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# Ethnicity, Individual Modernity, and Academic Attributions

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in

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ABSTRACT

Ethnicity, Individual Modernity, and Academic Attributions

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Attribution theory holds that in academic settings success is generally attributed to internal factors (ability, effort) and failure to external factors (luck, task difficulty). Literature (Fry and Gosh, 1980; Weiner and Peter, 1973; Salili, Maehr and Gillmore, 1976) shows that cultural differences influence attributions of school children, but not of university students (Chandler, Shama and Wolf, 1983; Chandler, Shama, Wolf and Planchard, 1981; Abrami and DeBellefeuille, 1984; Leroux, 1985). Do individual differences, such as ethnicity (defined as developing or developed continent of birth) and a person's value system as measured on the Overall Modernity (OM) Scale influence academic attributions in post-secondary students? To explore this controversy 362 male and female college students of multicultural backgrounds , aged 17-21, were first assessed as having a traditional or more modern value system (OM Scale) before completing a demographic questionnaire and an attribution questionnaire on hypothetical student performance. Analyses of variance showed no main effects for continent of birth (developed vs. developing). However, students judged hypothetical success and failure situations according to condition (success/failure) and expectancy (expected/unexpected).

More importantly, analyses of subjects at the extreme ends of the OM Scale revealed that modern orientation was significantly related to effort and internality and traditional orientation to luck. The implications of these findings are that there are more attributional similarities than differences between students of multicultural origins, and that existing differences are due to the individual's value system, which is his orientation to tradition or modernity.

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# Chapter One: Introduction

In educational settings where students learn and teachers transmit information and evaluate student performance, questions such as 'Why did I fail this exam?' and 'Why did I do so well on this exam' are asked. People are information seekers; they search for reasons to explain events concerning themselves and others. By doing so, individuals believe they can control situations better, and therefore avoid or bring about a recurrence of a particular event.

For example, imagine a student who has always had excellent marks in Biology, but failed his last midterm exam. He is going to ask himself why this happened, and if it may happen again. With a personal history of good marks in this particular subject he is most likely not to question his ability. The student may conclude that he should have studied harder; he may realize that the amount or effort put into this particular exam preparation did not result in the expected high mark he had hoped for. Knowing the reasons which have led to the unexpected exam failure, the student will know that counting on past performance and his ability is not enough in anticipating a successful outcome.

The attribution theory of achievement motivation explains reasons for questions concerning success and failure for academic achievement. This theory is based on the assumption that individuals search for causal

understanding of events (Weiner, 1983). These perceived causes can be classified into a scheme, or a taxonomy, of causal attributions. The classification determines similarities and differences of underlying properties of causes, which are referred to as causal dimensions. Weiner has identified three dimensions of causality: locus, stability, and controllability. Locus refers to the location of the cause; whether a cause is internal or external to a person. Stability is concerned with the temporal nature of the cause; whether the cause is perceived as changing from situation to situation, or from moment to moment, or whether it is seen to have endurance. Controllability refers to the degree of personal control over a given cause (see Figure 1).

In order to reach a decision about the reasons for success or failure, various sources of information can be tapped. Some of this information is derived directly from the present, while other sources lie in past events. Weiner (1980) states that inferences about causality for success and failure are complex. These antecedent conditions include specific cues, causal schemata, individual predispositions, reinforcement schedules, as well as communication from others (see Figure 2).

Specific cues consist of specific information, such as past outcome history, social norms, performance peak, pattern of behaviour, task characteristics, randomness of outcome, and incentive by performance covariation (Weiner, 1980).

Figure 2 The Attributional Process for Success and Failure (adapted from Weiner, 1980, p. 344)

| ANTECEDENTS | CAUSAL CATEGORIES |
|---|---|
| Specific Cues | Ability |
| Past outcome history | Effort |
| Social norms | Task Difficulty |
| Performance peak | Luck |
| Pattern of performance | Mood |
| Persistence or behavior | Fatique |
| Task characteristics | Illness |
| Randomness of outcome | Other people |
| Incentive x performance covariation | |
| Causal Schemata | |
| Necessary schema | |
| Sufficient schema | |
| Individual Predispositions | |
| Achievement-related needs | |
| Gender | |
| Reinforcement Schedules | |
| 100% versus 50% | |
| Ratio versus interval | |
| Others | |
| Communication from others | |
| Stereotypes | |
| Cultural learning experiences | |

Figure 1 A Three-dimensional Taxonomy of the Perceived Causes of Success and Failure (adapted from Weiner, 1980, p.347)

| | Controllable | | Uncontrollable | |
|---|---|---|---|---|
| | Stable | Unstable | Stable | Unstable |
| Internal | stable effort of self | unstable effort of self | ability of self | fatigue, mood, fluctuations in skill of self |
| External | stable effort of others | unstable effort or others | ability of others task difficulty | fatigue mood fluctuations in skill of others, luck |

A causal schema is a relative permanent cognitive structure, refering to the person's belief about the relationship between an observed event and the perceived causes of that event (Kelley, 1972). There are sufficient and necessary causal schemata. For example, a person can believe that either high ability or hard work will result in success. In the case of a sufficient causal schema, each cause in itself can produce the effect. This schema is usually elicited by typical events, such as succeeding at an easy task (Kun & Weiner, 1973). When both ability and effort are believed to be required for succeeding at a task, one refers to a necessary causal schema. It is often elicited by unusual events, such as succeeding at a difficult task (Weiner, 1974).

Individual predispositions, another causal antecedent, influence attributional decision making. They include achievement need and gender. Some individuals may see luck as causing events, while others feel that ability or hard work are the primary causes for success.

Schedules of reinforcement, as well as communications from other people are included among the causal antecedents. The communication from others concerns remarks, or thoughts, such as a person stating 'you are really smart' or 'you were really lucky'(Weiner, 1980). Likewise, stereotypes, such as 'they really are lazy' can influence how an individual attributes to other people's behaviour.

There are four basic causal elements, also called

causal factors, which frequently determine causal judgements: ability, effort, task, and luck. Ability inferences are determined mainly by information about the past. Repeated success or failure leads an individual to conclude that he possesses or does not possess ability. For example, if a person repeatedly succeeds at a task, he is likely to think of himself as very able (Weiner and Kukla, 1970). Effort information is gained when an individual looks at his performance, called the outcome or an event, and judges whether he tried hard to succeed or did not. Task difficulty is a function of how the individual perceives others to have done at a given task. If the majority of those others have succeeded, the task is likely to be termed 'easy'; if most others have failed, the task will be called 'hard'. Luck ascriptions are used when the outcome is perceived as independent and random. Additional perceived causes are fatigue, mood, illness, drugs, as well as causes that are unique to the specific situation (Weiner, 1980).

A variety of antecedent factors are employed by people, when they search for causes of given successes and failures. These depend on the individual, and the individual's value system, which has been shaped partly by his socialization process (Triandis, 1977). In a cross-cultural survey it was reported that in Greece and Japan patience, and in India tact and unity are perceived as causes of success (Triandis, 1972).

I am interested in investigating the causal

antecedent called individual differences further, by looking at ethnicity, and a person's value system. Immigrant and minority students possess a cultural heritage which may influence their orientation toward learning and affect how they perceive success and failure and perhaps even whether they will succeed or fail. Some researchers have found cultural differences in attributions (Fry and Gosn, 1980; Weiner and Peter, 1973; Salili, Maehr and Gillmore, 1976. Other researchers have not found cultural differences (Chandler, Shama and Wolf, 1983; Chandler, Shama, Wolf and Planchard, 1981; Leroux, (1985); Abrami and DeBelleteuille 1984). While comparing the studies, it seems that age is a factor associated with cultural differences. Researchers studying school children have found cultural differences, while those studying university students have not. One explanation focusses on the effects of cultural learning experiences (ethnicity or home culture, school as socialization agent), whereas another explanation emphasizes the effects a minority status. The minority status effect could possibly be greater in visible minorities.

In North-America's educational institutions students and teachers reflect a variety of different ethnic and cultural backgrounds. Canada has a total population of 22 million, but it does not have a majority group. Bhatnagar (1982) points out that of these 22 million, 6 million are French-Canadians, 10 million are British-Canadians, and 6 million belong to the category 'other'. This category

'other' consists of a large number of ethnic minority groups. In 1976 more than 50% of the 93 000 students registered under the Toronto Board of Education did not have English as their mother tongue.

Albert and Adamopoulos (1980) state that the particular experiences that persons from different cultural backgrounds bring into social interaction situations can create problems, which can hinder effective communication. For example, a student who believes that forces external to himself determine the outcome of an exam, such as luck, or the will of a powerful other source, may not see the need to study harder in order to strive for future success. If this belief is part of his value system, he most likely will not experience much future success. His teacher may no longer want to help him , thinking that the student just is not motivated enough. Triandis, Vassiliou, Vassiliou, Tanaka, & Shanmugam (1972) refer to the "subjective culture" of a person. A person from culture A has a different "subjective culture" than a person from culture B. The "subjective culture" influences the way a person judges his own and other's behaviour.

Therefore, this thesis proposed to investigate how specific personal differences, namely ethnicity and value system (orientation toward modernity or tradition), influence the way an individual attributes in hypothetical success and failure situations.

## Chapter Two: The Effects of Expectancy and Outcome on Attributions in Academic Settings - Four Models

For students and teachers it is important to know why success and failure occur, and what can be done to avoid undesirable outcomes or bring about the recurrence of desirable ones. That is, knowledge about the causes of events has behavioural implications. Attribution theorists state that people behave the way they do because of the causal judgements which they make for the outcomes of previous events (Weiner, 1980). In this respect attribution theory not only is useful for studying social perception, but also to explain motivated behaviour. For example, if a student fails at a task, and sees the reason of this failure in his low ability, or in the difficulty of the task, expectations of future success are limited. The student will think that his level of ability is unlikely to change, and the difficulty level of the given task is likely to remain constant as well. If, however, the student perceives that bad luck, or a lack of effort in preparing for the exam has caused the disappointing outcome, he still has reason to expect success in the future.

Similarly, if a student succeeds at a task, and ascribes this success to good luck or hard effort, future recurrence of a successful outcome is less likely than when the person thinks that high ability or an easy task have caused the good result. Generally,

Weiner (1980) states that expectancy shifts after success and failure depend on whether the cause of the prior outcome is seen as stable or unstable. If the individual thinks that the outcome is due to stable factors, such as ability and task difficulty, a typical shift in expectancy will result. A typical shift in expectancy is defined as expecting future success after prior success, and expecting future failure after prior failure.

On the other hand, if the causes of the prior outcome are believed to be of an unstable nature, such as effort, and luck, atypical shifts result. Success can be expected after prior failure, because effort can be increased and luck could be favourable next time.

In order to understand events, people constantly make inferences about the causes of their own and other's behaviour. Albert and Adamopoulos (1980) point out that several attributions can be made in a particular situation, depending on the norms and consequences of action which are relevant in a given society.

## Balance Theory

Balance theory (Heider, 1958) attempts to explain expectancy of success and failure. This model holds that success is attributed to the self, or to internal factors, when there is high expectancy for success, and to external factors, when expectations for success are low. Failure is attributed internally when the expectations for success are low, and externally when the

expectations for success are high. This means that balance theory explains attributions for expected and unexpected outcomes in terms of locus. Miller and Ross (1975) confirmed these findings, but Bar-Tal and Darom (1979) reported that elementary school children attributed success to external causes, and failure to internal ones. Chapman and Boersma (1979), and Pearl, Bryan, and Donahue (1980) found that low achieving students tend to attribute success to external causes, and failure to internal causes. Several studies (Feather, 1969; Simon and Feather, 1973; Bar-Tal and Frieze, 1977; Deaux and Harris, 1977; Frieze and Bar-Tal, 1980) noted that females tend to attribute externally for success and failure. Other authors (Dweck and Repucci, 1973; Nicholls, 1975; Dweck, Davidson, Nelson, and Enna, 1978) found that females attributed more externally to success and more internally to failure than males.

## Naive Action Model

While balance theory explains attributions for expected and unexpected outcomes in terms of internal versus external factors, the naive action model (Heider, 1958) explains the effects of expectancies on attributions in terms of stable and unstable factors. Stable factors are ability and task difficulty, and unstable factors are luck and effort. Zuckerman (1979) believes that this model is consistent with Miller and Ross's (1975) argument that expected outcomes are

attributed internally. Thus, balance theory and the naive action model make the same predictions in terms of ability, because ability is seen as internal and stable, and luck, because luck is seen as external and unstable. These two models make conflicting predictions regarding effort (an internal, unstable factor, and task difficulty (an external, stable factor) (Zuckermann, 1979).

## The Egotism Model

The egotism model holds that the valence of the actual outcome, success or failure, is the primary determinant for post-performance attributions. In Western cultures belief in internal control of events is linked with success and the predictability of future success, whereas dependence on external factors, such as luck, or task difficulty, will result in a negative orientation toward a task (Bradley, 1978; Fitch, 1970; Miller, 1976; Simon and Feather, 1973; Snyder, Stephan, and Rosenfield, 1978). People tend to employ ego-enhancing attributions for success, and ego-defensive attributions for failure, if the outcome is attributable to the individual and if the outcome is important to the actor. This means that people attempt to enhance their self-esteem by taking credit for success, and to deny responsibility for failure (Zuckerman, 1979). Since external causes are beyond the individual's influence, a student experiencing failure may not see a need to revise

exam preparations, for example. This may lead to more failure in the future. Davis and Stephan (1980) studied university students' attributions. They found generally high expectations for success, associated with ability and effort.

When expectations were confirmed, students tend to attribute internally (ability and effort), whereas disconfirmed expectancies led students to attribute mainly to difficulty of the task as an external factors. The authors found little or no relationship between causal factors and degree of expectancy, confirming the emphasis on locus of causality. Chapman and Lawes (1984) found evidence in support of this model, but they stress that the result is not as clear-cut as the egotism model holds. Results showed that locus is confounded with stability, and that external stable causes are implicated in the reduction of attributions amongst those students who failed the exam. The authors state that when students increase use of external unstable causes, such as task difficulty and luck for post-exam performance, the students seem to imply that ability, effort, and external support exist to be used in the future.

A review of studies by Zuckerman (1979) revealed that expectancies affect attributions of ability and luck, but not those of effort and task difficulty. There was a clear tendency of people attributing internally for success (27 out of 38 studies, or 71%), indicating that performance outcomes bring about self-

serving attributions.

I expect my research results to show that one could add to the term " Western culture" the term " Modern value system ". A person oriented toward modernity rather than traditionalism is expected to attribute in the same way the egotism model suggests. A traditional person, on the other hand, will have no need to defend his ego, when he thinks that successes and failures occur independent of his actions. This implies that a young child, whose parents hold traditional attitudes, could develop symptoms of learned helplessness, if he, too, would be socialized into a traditional value system, which dictates that successes and failures are caused by an external force, which is beyond the person's influence. At this early age retraining of attributions could help the child to expect success by working hard , which would surely be beneficial to his academic development.

