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ABSTRACT

Research at the classroom and school levels suggests that children from many indigenous cultural communities appear to be at a particular disadvantage with regard to academic achievement and school retention. This paper reports on a continuing study with Australian Aboriginal and Navajo Indian children investigating the relevance and applicability of goal theory to explaining indigenous motivation in school settings. In particular it examined task, ego, social solidarity, and extrinsic goal structures as a means of explaining and predicting minority motivation in school settings. Subjects, 496 Aboriginal students from grades 7 through 12 and 529 Navajo students from grades 9 through 12, completed an instrument developed for the study, the Inventory of School Motivation (ISM). Exploratory factor analyses of results offered considerable support for the Personal Investment Model of goal achievement proposed by M. L. Maehr (1984). The study also supported the predictive power of the ISM. For each group the combined set of culturally determined predictor scales (multiple goals) developed from the personal investment framework was found to be significantly related to expectations about continuing or leaving school and a range of demographic variables. (Contains 4 tables and 34 references.) (Author/SLD)

Achievement goal theory and indigenous minority school motivation: The importance of a multiple goal perspective

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Abstract

Research at the classroom and school level suggests that Children from many indigenous cultural communities appear to be at a particular disadvantage with regard to academic achievement and school retention. This paper reports on a continuing study with Australian Aboriginal and Navajo Indian children investigating the relevance and applicability of goal theory to explaining indigenous minority motivation in school settings. In particular it examines task, ego, social solidarity and extrinsic goal structures as a means of explaining and predicting minority motivation in school settings.

Research at the classroom and school level suggests that students perceive classrooms as stressing various goals. The goal theory of achievement motivation argues that the goals stressed by schools have dramatic consequences for whether children develop a sense of efficacy and a willingness to try hard and take on challenges, or whether they avoid challenging tasks, giving up when faced with failure (See Ames, 1984, 1992; Covington, 1992; Elliott & Dweck, 1988; Maehr, 1989; Maehr & Midgley, 1991).

Goals are cognitive representations of the different purposes students may have in different achievement situations, and are presumed to guide students' behaviour, cognition, and affect as they become involved in academic work (Ames, 1992; Dweck & Elliott, 1983; Pintrich, Marx & Boyle, 1993; Wentzel, 1991). Two goal structures have received considerable attention from educational researchers: **mastery goals** (also called learning goals), and **performance goals** (also called extrinsic goals). Central to a mastery goal is the belief that effort leads to success, and the focus of attention is on the intrinsic value of learning. With a mastery goal, individuals are oriented toward developing new skills, trying to understand their work, improving their level of competence, or achieving a sense of mastery. Mastery goals and achievement are "self-referenced". In contrast, central to a performance goal is a focus on one's ability and sense of self-worth. Ability is shown by doing better than others, by surpassing norms, or by achieving success with little effort. Public recognition for doing better than others through grades, rewards and approval from others, is an important element of performance goal orientation. Performance goals and achievement are, therefore,"other referenced". Consequently, "self-worth" is determined by one's perception of ability to perform and compete successfully. Hence, when a student tries hard without being completely successful (in terms of the established norms) his or her sense of self-worth is threatened (Ames, 1992, Covington, 1992; Nicholls, 1989).

Implicit in both mastery and performance goals is a focus on individualism where priority is given to the goals of individuals. There is little emphasis on collectivism which reflects an emphasis on group goals and affiliation (Kagitcibasi & Berry, 1989; Triandis et al, 1993; Schwartz, 1990). There is, therefore, little attention paid to group orientations such as working to preserve in-group integrity, interdependence of members and harmonious relationships. Furthermore, the bipolar mastery versus performance continuum, suggests that these goals are mutually exclusive. Recent theorising and research, however, suggests that these are not dichotomous and that individuals may hold both mastery and performance goals, varying in salience, depending on the nature of the task, the school environment and the broader social and educational context of the institution (see e.g., Wentzel, 1991; Meece, 1991; Pintrich & Garcia, 1991). Such an approach fails to adequately consider other relevant and interacting goals. Schooling does not consist solely of learning academic material within a mastery or performance

framework. Students may hold multiple goals (such as affiliation, social concern), each of which may impact upon their level of motivation for particular tasks. These multiple goals may interact providing a complex framework of motivational determinants of action. For example, the social dimension of schooling (including the influence of parents, teachers and peers) may interact with both mastery and performance goals, and be extremely influential in affecting children's attitudes towards schooling in general and learning in particular (See Blumemfeld, 1992; McInerney, 1991, 1992b; McInerney & Sinclair, 1992; Pintrich & Schrauben, 1992).

