation, these data give us a further clue as to the factors that might impact to reduce the likelihood of students completing school and their differential impact on Indigenous students. In particular, when the combined effects of school alienation, substance abuse and pregnancy are considered for the Navajo group it accounts for 59% of their responses to Question 3, which is very worrying indeed.

Finally, it is interesting to note that most of the negative factors that appear to be implicated in poor performance and early dropout behaviour are not internal factors but rather external to the student. In other words, ability and learning difficulty, which might be considered internal beliefs about one's self, do not appear to be important reasons given for poor performance or early dropout behaviour. Rather it is external factors, such as alienation, negative peer influences, pregnancy and job opportunities that appear to be implicated. This may be construed as a positive finding as the circumstances producing such externally-related perceptions amongst students are largely within the control of the school.

Conclusion

Two key findings emerge from the research. The first is that the ranking of motivations and demotivations at school, and incentives and disincentives to complete school, is broadly similar across cultural groups. However, within these broad similarities, the groups differ – sometimes considerably. Thus, looking beneath the surface of cultural groups similarities reveals some interesting and potentially important inter-group differences. As indicated in the discussion, these differences may provide fruitful directions for future research by providing a nuanced, student-driven description of important psychological factors impacting on student achievement and success.

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