## The Expectancy Confirmation Model

This model adds the causal dimension of stability to expectancy. Expected outcomes, be it success or failure, tend to be attributed to stable factors, whereas unexpected outcomes tend to be attributed to unstable factors (Feather, 1969; Frieze and Weiner, 1971; Feather and Simon, 1973; McMahan, 1973; Valle and Frieze, 1976). For example, a student who unexpectedly failed an exam, and attributes the outcome to not having prepared well enough, may revise his study methods, or increase his

effort in order to expect success in the future. Chapman and Lawes (1984) found it debatable whether attributing failure to difficulty of the task is external and stable. Since most university exams are not standardized, the authors feel that task difficulty is unstable. A reconsideration of this fact with the data of Davis and Stephan (1980) brought about support for the expectancy confirmation model.

## Chapter Three: Socio-cultural Learning Experiences, and Cultural Determinants of Attributions

In the literature an attempt has been made to investigate whether attribution theory holds not only for members of the Western culture, but for members of Eastern cultures as well. Weiner (1980) states that causal ascriptions are used differently for evaluating purposes in different cultures. Personality factors, such as need to achieve, as well as cultural factors can influence the choice of attributions. Triandis (1977) states that some cultures use social attributions more than attributions to other components of the model. Relative stable agricultural cultures, such as the Temne, demonstrate interpersonal reactions which show a repetition of well-learned behavioural patterns. Emphasis is placed on obedience to the chief, and doing what is prescribed by tribal norms. Novel interpersonal behaviour is rare. Attributionally speaking, behavioural intentions have little importance as determinants of behaviour. Thus, behaviour is predictable from the societal norms; norms are converted to stable habits that control behaviour (Triandis, 1977).

In modern industrial societies, on the contrary, norms no longer have consistent influences on a person's behaviour. Instead, the perceived consequences may lead people to behave rationally. For example, knowing that you will not receive credit if you fail the course may

trigger studying behaviour. Occasionally, however, according to Triandis (1977), people do what causes great satisfaction, irrespective of consequences. A high school student, for instance, may persistently neglect his homework, because he wants to be with his friends, knowing that low marks will prevent him from going to college.

Subcultural norms exist in a society, too. They cause variations in attributions concerning what is considered proper behaviour, by placing different emphases on various parts of the attributional model. According to Triandis (1977), people can value outcomes of action differently, and they can also, either realistically or unrealistically, relate different outcomes from behaviours. The author states that myths and ideologies, too, will influence attributions. People who strongly believe in egalitarianism may attribute distortedly in a way consistent with their beliefs, and many therefore see more equality than really exists. A person with this egalitarian ideology may then assume that differences in outcome are related to differences in effort. Therefore, he may label poor people as lazy, because they have had the same opportunities to succeed than everybody else in society, but have neglected to use them. Triandis (1977) states that Americans are more likely than members of less egalitarian societies to look down on the poor; probably for those stated reasons.

Cultures differ also in their complexity (Lomax &

Berkowitz, 1972). While in very simple cultures interpersonal behaviours are mostly determined by few factors, very complex cultures may possess several more possible factors with which to determine behaviour. In many simple cultures tasks are very easy, and people believe that events are determined by external factors, such as luck (external and unstable).

In tight cultures, such as theocracies (Pelto, 1968), people tend to act according to the will of some high authority. Good outcomes are seen to have come from gods, saints, or good spirits, while bad outcomes are caused by devils or evil spirits. Triandis (1977) points out that fatalism comes in here. Moslems, for example, feel that the individual has no way on influencing outcomes of events.

This doctrine of fatalism, which holds that all things happen according to a prearranged pattern, can be found in the history of human thought from Homer to the present day. People who attribute personal success to gods and good spirits, feel hardly responsible for failure, because they could not have prevented failure from happening anyway. On the other hand, if a society expects people to be successful, and attributes success mostly to a person's effort, failure is difficult to deal with. Triandis (1976) studied the self-concept of Blacks and Whites of different social classes and different ages in America. He found that some subgroups of the American society consider themselves as unimportant to a much

greater extent than is normal in America. These subgroups consisted of unemployed Blacks and the old (age 35-50) working class, both for Blacks and Whites. Triandis (1977) assumes that people in similar circumstances, who are members of a theocracy, will most likely not feel negative about themselves, because they do not have to blame themselves since they can attribute their status to a higher power.

In sum, cultural factors determine partly what particular causes an individual will see important while judging a given behaviour.

If cultural learning experiences influence a person's attributions, I would suspect that in an Eastern society, where intention and effort are more valued than outcome, the egotism model would not hold. Failure outcomes would not lead a person to attribute to external factors, that is, to defend his ego, as long as there was effort involved. People in Eastern cultures would be socialized to take equal responsibilities for successes and failures, whether expected or unexpected. This assumption is based on Murphy and Murphy (1968), who state that the ethos of the Asian Indian culture dictates that individuals are personally responsible for all their actions and must therefore accept all outcomes, whether negative or positive, expected or unexpected.

## Chapter Four: Critical Review of Cross-cultural Research

Weiner and Peter (1973) investigated the subprocesses which lead to the development of achievement attributions in children. All 300 subjects were from lower middle class daycares and schools; half were black; half were male. The subjects attributed to other's behaviour in a moral and an achievement situation. Four to eighteen year old children had to reward or punish other children who were described as having either succeeded or failed at a puzzle task, with all possible combinations of high or low effort and high or low ability. Reward or punishment consisted of assigning red or black stars to each given hypothetical condition. The results showed that success was rewarded more than failure, and that high effort was rewarded more than low effort. Until age ten outcome was the main predictor of reward, because young children's cognitive skills allow them to make judgments on a more concrete basis. Ten to twelve year old children have sufficient cognitive skills to use more information about the level of effort, rewarding children experiencing success despite lack of ability and punishing high ability subjects that failed. After age ten to twelve the authors noted an unexpected, so called "regression effect", where outcome again became the most important factor in juging others, although effort continued to be seen as important. Weiner and Peter (1973) think that socialization is responsible for

teaching children that our Western society is more outcome oriented.

The results showed a significant race x sex x outcome interaction. White children between the ages of 7-12 used outcome less than black children. Overall, Weiner and Peter found more similarities than differences between the races. Black and white children, males and females, follow the general stages of moral development.

Weiner and Peter (1973) had assigned the same task to children of a wide age range. Giving stars in order to reward or punish a hypothetical child 's work might have been too difficult for four year old children, who may not have understood what they had to do. The authors mention that 19 of the subjects aged 4-5, that is one third , were excluded because they did not understand the instructions. This implies that the remaining 4 and 5 year old children , which were included in the lowest age group, were cognitively advanced. Therefore, I doubt whether this age group tested really reflects a representative sample of the population.

On the other hand, children aged 10 to 18 years may not have taken the task of assigning stars seriously, which could have influenced the results. While children of the two younger age groups were tested individually, children of the two older age groups were tested in groups of ten. For the sake of consistency, and in order to avoid children influencing each other, it would have been better to test all subjects individually.

Salili, Maehr, and Gillmore (1976) replicated the Weiner and Peter (1973) study in Iran. Their purpose was to see if a universal pattern suggested by Weiner and Peter would hold in a different culture, such as the Iranian one. Secondly, they wanted to know if the pattern varies as a function of subcultural factors. In other words, the key question was to see if the so called regression effect noted by Weiner and Peter is societally based or if it is a universally based factor in the nature of achievement.

Salili et al. (1976) selected 291 subjects from government schools, between the ages of 7 and 18. To my knowledge, government schools are frequented by children whose parents cannot afford private education, or who are not too concerned with high quality education. I would assume that the children in this study have low socio-economic status (SES); they also may have lower achievement motivation, or even lower ability compared to those frequenting the private schools. But since the authors have not used a comparison group drawn from the private school sector, the results may have been confounded by socio-economic status and level of achievement motivation, and therefore cannot be generalized for the Iranian culture.

Salili et al. (1976) state that their categorization of subjects varies slightly, but not significantly from Weiner and Peter's. I spot major differences. Salili et al. have not included 4-6 year old children in their

sample. They have categorized ages as follows: 7-10; 11-12; 13-15; 16-18. There is a variety in age range between the age groups. In comparison, Weiner and Peter (1976) categorized their age groups as follows, keeping the age range the same: 4-6; 7-9; 10-12; 13-15; 16-18 (see Table 1).

In the Salili et al. (1976) study the number of subjects for each age group varied greatly, between 20 and 133, whereas Weiner and Peter (1973) had the same number of subjects per group, except for the lowest age group. Salili et al. found three major differences, which they interpret as being caused by culture based learning experiences. Weiner and Peter found that high ability was rewarded, and low ability punished. The Iranian sample did the opposite, reflecting a different structure, which focuses on intentions, and morality. The Iranian children seem to have expected more from a person with greater abilities.

The second difference was found in achievement judgements. Opposite to Weiner and Peter's (1973) findings, ability had a significant effect. Salili et al. (1976) suggested "that the existence of ability is more positively valued in Iran than in the U.S. That is, competence, independent of what one does with it, seems to be an inherent good in Iran - but not in the U.S." (p. 335).

A third, and more important difference is that the regression effect in the achievement domain, as reported

by Weiner and Peter, does not occur in the Iranian sample. The older the children, the more they attribute to effort when judging achievement. According to the authors, this finding corresponds with ethnographic knowledge that hard work (effort) is valued higher in Iran than the outcome. Salili et al. say that the value of effort and outcome orientation in the U.S. may have to do with a society in which status is acquired through hard work. Effort seems to be more characteristic in societies in which status is ascribed, and where people are less interested in whether trying gets one anywhere (Salili et al. 1976). I challenge this statement, because the sample studied represents only a certain fraction of the population out of reasons given above. Had the same study been conducted using private school children, the results may have been different. One could speculate that those parents, who prefer private school education for their children, are more future oriented. Outcome may have been important, in the same way as outcome was seen to be important in the U.S..

I am wondering whether the regression effect first reported by Weiner and Peter (1973) is really significant; maybe it is explaining only a small percentage of the variance in attributions. Weiner and Peter (1973) calculated and graphed the 'resultant of reward for effort minus punishment'; Salili et al. did not do that. In order to compare data between the two studies better, I calculated the 'resultant of effort

Table 1 Resultant or Reward for Effort minus Punishment (data used from Weiner & Peter, 1973, Fig.10, and Salili, Maehr, & Gillmore, 1976, Fig. 4)

| Weiner and Peter | | Salili, Maehr, and Gillmore | |
|---|---|---|---|
| AGE | | AGE | |
| 4 - 6 | 0.2-(-0.8)=1.0 | | |
| 7 - 9 | 1.5-(-1.5)=3.0 | 7 -10 | 1.9-(+0.2)=1.7 |
| 10 -12 | 1.8-(-1.8)=3.6 | 11 -12 | 2.4-(-1.2)=3.6 |
| 13 -15 | 2.2-(-0.8)=3.0 | 13 -15 | 2.6-(-1.1)=3.7 |
| 16 -18 | 1.9-(-0.5)=2.4 | 16 -18 | 3.2-(-1.3)=3.5 |

minus punishment' for Salili et al.'s data (Table 1). Weiner and Peter (1973) report +3.6 for the age group of 10-12, +3.0 for the age group 13-15, and +2.4 for the age group of 16-18. The drop of 1.2 represents the regression effect. For Salili et al.'s (1976) data I calculated +3.6 for the age group of 10-12, +3.7 for the age group 13-15, and +3.5 for the age group of 16-18. There is a drop of 0.1 between the three groups. Perhaps one could interpret that in both studies a regression effect was present, which was larger in the U.S. than in Iran.

Rogers (1980) stresses that one should pay more attention to the subprocesses which lead to the formation of causal factors. That could mean that one should not ignore the home culture, as Salili et al.(1976) have done, when they were testing their sample from government schools. Rogers thinks that the problem of how a child learns to recognize the cues which are associated with various causal factors have been largely ignored in the two studies discussed, maybe because of incompatibility of such a question with the accepted 'paradigm' of attribution research.

Rogers replicated the Weiner and Peter (1973) study in England, with the addition of sex as a variable. Generally, Roger's results are similar to those obtained by Weiner and Peter (1973), because of similarities in cultures between North-America and England. Neither in the U.S. nor in England did ability significantly affect the children's judgements, as it did in Iran. In the

Western cultures lack of ability was actually rewarded by the older children, when the outcome was positive. Rogers (1980) found different results for effort compared to Weiner and Peter (1973). Effort becomes increasingly more important as the childrens' ages increased. Rogers did not get the regression effect, which Weiner and Peter (1973) reported, except among female participants While Iranian children only attributed to effort, only 10-12 year old U.S. children and 12 year old British female children judging other British girls showed the same results.

Rogers found sex differences. Girls placed a higher value on positive effort than boys, and used the information provided regarding effort more than boys. Roger speculates that girls value and reward high levels of effort, while at the same time not believing that effort is responsible for their own successes and lack or effort responsible for their own failures. Twelve to fifteen year old girls, but not boys, found outcome of another person's achievement strivings important. This constitutes a limited support of the Weiner and Peter (1973) regression effect. Boys differed in their attributions toward girls and boys. Boys judging boys were interested in task outcome, whereas boys judging girls showed that only the younger ones looked at outcome, wheras the older ones were more concerned with the intent.

Rogers (1980) feels that attribution theory of

achievement motivation, particular concerning the development of sex differences, would benefit from including the context in which attributions for success and failure are made. With context Rogers means the teacher, the task, the classroom, and the peers that can influence pupil's judgements. I may want to go even further, considering the socialization processes employed when raising boys and girls. Girls may be taught to expect different outcomes than boys, and to attribute to different causes, according to the value system in the children's immediate environment. Maybe the sex differences Rogers (1980) found were due to the subject matter attributed to; it was a mathematics task.

Claes (1981) measured attributions of French-Canadian school children and found results similar to those of Weiner and Peter (1973). Internal attributions for success and failure increased over age, but decreased once adolescence was reached. As a single sex difference they found that the female adolescent subjects more frequently felt responsible for their failures. Considering the socio-economic variables, Claes found that adolescents from lower classes felt less in control of school related events compared to upper class members. This shows that SES has an effect on the formation of attributions.

A few researchers have investigated the experiences of immigrant and minority populations (Fry and Gosh, 1980; Massey, Darnbusch, and Stantford, 1976; Munro,

1979; Nicholls, 1978; Mednick and Murray, 1975). Immigrant and minority group members may hold different causal beliefs due to their socio-cultural learning experiences, or because they feel conscious of their status as minorities in the main culture.