The reduction of a study of the importance and motivational impact of goals to mastery versus performance is particularly unsatisfactory when children from minority cultural groups are concerned. Indeed, the focus on these two goal structures in much research precludes the generation of information regarding potentially more salient goals. One theoretical model which posits multiple goals for motivated action and which allows for the interacting effects of these goals is Maehr's Personal Investment Model (Maehr,1984; Maehr and Braskamp, 1986). In its broadest interpretation the model conceptualises motivated behavior as being determined by three global variables: personal incentives (which I will refer to as multiple goals), sense of self and facilitating conditions.

Multiple goals of behavior in a situation refers to the motivational foci of activity; importantly what a person defines as 'success' and 'failure' in a particular situation. Maehr proposes four broad goal systems which are presumed to be universal: task goals (such as experiencing adventure, novelty or working to understand or improve at something), ego goals (such as doing better than others or leading the group), social solidarity goals (such as pleasing others and being concerned for others welfare) and extrinsic rewards goals (such as working for a recognition or a prize or reward of some kind). (See also Schwartz, 1990 for an interesting discussion of similar universal dimensions of motivation). Each of these goal structures impact upon an individual's sense of competence, sense of autonomy and sense of purpose in learning and contribute to the motivational orientation of the individual.

The second component of the model is defined by Maehr as sense of self, which refers to the more or less organized collections of perceptions, beliefs, and feelings related to who one is. Sense of self is presumed to be composed of a number of components such as sense of competence, sense of autonomy and sense of purpose, each contributing to the motivational orientation of the individual and interacting with the motivational goals outlined above. The third component, facilitating conditions refers to the behavioral alternatives that a person perceives to

be available and appropriate (in terms of sociocultural norms and external factors such as geographic location and socio-economic status that exist for the individual) in a given situation.

The focus in this paper is an examination of the relevance and applicability of this wider goal theory model to Australian Aboriginal and Navajo Indian students in school settings.

The research reported here therefore addressed the following questions:

1. Are the dimensions of the Maehr model (multiple goals and sense of self) relevant to the Australian Aboriginal and Navajo groups?

2. What are the most important goals of Australian Aboriginal and Navajo motivation derived from this model and how do these relate to extant literature?

3. How do these goals relate to important criteria of school motivation such as school confidence, perceived value of school, affect to school, desired occupation after leaving school, GPA, absenteeism and intention to complete schooling?

Facilitating conditions have been discussed in a wide range of publications dealing with Australian Aboriginal and Navajo dropouts and will not be considered in this paper (see McInerney, 1989a; McInerney & McInerney, 1990; Platero et al, 1986 and Swisher, 1991; Watts, 1981). This research deals with the multiple goals and sense of self components of the model.

Method

Instruments

Parental surveys

At the outset qualitative data were gathered on how Australian Aboriginal people conceptualize education and what they perceive as major issues in the underachievement of Aboriginal children in school settings. The data were obtained in three ways: personal interviews and group discussions with members of the Aboriginal community; written survey forms distributed to Aboriginal parents, and an examination of existing reports relating to the area of inquiry. In all, over one hundred Aboriginal parents were interviewed and 106 completed a written survey form.

For the Navajo group, consultations were held with members of the community, the Navajo Division of Education and Indian Education Specialists (it was not possible to interview Navajo parents at the time of the study, although this is recognised as an important element for future work).

A very important strategy was to include Aboriginal and Navajo research assistants, who not only facilitated the access of the researcher to community groups, but who also contributed to the research by their clarification of issues raised by the respondents.

The results of these surveys are reported in McInerney (1988, 1989b; McInerney & Swisher, in press). This qualitative research established the relevance of the constructs: personal incentives, sense of self and facilitating conditions for the Aboriginal and Navajo communities. Furthermore, the qualitative data obtained suggested the "content" of issues that were relevant to each group and therefore potentially useful at the local level.