Mednick and Murray (1975) state that black men and women have a more external locus of control than whites. They found that high need achievement women tend to use more effort for success and failure compared to low need achievement ones. This pattern was found for black and white females.High achievement motivated black females attributed to luck; this was an unexpected result. The authors interpret this as a protective mechanism for these high achieving females; by including an external attribution they may protect themselves from possible negative feelings shown by others.

Willig, Harnisch, Hill and Maehr (1983) studied the effect of social, cultural, and personal factors on achievement attributions and test/evaluation anxiety of Anglo, black, and Hispanic grade 4-8 students in the U.S.. Achievement attributions and test/evaluation anxiety are two major variables related to academic performance. The authors found that test anxiety was related to debilitating effects, such as low math performance, attribution of failure to lack of ability, and being born outside the state of Illinois more in the Hispanic than in the black or Anglo children. Highly test anxious students showed negative attributions. They

attributed success to luck and failure to lack of ability and task difficulty. Black children attributed failure less to task difficulty and/or to lack of ability. The authors state that this absence of negative attributions supports the literature that the usually negative social reinforcement black children experience does not necessarily lead to a lower self-concept, since black children seem to disregard such feedback from white sources as unimportant. The results for the Hispanic children, I would suspect, could be interpreted due to the fact that they may perceive themselves as alien in the U.S. mainstream society.

Willig et al.'s (1983) findings show that the incentive values associated with academic work are important. Contrary to Murray and Mednick (1975), they found that black children do not attribute more to luck than other ethnic group members. The authors see the reason for this in the type of task (guessing) and in the instructions that the outcome would be influenced by luck. The authors suggest further research to clear up this controversy, by paying special attention to the types of tasks and the characteristics of the subjects. Hispanic children, who were moderately accultured, had a lower self-concept of academic ability than the least or most accultured Hispanic children. These children seem to experience the most failure because of language problems and the difficulties of adapting to the Anglo-American culture.

Willig et al. stress the importance of turning knowledge about attributions and motivation into effective programs for those minority group children to help them develop positive motivation and coping skills in order to minimize the debilitating effects of negative motivation.

Massey, Darnbusch and Stanford (1976) examined the relationship between attribution processes and academic self concept among students of inner-city high schools, who belonged to four ethnic minority groups. Demographic data were collected from school records on ethnicity, sex, grades, and achievement test scores. Black students and those with Spanish surnames had much lower grades and achievement test scores than Asian-American and other white minority group students.

The results showed that low achieving minority group members or students in low achievement schools were less likely to attribute lower grades to lack of ability than students in high achieving ethnic groups or in schools classified as achievemnt oriented. This finding explains why low achieving minority students do not possess low academic self-concept. Students in low achieving groups tend to see themselves as being of average ability, although their grades do not indicate that.

Nicholls (1978) found that school experience reduces ethnic differences in attributions for academic successes and failures in Maori children, a Polynesian minority group in New Zealand. There [redacted] ite Pakehas constitute

the majority. The children in the study were all from low socio-economic groups. Maoris are stereotyped as valuing competitive achievement less than Pakeha children. Maori and Pakeha children differed in all attributions; Maoris inferred high ability from high actor effort more than Pakehas. Seven year old Maoris felt that success with low effort should be approved less, and that failure with high effort is disapproved more than Pakehas. Pakehas expect more reward for success regardless of the amount of effort, and less disapproval for failure if they have tried. These differences disappear in the middle school years. The authors state that early differences could reflect ethnic differences in orientation to academic work or general differences in achievement attributions. According to ethnographic reports, both explanations are possible. It should be noted that the sample size was small in this study, which reduces representativeness.

Munro (1979) states that African subjects may be influenced by supernatural beliefs in their locus of control. His sample consisted of black and white female and male students in Zambia and in Zimbabwe-Rhodesia. Munro did not find that African blacks had more supernatural beliefs than African whites, as anthropological data suggest. Consistent with previous speculations, these findings could be again interpreted in a way that by the time students have reached a certain level of education their belief system has changed toward modernity. The attributions reflecting tradition may have

been found in elementary school children.

Fry and Gosh (1980) studied Asian and Caucasian children aged eight to ten years, who were similar in terms of family socio-economic status, educational opportunity, neighbourhood influences, age, and internal-external orientation. These subjects differed in cultural background and religious affiliation, which was assessed by cultural beliefs and traditions expressed by their parents. The authors state that some of the findings of this study clearly implicate the role of cultural experiential dimensions in the attributions of children. They found a tendency of Caucasian children to deny a personal responsibility for failure, and to take credit for success only, whereas Asian children indicated that their success was due to luck, implying that ability, effort, and task difficulty had little to do with it. Fry and Gosh (1980, p.359) caution that one should not generalize these cultural and personality characteristics found in their study to all Asian Indians, because one cannot imply that the "Asian Indian personality is a unitary concept or that all Asian Indian children are a uniform group". This means that one should keep in mind that the Asian subjects used in this particular study are members of a minority group; also Asian Indian children, as children of any other culture , cannot be stereotyped as having a particular personality.

The authors speculate that the observed differences between the Asian and Caucasian children may be due to

the fact that the Asian Indian parents "did nevertheless perceive themselves as being a 'minority group' in a white man's world (Fry and Gosh, 1980. p. 360). The authors feel that the tendency of Asian children to deny themselves credit for success and to assume responsibility for failure can be interpreted from the point of view that "the 'minority-group' feeling is not conducive to the development of self-confidence and self-assurance in one's ability and strengths" (p.360). In terms of the modernity hypothesis, one could speculate that the Asian children, who are young (age eight to ten) are still influenced by the traditions that the parents would whish to preserve. The longer the children are exposed to the educational experiences, the more they may break away from their cultural heritage. From personal experience I know that often children speak their parent's language at home, until a certain age; afterward the school language takes over, and often children refuse to continue to attend their ethnic schools in their spare time, or even refuse to talk to their parents in their mother tongue.

Chandler et al. (1981, 1983) studied university students' attributions in five countries, consisting of developing and developed ones. They wanted to know whether attributions, success and failure, and achievement have different values in different countries. They also asked whether gender differences exist across cultures. In other words, the authors wanted to

investigate whether the social norms of a given society influence the way in which females and males respond to success and failure in an academic setting. Do different societies, with their own economic, industrial, political, moral and educational framework shape males' and females' attributional responses to academic events? Gender differences were to be investigated in attributional patterns for success and failure outcomes across various attributional factors, which were ability, effort, task difficulty and luck. The authors had selected university populations in each of the five countries because they were thought to be more homogeneous across cultures, and in which gender differences were most likely to be minimized. That means that university students could have overcome the stage of stereotyped male and female role models.

This thinking falls in line with Inkeles and Holsinger's (1974) concept of modernity, which holds that the amount of education a person has received changes his belief system toward modernity. That is, an individual who has had little exposure to formal education is said to have beliefs which are of a traditional nature, whereas a person who has received many years of formal education, such as a university student, has developed a modern, that is non-traditional outlook on life.

Chandler et al. (1981, 1983) found two, very small, statistically significant differences between males and females across all five countries for achievement

attributions to task and for the internal/external dimension. The differences of attributions to ability, effort, and luck, as well as for the stable/unstable dimension were not significant. The two statistically significant differences in this study may not have been due to chance alone. Altogether, ninety seperate statistical tests were done, for which the error rate for p=.05 is between 4 and 5. In other words, 4 to 5 statistically significant differences can be found by chance alone for the 90 tests.

The authors point out that the sample used in their study does not represent the population of their countries, given the fact that in four of the five countries chosen - except for the United States - university students represent the upper class population of their countries. The rich segment of the population in each of these five countries is assumed to have perceptions about education, achievement, success and failure which are very similar to Western beliefs. This may imply that a sample drawn from high school students, who are enrolled in obligatory classes, may have been more representative of their cultures.

In recent studies Leroux (1985), and Abrami and DeBellefeuille (1984) found similar results. At the university level minority group members attributed the same way as members of the majority group. According to these findings, a subject's birthplace, and his length of residency in the host country had no effect on the way he

judged success and failure situations.

In sum, it is difficult to directly compare studies, because different researchers have approached attributional research from different view points. Differences can be found in the age of subjects, their educational level, ethnicity, race, sex, attributions to self or others, to academic or general situations. Another and major difference concerned whether subjects were tested in their own country or in a host country, where they have minority group status.

Yet another difference concerns the measures used for assessing attributions. Some studies use structured Likert type scales, where subjects have to indicate the importance of each of several given reasons for a hypothetical outcome by circling the appropriate number. Other researchers ask subjects to list questions that come to their minds concerning a given hypothetical situation (Weiner, 1976). Yet other researchers have subjects give reasons to explain a hypothetical outcome (Elig and Frieze, 1975). With each of these methods the subject has to approach the attributional process in a different way, which could result in different perspectives. Structured questionnaires, where subjects have to rate importance, may offer causes as explanations where subjects who have to respond with open ended measures may not think of.

The difference which is of major interest to me deals with the inconsistencies with which the variable

culture has been used. Culture has been operationally defined as either nationality or minority group membership. Barnouw (1973), as well as Fry and Gosh (1980), point out that in the literature very few observable data are available that tell about the kinds of causal explanations or the mechanisms which persons from different ethnic cultural backgrounds employ when judging successes and failures. One of these causal explanations could have to go with the value-orientation of an individual, that is, whether the person has a traditional or modern outlook on life.

## Chapter Five: The Concept or Modernity, and How to Measure it

Inkeles and Holsinger (1974, p.1) state that sociologists have for a long time agreed that the impact of education is one of the "most important ordering principles governing the characteristics of individuals in modern, large-scale, complex societies". Besides the well documented fact that level of education is a major determinant of the prestige the person will obtain in most social situations, more importantly, it leads to differences in cognitive content, as well as in cognitive style. Educationchanges individualattitudes and values concerning personal and social relations; and, it also effects certain psychological propensities such as the tendency to be 'field dependent ' or 'authoritarian'. Inkeles and Holsinger (1974, p.1) state that studies have shown consistent results, both in more and less developed countries, "and consistent with the results which had been obtained with the populations of the more developed countries, the studies in the less developed nations showed education to be a major determinant of the syndrome of attitudes, values, and behaviors, which distinguish the more modern from the more traditional man". These findings are based on famous study, called the Harvard Project on the Social and Cultural Aspects of Development ( Inkeles and Smith, 1974), conducted in Argentina, Chile, East Pakistan, India, Israel, and

Nigeria. Smith and Inkeles (1966) noted that in three of the countries studied, namely India, Israel, and Nigeria, there were fundamental ethnic subdivisions represented in their sample, and that in Argentina and Pakistan they found important ethnic background distinctions between the subjects in their study. This means that the populationwith which the modernity scale was validated consisted of members of varies minority groups as well as of members of the main cultures.

Inkeles (1983) states that the project started out with the assumption that no one is born modern, but rather that people become modern through their own particular life experiences. They include urban living, exposure to factory, school, mass media, and technology. These life experiences change the individual's attitudes and values from traditional to modern ones. Several dozen variables, including education, which earlier research has shown to be a powerful predictor of individual modernity, were taken into account when designing the Harvard study. During 1963 and 1964, trained interviewers questionned almost 6000 men from six developing countries, namely Argentina, Chile, India, Israel, Nigeria, and East Pakistan (now Bangladesh).

The author stresses that the research group has not invented the idea of the modern man, but has only picked up on an existing concept. This concept has two parts. One is internal, dealing with attitudes, values, and feelings; the other one is external, concerning the

individual's environment.

The tool for measuring modernity was a series of 500 questions, tapping subjects' attitudes and beliefs in areas such as empathy, personal efficacy, the need for achievement, and fatalism. This original questionnaire, called OM-500, received a median reliability of .80 in all six countries.

Inkeles (1983) states that a difficulty to overcome concerning this research project was whether these discrete elements which were tapped in the questionnaire held together in a more or less coherent syndrome, which designates modern man, or whether they are unrelated traits, which would characterize only some modern men and not others. Inkeles (1983, p. 33) states that all versions of the OM scales have "considerable face validity, meet quite rigorous standards of test reliability, and can be applied cross-culturally". The name OM, which stands for overall modernity, was chosen to reflect and represent an overall measure of modernity. Inkeles (1983, p. 33) points out that in each one of the subject groups studied, which differed in terms of occupation, religion, ethnicity, educational level, and country of origin, the same set of qualities characterized the modern man, giving confidence in "affirming the empirical reality of the psychological syndrome our theory had originally identified".

What characterizes this set of personal qualities, "which reliably cohere as a syndrome, and which identify

a type of man who may validly be described as fitting a reasonable theoretical conception of the modern man. Central to this syndrome are: (1) openness to new experience, both with people and with new way of doing things such as attempting to control births; (2) the assertion of increasing independence from the authority of traditional figures, such as parents and priests, and a shift of allegiance to leaders of government, public affairs, trade unions, cooperatives and the like; (3) belief in the efficacy of science and medicine, and a general abandonment of passivity and fatalism in the face of life's difficulties; and (4) ambition for oneself and one's children to achieve high occupational and educational goals. Men who manifest these characteristics (5) like people to be on time and show an interest in carefully planning their affairs in advance. It is also part of this syndrome (6) to show strong interest and take an active part in civic and community affairs and local politics; and (7) to strive energetically to keep up with the news, and within this effort to prefer news of national and international import over items dealing with sports, religion, or purely local affairs" (Inkeles, 1983, p.101).

The next important question the researchers had to answer, according to the author, concerned what makes particular individuals fall on one or the other end of the continuum, that is, what makes men modern? Inkeles (1983) points out that the research showed that the

amount of formal schooling a person has had was the single most powerful variable in determining his score on the OM scale. For every additional year of formal schooling, the individual gained on the average two to three additional points on a scale of modernity that ranges from zero to one hundred. The author stresses that the modernity test does not measure what is learned in school, but rather tests attitudes and values concerning a person's orientation to nature, time, fate, politics, women, and God. Inkeles seems to say that through exposure to formal education people learn subject matter, which is transmitted directly through the teacher, and they also learn from the so called 'hidden curriculum', which is implicit in the educational process.

The OM Scale is a device to measure individual modernity. It consists of questions concerning attitude, value, and behaviour defined as being relevant to judging individual modernity. Each answer is scored as being either 'modern' or 'traditional'. For each individual a modernity or OM score is being calculated, which ranges from zero for the most traditional person to one hundred for the most modern one. The majority of the questions have closed coding. This means that each possible answer provided is either termed modern or traditional. In order to determine this cutting point when constructing the scale, Inkeles and Smith (1974, p.87) state that their guiding principle was to select that particular point in the distribution or

answers to each question which came closest to placing "half of the country sample on the modern side and half on the traditional side. This procedure was done separately for each question in each country". Answers on the traditional side of the median were then scored 1, whereas answers on the modern side were scored 2. The so obtained ones and twos, which each individual received, were then added up, and the total was divided by the number of questions answered. This accommodated subjects who did not answer all of the questions. The score of 1.00 is an equivalent to the score of 0, and the score of 2.00 an equivalent to the score of 100.

Out of the pool of 166 best questions the authors constructed several versions of the OM scale; the content of all the forms was broadly similar. The shorter versions of the OM Scale had the advantage of beeng scored quickly under field conditions, since in the field the interviewer posed the questions orally. This oral technique, I would assume, could include even those subjects who could not read efficiently enough.

The OM -12 scale consists of 14 questions, which correlate at a high level of significance with the longer version of the same scale. These 14 questions tap ten of the 33 existing attitudional subthemes. They are active public participation (question 1, 11); aspirations (question 2), change orientation (question 3), citizenship (question 4), efficacy of science and medicine (question 5, 6), family size (question 7), mass-

media valuation (question 8, 14), optimism (question 9), religion (question 10), growth of opinion (question 12), information (question 13). The OM-12 scale comes with coding instructions and alternative wording as well as alternative questions, so that the items can be adapted to make sense in the particular culture studied.

The OM Scale has been used in a study by Jones (1977), together with four other traditional-modern attitude scales, in order to examine modern attitude change and traditional-modern attitude conflict encountered by students who move from rural communities to urban centers in order to attend institutions of post-secondary education. The study was conducted in Newfoundland and Labrador. The 998 subjects tested were on the average 17 years old; they were male and female.Jones expected that 17 year old students might have adopted modern attitudes to certain concepts and would be in the process of adopting a modern outlook on others.

The author found predictive validity; her findings showed a closer association between modernism in values and educational achievement and aspirations than between modernism and community, parental and family-background variables for all five traditional-modern scales.

What does the concept of modernity, as described, have to do with attribution theory of achievement motivation? It should be noted that the term modernity in the context of this thesis is not used in order to

describe a modern society, which, according to Smith and Inkeles (1966), is characterized by a complex of traits, such as urbanization, high levels of education, industrialization, mechanization, and high rates of social mobility. Individual modernity is a socio-psychological concept, which, when applied to individuals, "refers to a set of attitudes, values, and ways of feeling and acting, presumably of the sort either generated by or required for effective participation in a modern society" (Inkeles and Smith, 1966, p. 353).

Attitudes and values of a person characterized by individual modernity in this context would include attributions according to Weiner's (1980) causal dimensions of locus (internal/external), stability (stable/unstable), and controllability (controllable, uncontrollable). I would expect that an individual scoring high on the modernity scale would have a more internal locus of causality, meaning that he would search for causes of success and failure inside, rather than outside of himself. Also, I would think that an individual scoring low on the modernity scale would feel that he has little or no control of the outcome of events. In educational settings this would mean that a traditionally oriented individual, who feels little or no control over successes and failures, may be likely to accept failure passively. This passivity could start a cycle of learned helplessness, with the individual losing motivation to succeed (Diener and Dweck, 1978).

## Chapter Six: Hypotheses

Research evidence is inconclusive in terms of the influences of individual differences on academic achievement, which stem from a person's subculture. Also, there are contradictory findings as to the importance of schooling in influencing students' judgements in academic situations. A recent article by DeBellefeuille and Abrami (1984) and an unpublished thesis by Leroux (1985) indicated that at the university level, minority members attributed to hypothetical success and failure situations in the same way as members of the majority group. According to these findings, a subject's birthplace, and his length of residency in the host country had no effect on the way he judged academic success and failure situations. One could therefore speculate that the years of education, independent of where they have been received, have influenced an individual's belief system to the degree of being judged as modern on the OM Scale. This speculation is also based on the research of Chandler et al. (1981), who found that university students in five countries showed more attributional similarities than differences.

I am interested in researching a population which, in terms of age, and educational level, falls between formal schooling in the Province of Quebec and university education. Students aged 17 to 21 make up the majority of this population attending college for either of two

reasons. One reason is the obligatory preparation for university entrance, and the other is for vocational training. Therefore, the student population is probably similar to the high school population in terms of multicultural representation, and probably different in terms of motivation to achieve, and other factors, since students who do not value education will be less likely to register for such a college program. The student population will be somewhat similar to the university population because of those students preparing for university entry, and dissimilar because of those students enrolled in vocational courses. Altogether, I believe, the student population is multicultural and educationally minded. Attributionally, there will be more differences than in the university samples used in various studies reviewed. The reasons for these differences I see due to age and educational level. Because of the large number of minority group students enrolled in colleges I expect to find subjects who were born in a developing continent, such as Asia, South America, or Africa. The majority of subjects will most likely report a developed continent as their continent of birth, such as Europe, Australia, and North America. Each individual subject will be classified as traditional or modern regarding his beliefs. In accordance with the literature reviewed, I expect to find traditional and modern oriented subjects who were born in developing and developed continents, but the majority of subjects will

have a modern belief system, irrespective of their origin.

I hypothesize, therefore, that the individual's value system, his orientation toward either modernity or tradition, and not his ethnicity will influence his judgements in academic success and failure situations. In this context, one should consider that even within one family, often one child succeeds, and one fails. Given the fact that variables, such as SES, neighbourhood environment, parental concerns and influence, and educational opportunities are very similar within one family, there must be differences in the individual's belief system that cause specific attributions. A deeply religious family member may believe that external forces shape his career, which of course are beyond his control.I propose to classify subjects in terms of their orientation toward modernity or tradition, as measured by the OM Scale, and investigate how each type of orientation influences attributions in given hypothetical success and failure situations, which are expected and unexpected.

## Hypothesis 1

There will be a main effect for modernity (M) on luck and task difficulty attributions. Subjects with a traditional orientation will feel less in control of outcomes, and therefore attribute more to luck , which is an external, unstable factor, and task difficulty, which

is external and stable, compared to subjects with a modern orientation. When the doctrine of fatalism (Triandis, 1977), which holds that all things happen according to a prearranged pattern, dictates peoples' attitudes, they will attribute personal success to gods and good spirits, and feel hardly responsible for failure, because they could not have prevented failure from happening anyway.

Hypothesis 2

There will be no main effect for continent of birth (C). Subjects born in developing and developed continents will attribute in similar ways on all dependent variables. This hypothesis was derived from research findings by Chandler et al. (1981); Abrami and DeBellefeuille (1984), and Leroux (1985), indicating that minority members attributed to success and failure situations in the same way as did members of the majority group, as well as from Chandler et al. (1983), who found that university students in five countries studied displayed much more attributional similarities than differences.

Hypothesis 3

There will be a main effect for condition (CO). The outcome (success or failure) of a hypothetical situation will determine the choice of causal categories. This hypothesis is based on the egotism model, which holds

that the valence of the actual outcome, success or failure, is the primary determinant for post-performance attributions. In Western, or developed countries, belief in internal control of events is linked to success or the predictability of future success, whereas dependence on external factors, such as luck, or task difficulty, will result in a negative orientation toward a task (Bradley, 1978; Fitch, 1970; Miller, 1976; Simon and Feather, 1973; Snyder, Stephan, and Rosenfield, 1978). People tend to employ ego-enhancing attributions for success, and ego-defensive attributions for failure. This means that people attempt to enhance their self-esteem by taking credit for success, and by denying responsibility for failure (Zuckerman, 1979).

Hypothesis 4

There will be a main effect for expectancy (E) on locus and stability. Expected outcomes will be attributed to internal, stable factors, and unexpected outcomes will be attributed to external, unstable factors. Balance theory (Heider, 1958) explains attributions for expected and unexpected outcomes in terms of locus. It holds that success is attributed to the self, or internal factors, when there is high expectancy for success, and to external factors, when expectancy for success is low. Failure is attributed internally when the expectations for success are low, and externally, when the expectations for success are high (Miller and Ross,

1975).

## Hypothesis 5

There will be an interaction effect for condition (CO) and expectancy (E) on task difficulty attributions. The expectancy confirmation model holds that expected outcomes, be it success or failure, tend to be attributed to stable factors, whereas unexpected outcomes tend to be attributed to unstable factors (Feather, 1969; Frieze and Weiner, 1971; Featner and Simon, 1973; McMahan, 1973; Valle and Frieze, 1976). There is controversy in the literature as to whether task difficulty is a stable or unstable factor. Davis and Stephan (1980) treated task difficulty as external and stable, whereas Chapman and Lawes (1984) would rather see it as external and unstable, especially when exams are not standardized, as it is the case with most college and university level exams. Consistent with Weiner (1980) and Davis and Stephan (1980) task difficulty will be treated as a stable factor in this study.

## Hypothesis 6

There will be an interaction effect for modernity (M) and expectancy (E) on external attributions, which are luck and task difficulty. According to the egotism model I expect that subjects with a modern, that is Western orientation, will attribute more to luck and task difficulty (external attributions) in unexpected success

and failure situations (Chapman and Lawes, 1984). Subjects with a traditional, or non Western orientation will attribute to luck and task difficulty in expected and unexpected situations, since they will not see themselves in control of outcomes.

Hypothesis 7

There will be an interaction effect for modernity (M) and condition (CO) on ability and effort attributions. Students, who are classified as modern on the OM Scale, have adopted an outcome orientation when judging hypothetical success and failure situations. Weiner and Peter (1973) thought that socialization might be responsible for teaching children that our Western society is more outcome oriented than the Iranian society. This means that the outcome or an event is likely to determine how the actor evaluates it. Modern subjects will attribute significantly more to ability in success situations than in failure situations compared to traditional subjects. Students, who are classified as traditional on the OM Scale are expected to value effort expended in the same way for success and failure situations. This speculation is based on the findings of Salili et al. (1976), which noted that in the case of the Iranian culture, where status is ascribed, effort expended seemed to be valued more than actual outcome.

# Chapter Seven: Method

## Subjects

The sample consisted of 362 students enrolled in two large public post-secondary institutions in the Province of Quebec, which offer academic and vocational training. In the academic stream students can obtain their diploma, which is a prerequisite for entering university. The institution also provides vocational training for students who want to prepare for specialties in the job market. All students, aged 17 to 21, have English as their main language of instruction. Since the population is highly variable, that is multicultural, the sample was large enough so that more of the variation in the population was represented (subjects with a modern belief system born in developing and developed continents; subjects with a more traditional orientation born in developing and developed continents). The subject pool consisted of all the classes offered by their instructors for participation in the months of May and June 1985. A detailed description of the student sample as well as more specific information about this study is given in the Results section.

After the research and ethics committee in each institution had granted permission to conduct the study, college instructors were contacted individually

in writing and asked to offer 30 minutes of their class time in order to have students complete the questionnaires (see Appendix for the letter sent to instructors). Student's participation was anonymous, and each student was free to discontinue with the questionnaires at any time. After all the participants had handed their questionnaires in, the students were debriefed by the experimenter who described the purpose of the study and answered questions.

## Design of study

This investigation attempted to probe the reasons for success and failure conditions by manipulating the outcome condition, which was described as either successful or unsuccessful, and the expectency condition, in which outcomes were hypothetically described as expected or unexpected. Attributions were measured on Likert scales, with 1 meaning very unimportant and 7 meaning very important. Attributional effects of the outcome and expectancy manipulations were assessed by recording subjects' attributions to the factors of ability, effort, task difficulty, and luck, as well as the combination factors called internal, external, locus, stable, unstable, and stability.

Four experimental variables were arranged in a 2 x 2 x 2 x 2 design (Figure 3). The first factor, condition, consisted of two levels, which were success and failure. The second factor, expectancy, had two levels labelled

expected and unexpected. The third factor was called modernity; it consisted of two levels named modern and traditional.

For each subject the total number of modern answers was established, using the OM coding scheme. If the subject responded to more than ten of the fourteen questions, the total of modern answers was divided by the total number of answered questions. If the total score was ten or less, the score was disregarded. This resulted in a modernity score, which had a median of 0.645. The modernity score of less than 0.645 was termed traditional, and the score of more than 0.645 was labelled modern. The standard deviation was 0.125, the minimum score was 0.250, the maximum score was 1.000, and the range was 0.750.

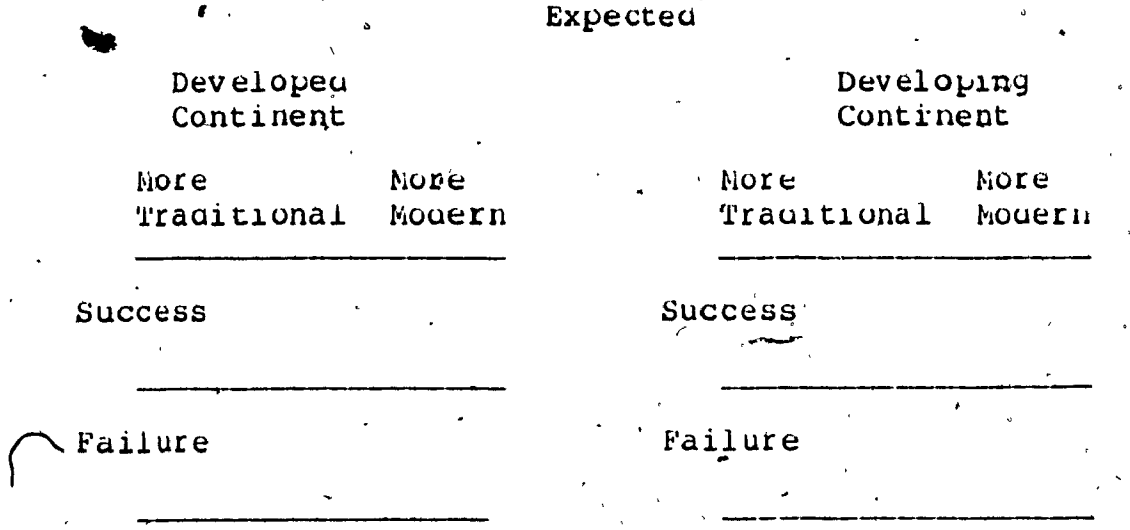
The fourth factor concerns the subjects' continent of birth, which is called developed (North America, Europe, Australia), and developing (South America, Africa, Asia). This is a standard sociological division categorizing continents in terms of economic growth, industrialization, urbanization, population growth, and educational facilities. Overall, the design resulted in 16 factorial cells.

The first set of ANOVA's was performed using the median split of modernity scores (from here on referred to as Analysis I). In Analysis I subjects with a modernity score of less than 0.645 were referred to as traditional (n=26), whereas those with a score of more

than 0.645 were termed modern (n=332). As described below, these analyses revealed that traditional and modern subjects had more similarities than differences in their causal understanding of academic situations. The question arose whether a better distinction of traditional and modern subjects could be achieved considering only the data of subjects who possessed a very low modernity score versus those subjects who had a very high modernity score.