Materials

The Inventory of School Motivation (ISM) was devised to reflect components of Maehr's Personal Investment model and to investigate the nature of school motivation in cross cultural settings (McInerney, 1988, McInerney & Sinclair, 1991, 1992; McInerney & Swisher, in press). The Inventory is broad enough to reflect the global dimensions of the model in a variety of cultural settings. Full details on the items are available in McInerney & Sinclair (1991, 1992).

The samples

Four hundred and ninety six Aboriginal students were surveyed from Years 7, 8, 9, 10 and 11 from 12 high schools in New South Wales broadly typical of the types of country and city schools that Aboriginal children attend (e.g., Redfern, Matraville, Dubbo, Nowra, Wellington). Five hundred and twenty nine Navajo students from Grade 9 through to Grade 12 were surveyed at Window Rock High School, a large high school situated on the Navajo Reservation.

Research strategy

The following research strategy was used:

1). Design an instrument based on the theoretical model which effectively reflected key goals determined in presurveying to be relevant to the groups being studied;

2). Factor analyse the instrument (ISM) separately for each group to determine the construct validity of the scales and to determine the reliability of the scales (in effect, to establish the nature of the global variables and the content of the scales relevant to each group);

3). Use the derived scales as predictor variables in multiple regression analyses and discriminant analyses against a range of educationally relevant criterion variables (school confidence, perceived value of school, affect to school, desired occupation (Navajo only), school achievement, and absenteeism);

4). Determine the most salient goals within each group separately, and to draw comparisons across groups.

Predictor variables

The predictor variables in the analyses were the scales drawn from the Inventory of School Motivation based on earlier factor analytic work. Table 1 lists the predictor variables.

Insert Table 1 about here

Criterion variables

Seven criterion variables were used for the multiple regression analyses. Four of these, school confidence, affect to school, intention to complete school and perceived value of school were constructed scales based upon a five point Likert scale from strongly agree to strongly disagree. Items comprising these scales, and each scale's reliability estimate (Cronbach's alpha) are presented in Table 2. The final three variables were demographic, viz, desired occupation after leaving school (Navajo students only), elicited from the students at the time of the survey and graded on a six point scale based upon the occupational prestige of the nominated occupation; Grade Point Average (GPA) (Navajo Students) and English and Maths achievement (Aboriginal, Year Ten students) and days absence for the enrolment period in which the survey was conducted (drawn from school records).

Insert Table 2 about here

Results and Discussion

From the psychometric perspective the exploratory factor analyses of the Inventory of School Motivation offered considerable empirical support to Maehr's Personal Investment Model (reported in McInerney & Sinclair, 1991, 1992 and McInerney & Swisher, in press). The second phase of the study demonstrated the predictive power of the ISM. For each group studied the combined set of culturally determined predictor scales (multiple goals) developed from the personal investment theoretical framework were found to be significantly related to expectations about continuing with or leaving school, and a range of other demographic variables (such as school attendance and school achievement). Furthermore, the combination of significant goals involved varied between cultural groups on particular criteria, enabling comparisons and

contrasts to be drawn between each group. Tables 3 and 4 report the results of the multiple regression studies conducted.

Insert Tables 3 and 4 about here

The multiple goals of the Inventory of School Motivation have been able to suggest some of the key correlates of successful and unsuccessful performance for the students included in the study. Clearly, the application of a bipolar model of goals such as task versus ego goals would not have permitted the more fine grained analyses provided by the ISM. Demonstrably important variables in predicting school students' retention, academic performance, valuing of school, and affect to school, are sense of self variables viz, the students' sense of competence, and sense of purpose, and the task goal. Group leadership and social concern also appear to be important. Factors which have been considered important by many as key determinants of Australian Aboriginal and Navajo children's poor achievement and dropping out of school, such as the supposed mismatch between the school's goals of competitiveness, individuality, and extrinsic rewards and the children's goals of affiliation, cooperation and non-competitiveness, were not supported by the findings. Affiliation and competitiveness were not significantly related to any of the criterion variables for the Navajo group. Competitiveness did predict school confidence for the Aboriginal group, but no other criterion, while affiliation was not related to any criterion variables.