In order to compare modernity scores at the extreme ends of the OM Scale, a second set of ANOVA's was performed, where subjects with modernity scores of less than 0.583 were termed traditional, and subjects with a score of greater than 0.750 modern. The numbers of subjects at the low end of the OM scale accounted for 25.7% (n=93), and the percentage for the high end was 24.6% (n=89). The middle 49.7% (n=180) was disregarded for this second analysis (Analysis II).

Likert Ratings



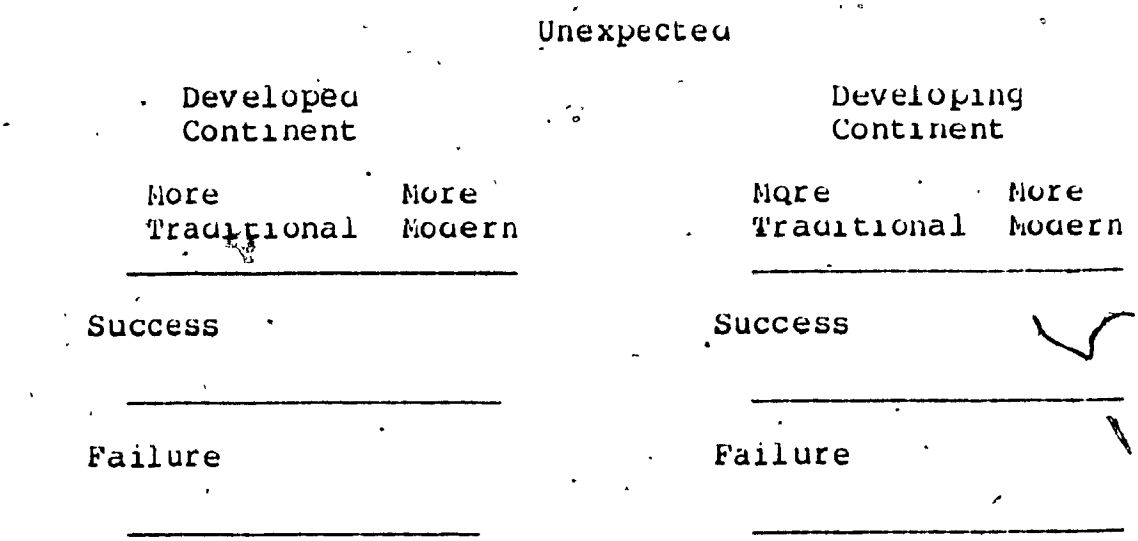




Figure 3. The experimental design. The dependent measures are ability, effort, task difficulty, luck, internal, external, locus, stable, unstable, and stability.

## Procedure

At a time prearranged with each instructor, the experimenter entered the classroom, greeted the students, and informed them that they would have an opportunityto participate in research investigating how students judge a hypothetical student's success and failure on an exam. The examiner first handed out the package of questionnaires, and then read out the instructions (see Appendix ). The instructions were as follows:

> "The three questionnaires are intended to gather information about C.E.G.E.P. students' attitudes toward factors which affect academic motivation. I would appreciate that you complete all the questionnaire items to the best of your ability. Mark your answer on the answer sheet. Please, do <u>not</u> mark anything on the questionnaires. Try to work at a steady, pace and answer the questiions <u>in the order that they are given</u>. I welcome your comments on this study; place these on the reverse side on the answer sheet. If you have any questions or problems, please raise your hand and you will be helped individually. Interested students will be provided with a more complete description of the study's purpose once all questionnaires are completed. If you participated in this study previously in another class, please do <u>not</u> complete the questionnaires again."

Subjects had few problems in completing the questionnaires. They all worked quietly and independently. After each session, interested students were presented with an oral explanation of the study's purpose. See Appendix. Teachers as well as the administrator who served as experimenters had been prepared by the experimenter about both the administration of test material and the debrieting for students. After the data were analyzed, each student who

had given his address received a thank you letter with results of the research in the mail, as well as each teacher who participated (Appendix).

## Experimenters

Experimenters were either the instructors, an administrator, or myself. Since classes were never larger than 34 students, a single experimenter was sufficient.

## Materials

For each class of students a package of questionnaires was prepared which contained four types of attributional questionnaires, describing hypothetical exam results which were either expected success, expected failure, unexpected success, or unexpected failure. These four types of packages were randomly placed in envelopes of 30 to 50 per class, so that in each class all four types of questionnaires were presented. This ensured that in each class each student had an equal chance of getting either one of the four types of questionnaires.

### OM Scale (Questionnaire # 1)

This questionnaire contained 14 items, of which 12 were forced choice items, with possible answers ranging from two to five. The last two items required a written response (open coding). See Appendix. The answers to all items were entered on the answer sheet under the section called Questionnaire # 1.

Demographic Questionnaire (Questionnaire # 2)

This questionnaire consisted of nine items concerning age, sex, field of concentration, grade point average, first language, continent of birth, years of residency in Canada, perception of subject's minority status, and faith. The possible answers were provided, and the subjects had to mark their answers on the answer sheet under the heading Questionnaire # 2. See Appendix.

Attributional Measures (Questionnaire # 3)

The attributional questionnaire consisted of hypothetical exam results, which were to be rated on the seven point Likert scale for ten provided items, leaving the opportunity to extend the items by two. Here again, the answers were to be marked on the answer sheet under the heading Questionnaire # 3. See Appendix. The situations described were either success or failure situations, and the hypothetical student encountering success or failure is either presented as being strong or weak in a subject. Described strength or weakness of the hypothetical student in the particular subject matter provides the subject with information regarding expectancy.

## Analyses

A 2 (Condition: success vs. failure) x 2 (Expectancy: expected vs. unexpected) x 2 ( Modernity: traditional vs. modern) x 2 (Continent of Birth:developed

vs. developing) analysis of variance (ANOVA) was performed on the four dependent variables of ability, effort, task difficulty, and luck, as well as on measures called internal (ability plus effort), external (task difficulty plus luck), locus (internal minus external), stable (ability plus task difficulty), unstable (effort plus luck), and stability (stable minus unstable).

These measures called internal and external were created to correspond to Weiner's (1983) causal dimension called locus. As explained on page four, locus is the first of Weiner's three dimesnisons of causality. It refers to the location of the causal understanding of events, whether a cause is internal (ability, effort), or external (luck, task difficulty) to a person. I derived the measure of locus by adding the data for the two dependent internal variables ability and effort. For creating the measure called external the data for the dependent variables task difficulty and luck were added. A measure for the causal dimension locus was obtained by subtracting the values of the external measure from the value of the internal measure.

Stability is the second one of Weiner's (1983) three dimensions of causality. Stability is concerned with the temporal nature of the cause. When a cause is perceived as changing from situation to situation, or from moment to moment, it is termed unstable. Contrarily, when a cause is perceived as having durability, that is as not

being affected by either the moment or the situation, the cause is labelled stable.

The measure of stability in this study was created by establishing the measures of stable (ability attributions added to task difficulty attributions)', of which the measure of unstable (effort attributions added to luck attributions) was subtracted.

By creating these two causal dimensions of locus and stability a higher order categorization is achieved, which allows me to first dichotomize the data for the four dependent variables of ability, effort, task difficulty, and luck in two ways: internal versus external, and stable versus unstable. Secondly, this categorization arrives at one single measure for these four dependent variables, which is either locus or stability. This allows for classification of the data in a clear and summative way.

ANOVA's were performed using the Statistical Package of Social Sciences (SPSS) [Nie, Hull, Jenkins, Steinbrenner, & Bent (2nd Ed.), 1982].

# Chapter Eight: Results

For all dependent measures, results are presented by effect, beginning with main effects, in the following order: modernity, continent, condition, expectancy, followed by the 2-way and 3-way interactions. Within each effect the dependent measures of ability, effort, task difficulty, and luck are presented first, followed by the measures of internal, external, locus, stable, unstable, and stability. Overall means and standard deviations for attribution measures are presented in Table 4, all means and cell sizes are presented in Tables 5-8, ANOVA Tables for ability to stability concerning Analysis I are presented in Tables 9-18, and those for Analysis II in Tables 19-28. Results are preceeded by specific information about the study as well as detailed information about the student population.

## Specific Information about this Study

As shown in Table 2, among the 362 students represented in this study, 176 (48.6%) received hypothetical success conditions, and 186 (51.4%) hypothetical failure conditions. Of the 362 questionnaires, 204 (56.4%) described expected hypothetical exam results, whereas 158 (43.6%) presented unexpected hypothetical exam results. The differences in frequencies here resulted from the random placement of the total amount of prepared questionnaires into

Table 2

Frequencies for Condition, Expectancy, Colleges, and Teachers

| Category | Absolute Frequencies | Relative Frequencies (PCT) |
|---|---|---|
| Success | 176 | 48.6 |
| Failure | 186 | 51.4 |
| Expected | 204 | 56.4 |
| Unexpected | 158 | 43.6 |
| College A | 249 | 68.8 |
| College B | 113 | 31.2 |
| Teacher A + B | 154 | 42.5 |
| Teacher B | 24 | 6.6 |
| Teacher C | 33 | 9.1 |
| Teacher D | 28 | 7.7 |
| Teacher E | 18 | 5.0 |
| Teacher F | 34 | 9.4 |
| Teacher G | 18 | 5.0 |
| Teacher H | 32 | 8.8 |
| Teacher I | 21 | 5.8 |

envelopes, of which not all were used, since some classes were smaller than anticipated, and some teachers could not accommodate time for handing out the questionnaires, although they had planned to do so.

The questionnaires were distributed in two colleges, of which 249 (68.8%) were completed in college A and 113 (31.2%) were completed in college B. The reason for the 37.6% difference between college A and B lies in the fact that one teacher of college B had agreed to ask all her students to participate, but then failed to do so because of time constraints at the end of the winter term.

Overall, in the two colleges 9 instructors participated. As seen in Table 2, teachers A and B were grouped together because they had placed their completed questionnaires in the same envelopes. The classes were small; the number of students present in each class ranged from 18 to 34.

## Demographic Information about the Subjects

As shown in Table 3, of the 362 students who had completed the questionnaires, 154 (42.5%) were male, 204 (56.4%) were female, and 4 chose not to answer. While 31 (8.6%) reported age 17 or under , the majority of the students were 19 years old at the time of data collection (35.6%). Only 29.0% of the participating students were 20 years and older.

The academic field of concentration had the highest percentage of enrolment (67.7%). Only 16.6% of the

Table 3

Demographic Information about the Subjects

| Category | Absolute Frequencies | Relative Frequencies (PCT) |
|---|---|---|
| Age | | |
| 17 or under | 31 | 8.6 |
| 18 | 93 | 25.7 |
| 19 | 129 | 35.6 |
| 20 + | 105 | 29.0 |
| Blank | 4 | 1.1 |
| Sex | | |
| Male | 154 | 42.5 |
| Female | 204 | 56.4 |
| Blank | 4 | 1.1 |
| Field of Concentration | | |
| Academic | 245 | 67.7 |
| Vocational | 60 | 16.6 |
| Other | 44 | 12.2 |
| Blank | 13 | 3.6 |
| GPA | | |
| 50- 59 | 2 | 0.6 |
| 60- 69 | 46 | 12.7 |
| 70- 79 | 223 | 61.6 |
| 80- 89 | 76 | 21.0 |
| 90-100 | 6 | 1.7 |
| Blank | 9 | 2.5 |
| First Language | | |
| Other | 55 | 15.2 |
| English | 154 | 42.5 |
| French | 30 | 8.3 |
| Italian | 68 | 18.8 |
| Greek | 21 | 5.8 |
| Chinese | 20 | 5.5 |
| Arabic | 4 | 1.1 |
| Japanese | 2 | 0.6 |
| Spanish | 2 | 0.6 |
| Blank | 6 | 1.7 |

Table 3 continued

| Category | Absolute Frequencies | Relative Frequencies (PCT) |
|---|---|---|
| Continent of Birth | | |
| North America | 246 | 68.0 |
| South America | 15 | 4.1 |
| Africa | 13 | 3.6 |
| Asia | 53 | 14.6 |
| Europe | 23 | 6.4 |
| Australia | 3 | 0.8 |
| Blank | 9 | 2.5 |
| Continents | | |
| Developed | 272 | 75.1 |
| Developing | 81 | 22.4 |
| Blank | 9 | 2.5 |
| Years of Residency in Canada | | |
| 1- 2 | 7 | 1.9 |
| 3- 5 | 31 | 8.6 |
| 6- 8 | 9 | 2.5 |
| 9-12 | 20 | 5.5 |
| 13-15 | 24 | 6.6 |
| 16+ | 262 | 72.4 |
| Blank | 9 | 2.5 |
| Perception of Member of Minority Group | | |
| not at all | 110 | 30.4 |
| very little | 131 | 36.2 |
| somewhat | 78 | 21.5 |
| a great deal | 33 | 9.1 |
| Blank | 10 | 2.8 |
| Perception of Being Religious | | |
| not at all | 57 | 15.7 |
| very little | 80 | 22.1 |
| somewhat | 166 | 45.9 |
| a great deal | 50 | 13.8 |
| Blank | 9 | 2.5 |

subjects reported a vocational field or concentration. This means that only 60 of the 362 students questionned frequented the colleges in order to receive a specific job training, whereas 245 students seem to seek preparation for further education.

Of the 362 students 61.6% reported the range of 70-79% as their grade point average. With 22.7% of the students reporting their grade point average of 80% and higher, the distribution is skewed toward the higher marks. Only 13.3% of the students had a grade point average of 69% and under. It should be noted that the accuracy of self-report was not verified in this study.

The question about first language spoken gave the following results in absolute frequencies: English (154), French (30), Italien (68), Greek (21), Chinese (20), Arabic (4), Japanese (2), Spanish (2), Persian (0), and Other (55). The 6 blanks occurred when the students had given two first languages as their answer, which is understandable, if a person has been raised to be bilingual. In such a case the answer was coded as blank, since the set up of data allowed only for one answer per item. It should be noted that only 42.5% of the students frequenting colleges with English as language of instruction had English as their mother tongue. Just 8.3% of the total population studied reported French as their first language, which is the official language in the Province of Quebec. One could assume that French mother tongue students prefer colleges with French as the

language of instruction. The majority of the subjects gave a variety of minority group languages as their first languages. This could indicate that the distribution of first languages truly reflects the multicultural nature of the student population.

Although the majority of subjects reported a language other than English as their mother tongue, 68 % were born in North America, and 72.4% of them had 16 years and more of residency in Canada. The discrepancy between these two percentages may be due to inaccuracy of student responses. One could assume that the majority of these students were born in Canada of immigrant parents, and were raised with their native language as their mother tongue. These students have most likely attended English elementary and high schools, which enabled them to chose an English language college for their post secondary education.