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Table 1
Dimensions of relevance to Navajo Indian students drawn from the Personal Investment Model

	PERSONAL INCENTIVES
Task	Task Involvement+
	Striving for excellence
Ego	Competitiveness
	Power/group leadership
Social Solidarity	Affiliation
	Social Concern
Extrinsic Rewards	Recognition
	Token Rewards*
	SENSE OF SELF
	Sense of Purpose**
	Sense of Competence++

NOTE:
+ This component loaded on the striving for excellence dimension for the Aboriginal group.
++ The sense of competence items constructed three factors for the Aboriginal group: (+) sense of competence; (-) sense of competence and school competence.
* Items related to this construct did not load in any systematic way and were deleted from the ISM for the Navajo group.
** The sense of purpose items constructed two factors for the Navajo group: sense of purpose for future career and sense of purpose for school.

Table 2
Items, means, standard deviations and reliability estimates (Cronbach's alphas) for criterion variables.

VARIABLE	alpha	M	sd
SCHOOL CONFIDENCE	.53 (.56)a	2.33 (2.73)	.65 (.75)
I am very confident at school			
I think I can do quite well at school			
I succeed at whatever I do at school			
AFFECT TO SCHOOL	.46 (.51)	2.11 (2.63)	.74 (.95)
I hate learning or studying or any type			
I like working at school			
INTENT TO COMPLETE SCHOOL	.71 (.88)	1.17 (2.67)	.37 (1.16)
I intend to complete High School			
School students should complete high school			
I'm the kind of person who would complete High School			
Personally I feel that I should complete High School			
PERCEIVED VALUE OF SCHOOL	.69 (.71)	1.5 (2.13)	.46 (.71)
If I do well at school I am more likely to get a good job			
I think that it is really important to do well at school			
If I work hard at school I'll probably do better than parents			
Some people need education for their jobs, but for most of us it is a waste of time			
Doing well at school is important to my future			
My friends tell me to leave school and go on welfare			
I don't care if I get a job or not			

Note: Negative items were reverse scored
a = Aboriginal descriptives are in brackets

Table 3

Sets of standardised beta weights and multiple regression coefficients for each criterion variable for Navajo Indian Group (n = 529)

	Criterion variables						
Predictor variables	School confidence	Perceived value	Affect to school	Desired occupation	GPA	Absence	Intention complete
Task Involvement	058	005	088	127*	038	083	040
Striving for excellence	396**	067	285**	043	027	211**	109
Competition	037	040	002	003	009	021	047
Group leadership	151**	002	028	155**	018	016	009
Affiliation	004	025	053	031	015	022	074
Social concern	057	091	254**	012	067	038	112*
Recognition	023	047	067	026	069	065	145*
Sense of purpose (F)	033	355**	018	022	041	077	615**
Sense of purpose (S)	089	168**	033	146*	160**	056	151**
(-) Sense of competence	229**	054	200**	167**	277**	126*	080
Age							387*
IAV7							744**
MULT R	586**	574**	551**	329**	385**	243**	462**
R square	343**	329**	304**	108**	149**	059**	214**

Note: Beta weights are presented without decimal points. Negative beta weights are underlined. Results for the intention scale are presented for the backwards elimination of variables when all variables are entered into the equation including interaction terms for an age effect on this variable.

* p<.05 **p<.01

Table 4

Sets of standardised beta weights and multiple regression coefficients for each criterion variable for the Aboriginal group (n=496)

	Criterion variables						
Predictor variables	School confidence	Perceived value	Affect to school	Maths achievement[a]	English achievement[a]	Absence	Intention complete
Striving for excellence	305**	628**	412**	086	006	142	104*
Competition	131**	077	086	009	186	102	018
Group Leadership	109*	085*	049	035	221	061	034
Affiliation	057	068	021	065	009	048	042
Social Concern	017	017	017	221	469**	046	004
Recognition	067	095*	018	004	163	026	076
Token Rewards	007	050	015	054	047	066	019
Sense of Purpose (S)	133**	188**	212**	242	085	058	662**
(+) Sense of Competence	238**	117**	007	006	078	008	013
(-) Sense of Competence	157**	034	034	166	130	034	034
School Competence	064	064	253**	084	106	115*	127**
MULT R	662**	715**	593**	370	552**	241*	735**
R Square	438**	511**	352**	137	305**	058*	540**

Note: Beta weights are presented without decimal points. Negative beta weights are underlined.

*p<.05 **p<.01

[a] Academic achievement in maths and English were only available for the Year Ten students. Owing to the reduced n=85 and the skewed distribution towards poorer academic performance, these results should be interpreted with caution.