For the purpose of this study the subjects' continents of birth were grouped together to create two broad categories, called developed and developing continents of birth. The developed continent of birth category includes the continents of North America, Europe, and Australia, and the developing continent of birth category includes the continents of South America, Africa, and Asia. This dichotomization is based on the continents' overall status in terms of economic growth, industrialization, urbanization, population growth, and access to educational facilities. In this context it

should be noted that Japan and Hong Kong were included in the continent of Asia, although they cannot really be termed developing nations.

I have chosen to define ethnicity, which is an individual difference , as reporting a developed or developing continent of birth for the following reasons: First, it is a widely used category for the purpose of grouping continents together in a summative and comparative way; and secondly, because it seemed to be an accurate measure for statistical purposes. From the literature reviewed there were the alternatives available of dichotomizing "Easterners versus Westerners", or "Eastern culture versus Western culture", or even "minority members versus members of the main culture". With any one of these three alternatives I would have expected problems for the type of analyses as carried out in this study.

As anticipated, the majority of subjects reported a developed continent as their place of birth (75.1%), which compares well to the 72.4% of subjects who have been living in Canada for 16 years or more. Considering that the student population ranges mainly in age from 17 to 21, one could think that many of those 72.4% of students were born in Canada.

Altogether, 22.4% of students were born in a developing continent. This figure corresponds with the total of 25.1% of students who reported a residency of 1 to 15 years in Canada. Those 25.1% were obviously born

outside of Canada because their maximum years of residency in Canada were 15 and under, whereas their ages were 17 and over.

One should note that the highest percentage (36.2%) of the subjects perceive themselves very little as members of a minority group, followed by 30.4% who responded to "not at all" to the question about perception of being a member of a minority group.

In Quebec Anglophones are in a minority with about 25% of the total population. These 30.4% of students who do not perceive themselves at all as minority group members could be made up of Anglophone and/or Francophone students. Since 20.4% (difference between 50.8% English and French speaking students and 30.4% of students who reported "not at all" to the question of minority group perception) more students gave French or English as their first language, one could assume that these students are also minority group members, who were raised in one of the two official languages in the Province of Quebec.

The question "Are you religious?" was answered by the majority (45.9%) with "somewhat", followed by 22.1% with "very little". "A great deal" was chosen by 13.8% as the answer, whereas 15.7% reported "not at all". The purpose of this question was to tap the student sample in order to see if their would be some kind of relationship between locus (internality versus externality) and faith in a higher order power.

In sum the subjects studied were mostly born in

Canada, had presumably received elementary and secondary education in English, and reflected a whole range of minority groups. About two thirds of the students perceived themselves as minority group members. This is somewhat complicated to interpret in the context of an English college in a French Province. One should caution that the perception of minority status could change with the context. In an English college French speaking students may perceive themselves as minorities, although they belong to the majority group in the Province of Quebec.

## Summary of Main Effects and Interactions

Results showed significant main effects for condition (success/failure) and expectancy (expected/unexpected). There was no significant main effect for continent of birth (developed/developing). There also was no significant main effect for modernity in analyses using the median split (Analysis I), but there was a significant main effect for modernity at the extreme ends of the OM Scale (Analysis II). Subjects with a modern orientation made significantly more effort, internal and locus attributions, whereas traditional subjects attributed significantly more to luck.

## Modernity Main Effects

As shown in Tables 9 to 16, there was no significant ($p > .05$) main effect for modernity on any one of the

dependent variables when using the median split (Analysis I). Analyzing the two extremes of the OM Scale (Analysis II), there was a significant ($p < .05$) main effect for effort, $F(1,156) = 10.594$, $p = .001$; luck, $F(1,157) = 5.749$, $p = .018$; internal, $F(1,154) = 5.432$, $p = .021$; and locus attributions, $F(1,148) = 6.507$, $p = .012$ (Tables 20, 22, 23, 25). Subjects with a traditional orientation attributed significantly more to luck ($M = 2.95$, $n = 86$) than modern oriented subjects ($M = 2.40$, $n = 86$). This confirms part of Hypothesis 1 concerning luck attributions. However, traditional subjects did not have significantly more task difficulty attributions than modern subjects (Tables 5, 7). This part of Hypothesis 1 was not confirmed. Subjects with a modern orientation used significantly more effort attributions ($M = 6.08$, $n = 85$) compared to traditional subjects ($M = 5.27$, $n = 86$) (Table 20). Modern subjects also had more internal attributions ($M = 10.86$, $n = 84$) compared to traditional subjects ($M = 9.80$, $n = 85$) (Table 23). Also, modern subjects had more locus attributions ($M = 3.82$, $n = 84$) than traditional subjects ($M = 2.52$, $n = 79$) (Table 25).

## Continent or Birth Main Effects

Confirming Hypothesis 2, there was no significant ($p > .05$) main effect for continent of birth. Subjects born in developed continents, namely North America, Europe, and Australia, did not differ in there attributions from subjects born in developing continents, which are South

America, Asia, and Africa.

Condition Main Effects

Confirming Hypothesis 3, there was a significant main effect for condition (success/failure) in Analysis I (Tables 9, 10, 12) and II (Tables 19, 20, 22) respectively for ability, $F$ (1,325)=37.753, $p$=.001 ; $F$ (1,156)=16.472, $p$=.001; effort, $F$ (1,326)=14.806, $p$=.001; $F$ (1,156)=4.410, $p$=.032; and luck attributions, $F$ (1,325)=19.006, $p$=.001; $F$ (1,157)=14.650, $p$=.001; as well as for the combined factors called internal (Tables 13, 23), $F$(1,321)=38.700, $p$=.001; $F$(1,154)=15.172, $p$=.001; external (Tables 14, 24), $F$ (1,316)=8.854, $p$=.003; $F$ (1,150)=6.378, $p$=.001; stable (Tables 16, 26), $F$ (1,315)=17.784, $p$=.001; $F$ (1,148)=7.184, $p$=.008, and unstable (Tables 17, 27), $F$ (1,323)=40.338, $p$=.001; $F$ (1,156)=19.729, $p$=.001. There was an additional significant main effect for locus attributions, $F$ (1,311)=6.417, $p$=.012 in Analysis I (Median Split). All these factors were judged as being more important in hypothetical success than failure situations.

More specifically, hypothetical success situations yielded more ability attributions (M=5.25, n=165); M=5.26, n=80) compared to failure situations (M=4.05, n=176); (M=4.09, n=91) for Analyses I and II respectively. Effort, too, was judged more important in success (M=5.99, n=166); (M=5.99, n=79) than failure situations (M=5.28, n=176); (M=5.40, n=92) for Analyses I

and II respectively.

Luck attributions were seen as less important by all students, as judged by their means; however, they also were assessed as having greater importance in hypothetical success situations (M=3.22, n=165); (M=3.25, n=80) compared to hypothetical failure situations (M=2.34, n=176); (M=2.23, n=92) for Analyses I and II respectively.

The combination factor internal, which consisted of added values for ability and effort attributions, again yielded higher means for successes (M=11.25, n=164); (M=11.28, n=79) than failures (M=9.32, n=174); (M=9.49, n=90) for Analyses I and II respectively.

The second combination factor called external was composed of the added values for luck and task difficulty attributions. It again seemed to be of greater importance in success situations (M=7.99, n=162); (M=7.74, n=77) compared to failure situations (M=7.69, n=170); (M=6.74, n=88) for Analyses I and II respectively.

The combination factor called stable, consisting of ability values added to those of task difficulty, was termed more important in hypothetical success (M=10.09, n=162); (M=9.88, n=77) than failure outcomes (M=8.93, n=169); (M=8.79, n=86) for Analyses I and II respectively. Following this pattern, the combination factor named unstable, which contained the added values for effort and luck attributions, yielded higher means for success situations (M=9.20, n=164); (M=9.20, n=79)

compared to failure situations (M=7.61, n=175); (M=7.63, n=92) for Analyses I and II respectively.

The factor combination called locus, which contained external attributions subtracted from internal attributions, also showed higher values for success conditions (M=3.31, n=160) compared to failure conditions (M=2.22, n=167), but only for Analysis I (median split).

## Expectancy Main Effects

Hypothesis 4 was confirmed concerning stability attributions. There was a significant main effect for expectancy on stability for Analysis I (Table 18), F (1,311)=9.587, p=.002, and for Analysis II (Table 28), F (1,156)=4.839, p=.029. In expected situations stability was more important (M=1.57, n=188) than in unexpected situations (M=.55, n=139) for Analysis I. In Analysis II students rated stability higher in expected situations (M=1.53, n=89) compared to unexpected situations (M=.27, n=74). There was also a significant main effect for ability, F (1,3250=6.973, p=.009 (Table 9), F (1,156)=5.174, p=.024 (Table 19), and unstable factors, F (1,323)=4.284, p=.038 (Table 17), F (1,156)=4.839, p=.029 (Table 27) for Analyses I and II respectively. As hypothesized, unexpected outcomes were significantly more attributed to unstable factors in Analysis I (M=8.68, n=147) and Analysis II (M=8.80, n=80) compared to expected outcomes in Analysis I (M=8.14, n=192) and in Analysis II (M=7.97, n=91). The combination

factor stability was significantly more important in expected situations in Analysis I (M=1.57, n=188) and Analysis II (M=1.53, n=89) compared to unexpected situations in Analysis I (M=.55, n=139) and (M=.27, n=74) in Analysis II. For both , Analyses I and II respectively, ability was attributed significantly more to in expected (M=4.84, n=192), (M=4.91, n=91) than unexpected situations (M=4.36, n=149), (M=4.32, n=80).

## Two-way Interactions

There were three significant 2-way interactions. The first one, a condition by expectancy interaction, was found in Analysis I on task difficulty attributions, F (1,319)=6.628, p=.010 (Table 11). This finding confirms Hypothesis 5. Subjects attributed significantly more to task difficulty in unexpected success situations (M=5.09, n=74) compared to expected success situations (M=4.54, n=90), followed by expected failure situations (M=5.02, n=[illegible]0) compared to unexpected failure situations (M=4.61, n=71). Success, both, expected and unexpected, yielded slightly higher task attributions than expected or unexpected failure.

The second significant 2-way interaction, modernity by expectancy on external attributions, was found in Analysis II, F (1,150)=6.027, p=.015 (Table 24). This finding confirms Hypothesis 6. Modern subjects indeed yielded the highest value for external attributions (M=7.88, n=41) in unexpected success and failure

situations. This finding falls in line with the egotism model (Chapman and Lawes, 1984), meaning that modern subjects were likely to protect their ego by attributing unexpected outcomes to external factors, over which they had no control. Modern subjects had the lowest of the four possible values for external attributions in expected success and failure situations (M=6.20, n=49). This means that modern subjects were unlikely to give external reasons for expected academic successes and failures. Traditional subjects in the expected success and failure conditions were slightly more external (M=7.67, n=45) compared to traditional subjects in unexpected success and failure conditions (M=7.09, n=35).

The third 2-way interaction was found in Analysis II for modernity by condition on stability attributions, F (1,148)=4.915, p=.028 (Table 28). Traditional subjects displayed a high amount of stability attributions in failure situations (M=1.62, n=45), compared to success situations (M=-.06, n=34), followed by modern subjects in success situations (M=1.19, n=43), compared to failure situations (M=.83, n=41). Recapping, stability was the measure received by subtracting the sum of the unstable attributions effort and luck from the sum of the stable attributions ability and task difficulty. Traditional subjects had the highest of the four values (M=1.62) for the overall measure of stability in failure situations, meaning that traditional subjects perceived failure as more durable than modern subjects, whose value for

stability in failure situations was much smaller (M=0.83). Traditional subjects scored a negative value for stability in hypothetical success situations (M=-0.06), meaning that success was not perceived as having durability. The negative value was obtained because the sum for the values for ability and task difficulty (stable attributions) was smaller than the sum of the values for effort plus luck (unstable attributions), resulting in a negative value for overall stability, when subtracted. This third 2-way interaction does not confirm Hypothesis 7, where I had expected to find an interaction effect for modernity by condition on ability and effort attributions. The findings for ability and effort were not significant, meaning that contrary to Hypothesis 7, modern and traditional subjects attributed similarly to ability and effort. This finding is in line with Weiner and Peter's (1973) results, stating that the outcome of an academic achievement situation determines how the actor evaluates it. It seems that socialization had an effect on the sample of college students in this study, but contrary to the hypothesized way. Modern and traditional subjects alike were guided by the outcome of the academic situation when searching for reasons for successes and failures.

## Three-way Interactions

Although I had made no higher order predictions, there were three significant 3-way interactions for

Analysis I (Median Split), and none for Analysis II (Extremes). The first one is a modernity by condition by expectancy interaction for luck attributions, $F(1,325)=6.210$, $p=.013$ (Table 12). In the expected hypothetical success condition, traditional subjects judged luck as most important ($M=3.72$, $n=47$) compared to modern subjects ($M=2.66$, $n=44$), whereas in the unexpected success condition modern subjects made significantly more luck attributions ($M=3.47$, $n=38$) than traditional subjects ($M=3.00$, $n=36$).

The second significant 3-way interaction is a modernity by condition by expectancy interaction for external attributions, $F(1,316)=5.879$, $p=.016$ (Table 14). In expected success situations traditional subjects rated external factors highly ($M=8.52$, $n=46$), compared to modern subjects ($M=6.93$, $n=44$), whereas in the unexpected success condition modern subjects thought that external factors were most important ($M=8.76$, $n=37$), compared to traditional subjects ($M=7.83$, $n=35$).

The third 3-way interaction concerned modernity by condition by expectancy on unstable attributions, $F(1,323)=7.609$, $p=.006$ (Table 17). In expected success situations traditional subjects had the highest unstable attributions ($M=9.72$, $n=47$), compared to modern subjects ($M=8.45$, $n=44$), whereas in unexpected success situations modern subjects rated unstable factors as most important ($M=9.70$, $n=37$), compared to traditional subjects ($M=8.92$, $n=36$).

Table 4

Overall Means, Standard Deviations, and Number of Subjects for Attribution Measures

| Measure | M | SD | N |
|---|---|---|---|
| Ability | 4.644 | 1.943 | 348 |
| Effort | 5.636 | 1.711 | 349 |
| Task Difficulty | 4.825 | 1.624 | 342 |
| Luck | 2.761 | 1.920 | 348 |
| Internal | 10.275 | 3.021 | 345 |
| External | 7.528 | 2.759 | 339 |
| Locus | 2.775 | 4.032 | 334 |
| Stable | 9.518 | 2.599 | 338 |
| Unstable | 8.379 | 2.452 | 346 |
| Stability | 1.153 | 2.945 | 334 |

Table 5

Means and Cell Sizes for Attribution Measures

Independent Variables: Modernity and Continent of Birth

(Analysis I)

| | Modernity | | | | Continent of Birth | | | |
|---|---|---|---|---|---|---|---|---|
| | Traditional | | Modern | | Developed | | Developing | |
| Measure | M | n | M | n | M | n | M | n |
| Ability | 4.57 | 170 | 4.69 | 171 | 4.63 | 263 | 4.63 | 78 |
| Effort | 5.56 | 171 | 5.70 | 171 | 5.65 | 266 | 5.55 | 76 |
| Task Difficulty | 4.86 | 163 | 4.78 | 172 | 4.83 | 266 | 4.80 | 75 |
| Luck | 2.95 | 170 | 2.59 | 171 | 2.73 | 264 | 2.91 | 77 |
| Internal | 10.13 | 169 | 10.38 | 169 | 10.28 | 262 | 10.16 | 76 |
| External | 7.71 | 162 | 7.36 | 170 | 7.51 | 257 | 7.61 | 75 |
| Locus | 2.49 | 160 | 3.01 | 167 | 2.77 | 253 | 2.69 | 74 |
| Stable | 9.53 | 161 | 9.48 | 170 | 9.51 | 256 | 9.48 | 75 |
| Unstable | 8.49 | 170 | 8.26 | 169 | 8.36 | 263 | 8.45 | 76 |
| Stability | 1.66 | 160 | 1.21 | 167 | 1.17 | 253 | 1.64 | 74 |

Table 6

Means and Cell Sizes for Attribution Measures

Independent Variables: Condition and Expectancy

(Analysis I)

| | Condition | | | | Expectancy | | | |
|---|---|---|---|---|---|---|---|---|
| | Success | | Failure | | Expected | | Unexpected | |
| Measure | M | n | M | n | M | n | M | n |
| Ability | 5.25 | 165 | 4.05 | 176 | 4.84 | 192 | 4.36 | 149 |
| Effort | 5.99 | 166 | 5.28 | 176 | 5.48 | 193 | 5.82 | 149 |
| Task Difficulty | 4.79 | 164 | 4.85 | 171 | 4.79 | 190 | 4.86 | 145 |
| Luck | 3.22 | 165 | 2.34 | 176 | 2.66 | 192 | 2.91 | 149 |
| Internal | 11.25 | 164 | 9.32 | 174 | 10.31 | 192 | 10.18 | 146 |
| External | 7.99 | 162 | 7.09 | 170 | 7.42 | 189 | 7.68 | 143 |
| Locus | 3.31 | 160 | 2.22 | 167 | 2.96 | 188 | 2.47 | 139 |
| Stable | 10.09 | 162 | 8.93 | 169 | 9.70 | 189 | 9.23 | 142 |
| Unstable | 9.20 | 164 | 7.61 | 175 | 8.14 | 192 | 8.68 | 147 |
| Stability | 0.89 | 160 | 1.37 | 167 | 1.57 | 188 | 0.55 | 139 |

Table 7

Means and Cell Sizes for Attribution Measures

Independent Variables: Modernity/Extremes and Continent of Birth (Analysis II)

| | Modernity/Extremes | | | | Continent of Birth | | | |
|---|---|---|---|---|---|---|---|---|
| | Traditional | | Modern | | Developed | | Developing | |
| Measure | M | n | M | n | M | n | M | n |
| Ability | 4.51 | 86 | 4.76 | 85 | 4.59 | 128 | 4.79 | 43 |
| Effort | 5.27 | 86 | 6.08 | 85 | 5.67 | 129 | 6.67 | 42 |
| Task Difficulty | 4.56 | 80 | 4.66 | 85 | 4.66 | 125 | 4.47 | 40 |
| Luck | 3.01 | 86 | 2.40 | 86 | 2.62 | 130 | 2.95 | 42 |
| Internal | 9.80 | 85 | 10.86 | 84 | 10.28 | 127 | 10.45 | 42 |
| External | 7.41 | 86 | 7.01 | 85 | 7.19 | 125 | 7.25 | 40 |
| Locus | 2.57 | 79 | 3.82 | 84 | 3.10 | 123 | 3.47 | 40 |
| Stable | 9.15 | 79 | 9.45 | 84 | 9.28 | 123 | 9.38 | 40 |
| Unstable | 8.28 | 86 | 8.44 | 85 | 8.27 | 129 | 8.62 | 42 |
| Stability | 0.90 | 79 | 1.01 | 84 | 1.02 | 123 | 0.77 | 40 |

Table 8

Means and Cell Sizes for Attribution Measures

Independent Variables: Condition and Expectancy

(Analysis II)

| | Condition | | | | Expectancy | | | |
|---|---|---|---|---|---|---|---|---|
| | Success | | Failure | | Expected | | Unexpected | |
| Measure | M | n | M | n | M | n | M | n |
| Ability | 5.26 | 80 | 4.09 | 91 | 4.91 | 91 | 4.32 | 80 |
| Effort | 5.99 | 79 | 5.40 | 92 | 5.48 | 91 | 5.89 | 80 |
| Task Difficulty | 4.55 | 77 | 4.67 | 88 | 4.53 | 89 | 4.71 | 76 |
| Luck | 3.25 | 80 | 2.23 | 92 | 2.48 | 91 | 2.95 | 81 |
| Internal | 11.28 | 79 | 9.49 | 90 | 10.40 | 91 | 10.24 | 78 |
| External | 7.74 | 77 | 6.74 | 88 | 6.94 | 89 | 7.51 | 76 |
| Locus | 3.65 | 77 | 2.78 | 86 | 3.60 | 89 | 2.70 | 74 |
| Stable | 9.88 | 77 | 8.79 | 86 | 9.51 | 89 | 9.07 | 74 |
| Unstable | 9.20 | 79 | 7.63 | 92 | 7.97 | 91 | 8.80 | 80 |
| Stability | 0.64 | 77 | 1.24 | 86 | 1.53 | 89 | 0.27 | 74 |

Table 9

Analysis of Ability Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 1.954 | 1 | 0.571 | 0.450 |
| C | 1.597 | 1 | 0.467 | 0.495 |
| CO | 129.164 | 1 | 37.753 | 0.001* |
| E | 23.855 | 1 | 6.973 | 0.009* |
| M xC | 1.274 | 1 | 0.372 | 0.542 |
| M xCO | 5.578 | 1 | 1.630 | 0.203 |
| M xE | 0.452 | 1 | 0.132 | 0.716 |
| C xCO | 1.463 | 1 | 0.427 | 0.514 |
| C xE | 0.478 | 1 | 0.140 | 0.709 |
| COxE | 2.176 | 1 | 0.636 | 0.426 |
| MxC xCO | 5.008 | 1 | 1.464 | 0.227 |
| MxC xE | 1.408 | 1 | 0.412 | 0.522 |
| MxCOxE | 0.037 | 1 | 0.011 | 0.917 |
| CxCOxE | 0.677 | 1 | 0.198 | 0.657 |
| MxCxCOxE | 10.083 | 1 | 2.947 | 0.087 |
| Error | 1111.922 | 325 | | |

Table 10

Analysis of Effort Variance for Modernity (M), Continent of Birth (C), Condition (C)), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 1.342 | 1 | 0.479 | 0.489 |
| C | 0.273 | 1 | 0.097 | 0.755 |
| CO | 41.455 | 1 | 14.806 | 0.001* |
| E | 8.299 | 1 | 2.964 | 0.086 |
| M xC | 2.616 | 1 | 0.934 | 0.334 |
| M xCO | 0.701 | 1 | 0.250 | 0.617 |
| M xE | 1.448 | 1 | 0.517 | 0.472 |
| C xCO | 0.139 | 1 | 0.050 | 0.824 |
| C xE | 0.006 | 1 | 0.002 | 0.963 |
| COxE | 0.523 | 1 | 0.187 | 0.666 |
| MxC xCO | 0.020 | 1 | 0.007 | 0.933 |
| MxC xE | 0.180 | 1 | 0.064 | 0.800 |
| MxCOxE | 2.119 | 1 | 0.757 | 0.385 |
| CxCOxE | 0.351 | 1 | 0.125 | 0.724 |
| MxCxCOxE | 13.152 | 1 | 4.698 | 0.031* |
| Error | 912.747 | 326 | | |

Table 11

Analysis of Task Difficulty Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 0.591 | 1 | 0.226 | 0.635 |
| C | 0.167 | 1 | 0.064 | 0.801 |
| CO | 0.308 | 1 | 0.118 | 0.731 |
| E | 0.405 | 1 | 0.155 | 0.694 |
| M xC | 0.795 | 1 | 0.304 | 0.582 |
| M xCO | 0.006 | 1 | 0.002 | 0.960 |
| M xE | 4.254 | 1 | 1.628 | 0.203 |
| C xCO | 2.449 | 1 | 0.937 | 0.334 |
| C xE | 3.569 | 1 | 1.365 | 0.243 |
| COxE | 17.324 | 1 | 6.628 | 0.010* |
| M xC xCO | 5.838 | 1 | 2.234 | 0.136 |
| M xC xE | 5.357 | 1 | 2.050 | 0.153 |
| M xCOxE | 6.267 | 1 | 2.398 | 0.122 |
| C xCOxE | 0.047 | 1 | 0.018 | 0.893 |
| MxCxCOxE | 0.034 | 1 | 0.013 | 0.909 |
| Error | 833.748 | 319 | | |

Table 12

Analysis of Luck Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 9.323 | 1 | 2.690 | 0.102 |
| C | 1.137 | 1 | 0.328 | 0.567 |
| CO | 65.865 | 1 | 19.006 | 0.001* |
| E | 4.130 | 1 | 1.192 | 0.276 |
| M xC | 1.762 | 1 | 0.509 | 0.476 |
| M xCO | 0.005 | 1 | 0.001 | 0.971 |
| M xE | 5.104 | 1 | 1.473 | 0.226 |
| C xCO | 1.393 | 1 | 0.402 | 0.527 |
| C xE | 1.778 | 1 | 0.513 | 0.474 |
| COxE | 2.759 | 1 | 0.796 | 0.373 |
| MxC xCO | 0.412 | 1 | 0.119 | 0.730 |
| MxC xE | 0.113 | 1 | 0.033 | 0.857 |
| MxCOxE | 21.519 | 1 | 6.210 | 0.013* |
| CxCOxE | 2.538 | 1 | 0.732 | 0.393 |
| MxCxCOxE | 4.210 | 1 | 1.215 | 0.271 |
| Error | 1126.265 | 325 | | |

Table 13

Analysis of Internal Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 5.548 | 1 | 0.676 | 0.412 |
| C | 0.121 | 1 | 0.015 | 0.904 |
| CO | 317.837 | 1 | 38.700 | 0.001* |
| E | 3.904 | 1 | 0.475 | 0.491 |
| M xC | 8.874 | 1 | 1.081 | 0.299 |
| M xCO | 4.372 | 1 | 0.532 | 0.466 |
| M xE | 2.074 | 1 | 0.252 | 0.616 |
| C xCO | 1.770 | 1 | 0.215 | 0.643 |
| C xE | 0.043 | 1 | 0.005 | 0.943 |
| COxE | 3.856 | 1 | 0.470 | 0.494 |
| MxC xCO | 6.861 | 1 | 0.835 | 0.361 |
| MxC xE | 0.125 | 1 | 0.015 | 0.902 |
| MxCOxE | 4.959 | 1 | 0.604 | 0.438 |
| CxCOxE | 0.626 | 1 | 0.076 | 0.783 |
| MxCxCOxE | 52.358 | 1. | 6.375 | 0.012 |
| Error | 2644.537 | 322 | | |

Table 14

Analysis of External Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 8.794 | 1 | 1.181 | 0.278 |
| C | 0.166 | 1 | 0.022 | 0.882 |
| CO | 65.930 | 1 | 8.854 | 0.003* |
| E | 4.734 | 1 | 0.636 | 0.426 |
| M xC | 0.084 | 1 | 0.011 | 0.916 |
| M xCO | 1.031 | 1 | 0.138 | 0.710 |
| M xE | 21.514 | 1 | 2.889 | 0.090 |
| C xCO | 8.935 | 1 | 1.200 | 0.274 |
| C xE | 1.228 | 1 | 0.165 | 0.685 |
| COxE | 7.638 | 1 | 1.026 | 0.312 |
| MxC xCO | 3.823 | 1 | 0.513 | 0.474 |
| MxC xE | 2.686 | 1 | 0.361 | 0.549 |
| MxCOxE | 43.755 | 1 | 5.876 | 0.016* |
| CxCOxE | 2.044 | 1 | 0.275 | 0.601 |
| MxCxCOxE | 3.594 | 1 | 0.483 | 0.48 |
| Error | 2353.052 | 316 | | |

Table 15

Analysis of Locus Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 26.256 | 1 | 1.647 | 0.200 |
| C | 1.127 | 1 | 0.071 | 0.791 |
| CO | 102.285 | 1 | 6.417 | 0.012* |
| E | 23.931 | 1 | 1.501 | 0.221 |
| M xC | 10.642 | 1 | 0.668 | 0.415 |
| M xCO | 4.721 | 1 | 0.296 | 0.587 |
| M xE | 4.339 | 1 | 0.272 | 0.602 |
| C xCO | 10.919 | 1 | 0.685 | 0.409 |
| C xE | 0.050 | 1 | 0.003 | 0.955 |
| COxE | 20.645 | 1 | 1.295 | 0.256 |
| MxC xCO | 28.945 | 1 | 1.816 | 0.179 |
| MxC xE | 2.558 | 1 | 0.160 | 0.689 |
| MxCOxE | 20.073 | 1 | 1.259 | 0.263 |
| CxCOxE | 1.054 | 1 | 0.066 | 0.797 |
| MxCxCOxE | 82.273 | 1 | 5.161 | 0.024* |
| Error | 4957.523 | 311 | | |

Table 16

Analysis of Stable Variance for Modernity (M), Continent or Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 0.000 | 1 | 0.000 | 0.994 |
| C | 0.444 | 1 | 0.068 | 0.794 |
| CO | 115.259 | 1 | 17.784 | 0.001* |
| E | 22.415 | 1 | 3.459 | 0.064 |
| M xC | 0.021 | 1 | 0.003 | 0.955 |
| M xCO | 4.117 | 1 | 0.635 | 0.426 |
| M xE | 12.021 | 1 | 1.855 | 0.174 |
| C xCO | 5.779 | 1 | 0.892 | 0.346 |
| C xE | 8.793 | 1 | 1.357 | 0.245 |
| COxE | 5.558 | 1 | 0.858 | 0.355 |
| MxC xCO | 0.002 | 1 | 0.000 | 0.986 |
| MxC xE | 10.394 | 1 | 1.604 | 0.206 |
| MxCOxE | 9.111 | 1 | 1.406 | 0.237 |
| CxCOxE | 1.859 | 1 | 0.287 | 0.593 |
| MxCxCOxE | 7.628 | 1 | 1.177 | 0.279 |
| Error | 2041.514 | 315 | | |

Table 17

Analysis of Unstable Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 4.012 | 1 | 0.764 | 0.383 |
| C | 0.249 | 1 | 0.047 | 0.828 |
| CO | 211.907 | 1 | 40.338 | 0.001* |
| E | 22.503 | 1 | 4.284 | 0.039* |
| M xC | 10.034 | 1 | 1.910 | 0.168 |
| M xCO | 0.918 | 1 | 0.175 | 0.676 |
| M xE | 9.460 | 1 | 1.801 | 0.181 |
| C xCO | 1.112 | 1 | 0.212 | 0.646 |
| C xE | 2.109 | 1 | 0.401 | 0.527 |
| COxE | 6.219 | 1 | 1.184 | 0.277 |
| MxC xCO | 1.972 | 1 | 0.375 | 0.541 |
| MxC xE | 1.457 | 1 | 0.277 | 0.599 |
| MxCOxE | 39.971 | 1 | 7.609 | 0.006* |
| CxCOxE | 2.324 | 1 | 0.442 | 0.506 |
| MxCxCOxE | 4.443 | 1 | 0.846 | 0.358 |
| Error | 1696.812 | 323 | | |

Table 18

Analysis of Stability Variance for Modernity (M), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 2.128 | 1 | 0.250 | 0.617 |
| C | 0.003 | 1 | 0.000 | 0.985 |
| CO | 15.529 | 1 | 1.828 | 0.177 |
| E | 81.454 | 1 | 9.587 | 0.002* |
| M xC | 8.947 | 1 | 1.053 | 0.306 |
| M xCO | 13.193 | 1 | 1.553 | 0.214 |
| M xE | 0.160 | 1 | 0.019 | 0.891 |
| C xCO | 3.027 | 1 | 0.356 | 0.551 |
| C xE | 12.005 | 1 | 1.413 | 0.235 |
| COxE | 19.425 | 1 | 2.286 | 0.132 |
| M xC xCO | 1.237 | 1 | 0.146 | 0.703 |
| M xC xE | 21.429 | 1 | 2.522 | 0.113 |
| M xCOxE | 7.148 | 1 | 0.841 | 0.360 |
| C xCOxE | 0.347 | 1 | 0.041 | 0.840 |
| MxCxCOxE | 0.354 | 1 | 0.042 | 0.838 |
| Error | 2642.279 | 311 | | |

Table 19

Analysis of Ability Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 2.813 | 1 | 0.773 | 0.381 |
| C | 5.566 | 1 | 1.528 | 0.218 |
| CO | 59.984 | 1 | 16.472 | 0.001* |
| E | 18.842 | 1 | 5.174 | 0.024* |
| MExC | 2.059 | 1 | 0.565 | 0.453 |
| MExCO | 5.366 | 1 | 1.474 | 0.227 |
| MExE | 0.279 | 1 | 0.077 | 0.782 |
| C xCO | 0.010 | 1 | 0.003 | 0.957 |
| C xE | 0.188 | 1 | 0.052 | 0.821 |
| COxE | 4.583 | 1 | 1.258 | 0.264 |
| MExC xCO | 0.166 | 1 | 0.046 | 0.831 |
| MExC xE | 0.433 | 1 | 0.119 | 0.731 |
| MExCOxE | 0.154 | 1 | 0.042 | 0.837 |
| C xCOxE | 1.410 | 1 | 0.387 | 0.535 |
| Error | 568.084 | 156 | | |

Table 20

Analysis of Effort Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 26.619 | 1 | 10.594 | 0.001* |
| C | 2.152 | 1 | 0.857 | 0.356 |
| CO | 11.081 | 1 | 4.410 | 0.037* |
| E | 5.246 | 1 | 2.088 | 0.150 |
| MExC | 1.509 | 1 | 0.601 | 0.439 |
| MExCO | 6.509 | 1 | 2.591 | 0.110 |
| MExE | 2.835 | 1 | 1.128 | 0.290 |
| C xCO | -0.135 | 1 | 0.054 | 0.817 |
| C xE | 0.253 | 1 | 0.101 | 0.751 |
| COxE | 0.018 | 1 | 0.007 | 0.933 |
| MExC xCO | 0.231 | 1 | 0.092 | 0.762 |
| MExC xE | 0.020 | 1 | 0.008 | 0.928 |
| MExCOxE | 1.120 | 1 | 0.446 | 0.505 |
| C xCOxE | 2.376 | 1 | 0.946 | 0.332 |
| Error | 391.954 | 156 | | |

Table 21

Analysis of Task Difficulty Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 0.099 | 1 | 0.041 | 0.839 |
| C | 0.913 | 1 | 0.379 | 0.539 |
| CO | 0.793 | 1 | 0.329 | 0.567 |
| E | 1.570 | 1 | 0.652 | 0.421 |
| MExC | 3.213 | 1 | 1.335 | 0.250 |
| MExCO | 0.035 | 1 | 0.014 | 0.905 |
| MExE | 10.992 | 1 | 4.566 | 0.034* |
| C xCO | 3.839 | 1 | 1.595 | 0.209 |
| C xE | 4.896 | 1 | 2.034 | 0.156 |
| COxE | 7.397 | 1 | 3.073 | 0.082 |
| MExC xCO | 1.182 | 1 | 0.491 | 0.485 |
| MExC xE | 0.152 | 1 | 0.063 | 0.931 |
| MExCOxE | 0.018 | 1 | 0.007 | 0.931 |
| C xCOxE | 5.901 | 1 | 2.451 | 0.120 |
| Error | 361.085 | 150 | | |

Table 22

Analysis of Luck Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| M | 19.304 | 1 | 5.749 | 0.018* |
| C | 0.319 | 1 | 0.059 | 0.758 |
| CO | 49.189 | 1 | 14.650 | 0.001* |
| E | 8.728 | 1 | 2.599 | 0.109 |
| MExC | 0.307 | 1 | 0.091 | 0.763 |
| MExCO | 0.466 | 1 | 0.139 | 0.710 |
| MExE | 7.399 | 1 | 2.204 | 0.140 |
| C xCO | 0.424 | 1 | 0.126 | 0.723 |
| C xE | 4.719 | 1 | 1.406 | 0.238 |
| COxE | 1.172 | 1 | 0.349 | 0.556 |
| MExC xCO | 0.301 | 1 | 0.090 | 0.765 |
| MExC xE | 0.058 | 1 | 0.017 | 0.895 |
| MExCOxE | 4.421 | 1 | 1.317 | 0.253 |
| C xCOxE | 1.426 | 1 | 0.425 | 0.516 |
| Error | 527.157 | 157 | | |

Table 23

Analysis of Internal Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 44.619 | 1 | 5.432 | 0.021* |
| C | 12.240 | 1 | 1.490 | 0.224 |
| CO | 124.658 | 1 | 15.172 | 0.001* |
| E | 3.447 | 1 | 0.420 | 0.518 |
| MExC | 0.058 | 1 | 0.007 | 0.933 |
| MExCO | 0.015 | 1 | 0.002 | 0.966 |
| MExE | 4.142 | 1 | 0.540 | 0.479 |
| C xCO | 0.083 | 1 | 0.010 | 0.920 |
| C xE | 0.077 | 1 | 0.009 | 0.923 |
| COxE | 4.529 | 1 | 0.551 | 0.459 |
| MExC xCO | 0.789 | 1 | 0.096 | 0.757 |
| MExC xE | 0.371 | 1 | 0.045 | 0.832 |
| MExCOxE | 0.067 | 1 | 0.008 | 0.928 |
| C xCOxE | 0.010 | 1 | 0.001 | 0.973 |
| Error | 1265.271 | 154 | | |

Table 24

Analysis of External Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 11.223 | 1 | 1.680 | 0.193 |
| C | 0.701 | 1 | 0.105 | 0.746 |
| CO | 42.608 | 1 | 6.378 | 0.013* |
| E | 12.981 | 1 | 1.943 | 0.165 |
| MExC | 2.395 | 1 | 0.359 | 0.550 |
| MExCO | 1.861 | 1 | 0.279 | 0.598 |
| MExE | 40.264 | 1 | 6.027 | 0.015* |
| C xCO | 2.926 | 1 | 0.438 | 0.509 |
| C xE | 0.768 | 1 | 0.115 | 0.735 |
| COxE | 3.137 | 1 | 0.470 | 0.494 |
| MEx CxCO | 1.082 | 1 | 0.162 | 0.688 |
| MExC xE | 0.049 | 1 | 0.007 | 0.932 |
| MExCOxE | 1.357 | 1 | 0.202 | 0.654 |
| C xCOxE | 3.796 | 1 | 0.568 | 0.452 |
| Error | 1002.110 | 150 | | |

Table 25

Analysis of Locus Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 88.918 | 1 | 6.507 | 0.012* |
| C | 30.021 | 1 | 2.197 | 0.140 |
| CO | 27.101 | 1 | 1.983 | 0.161 |
| E | 46.470 | 1 | 3.400 | 0.067 |
| MExC | 2.781 | 1 | 0.204 | 0.653 |
| MExCO | 0.022 | 1 | 0.002 | 0.968 |
| MExE | 4.775 | 1 | 0.349 | 0.555 |
| C xCO | 18.791 | 1 | 1.375 | 0.243 |
| C xE | 0.547 | 1 | 0.040 | 0.842 |
| COxE | 15.945 | 1 | 1.167 | 0.282 |
| MExC xCO | 1.448 | 1 | 0.106 | 0.745 |
| MExC xE | 2.595 | 1 | 0.190 | 0.664 |
| MExCOxE | 1.160 | 1 | 0.085 | 0.771 |
| C xCOxE | 3.943 | 1 | 0.289 | 0.592 |
| Error | 2022.578 | 148 | | |

Table 26

Analysis of Stable Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 3.476 | 1 | 0.513 | 0.475 |
| C | 2.145 | 1 | 0.316 | 0.575 |
| CO | 48.718 | 1 | 7.184 | 0.008* |
| E | 11.089 | 1 | 1.645 | 0.203 |
| MExC | 9.502 | 1 | 1.401 | 0.238 |
| MExCO | 4.270 | 1 | 0.630 | 0.429 |
| MExE | 23.372 | 1 | 3.447 | 0.065 |
| C xCO | 1.223 | 1 | 0.180 | 0.672 |
| C xE | 5.110 | 1 | 0.754 | 0.387 |
| COxE | 0.116 | 1 | 0.017 | 0.896 |
| MExC xCO | 0.976 | 1 | 0.114 | 0.705 |
| MExC xE | 0.686 | 1 | 0.101 | 0.751 |
| MExCOxE | 0.836 | 1 | 0.123 | 0.726 |
| C xCOxE | 0.428 | 1 | 0.063 | 0.802 |
| Error | 1003.635 | 148 | | |

Table 27

Analysis of Unstable Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 0.372 | 1 | 0.072 | 0.789 |
| C | 4.445 | 1 | 0.858 | 0.356 |
| CO | 102.256 | 1 | 19.729 | 0.001* |
| E | 25.083 | 1 | 4.839 | 0.029* |
| MExC | 2.799 | 1 | 0.540 | 0.464 |
| MExCO | 11.503 | 1 | 2.219 | 0.138 |
| MExE | 18.091 | 1 | 3.490 | 0.064 |
| C xCO | 0.866 | 1 | 0.167 | 0.683 |
| C xE | 2.533 | 1 | 0.489 | 0.486 |
| COxE | 2.043 | 1 | 0.394 | 0.531 |
| MExC xCO | 0.005 | 1 | 0.001 | 0.976 |
| MExC xE | 0.000 | 1 | 0.000 | 0.993 |
| MExCOxE | 0.714 | 1 | 0.138 | 0.711 |
| C xCOxE | 0.121 | 1 | 0.023 | 0.879 |
| Error | 808.545 | 156 | | |

Table 28

Analysis of Stability Variance for Modernity/Extremes (ME), Continent of Birth (C), Condition (CO), and Expectancy (E)

| Source | Sum of Squares | Degrees of Freedom | F | Tail Probability |
|---|---|---|---|---|
| ME | 1.414 | 1 | 0.159 | 0.690 |
| C | 0.144 | 1 | 0.016 | 0.899 |
| CO | 12.784 | 1 | 1.441 | 0.232 |
| E | 60.577 | 1 | 6.830 | 0.010* |
| MExC | 21.158 | 1 | 2.385 | 0.125 |
| MExCO | 43.592 | 1 | 4.915 | 0.028* |
| MExE | 0.281 | 1 | 0.032 | 0.859 |
| C xCO | 7.521 | 1 | 0.848 | 0.359 |
| C xE | 6.206 | 1 | 0.700 | 0.404 |
| COxE | 3.493 | 1 | 0.394 | 0.531 |
| MExC xCO | 1.206 | 1 | 0.136 | 0.713 |
| MExC xE | 0.239 | 1 | 0.027 | 0.870 |
| MExCOxE | 0.169 | 1 | 0.019 | 0.890 |
| C xCOxE | 0.029 | 1 | 0.003 | 0.954 |
| Error | 1312.649 | 148 | | |

## Chapter Nine: Discussion

The purpose of this study was to examine how post-secondary students of multicultural origins attributed to hypothetical success or failure situations, which were either expected or unexpected. In particular, it was asked whether students, who were born in developing continents, such as Asia, Africa, or South America, but who now resided in Canada, understood academic successes and failures in similar or different ways compared to students, who were born in developed continents, such as North-America, Australia, and Europe, and resided in Canada. Furthermore, it was anticipated that students' attitudes and values toward tradition or modernity would be more important for the way they evaluate success and failure situations than their ethnicity, defined as reporting a developing or developed continent of birth.

Knowing about reasons for successes and failures in education is important to students and teachers alike, because this understanding is very useful for the expectancy of continuous success, and especially important to anticipate future success after failure has occured.

Overall, the results of this research were supportive of the main hypotheses, stating that the individual's value system, his orientation toward either modernity or tradition, and not his ethnicity influenced judgements in hypothetical success and failure

modernity or tradition, and not his ethnicity influenced judgements in hypothetical success and failure situations. Extremely traditional subjects had significantly more luck attributions compared to extremely modern subjects. This is explainable in a way that a person who is less oriented toward progression in the Western world may feel that he has or wants to have little influence on outcomes of events.

The OM Scale has been used only once in the past ten years in the study by Jones (1977) to assess traditional and modern attitudes in North-American post-secondary students. Confirming Jones (1977) results, the majority of the 17 -21 year old students in this study had adopted modern attitudes to most concepts, and might be in the process of adopting a modern outlook on others. The results showed that subjects' ethnicity, as assessed by reporting a developed or developing continent of birth, did not significantly influence the respondents' concepts of modernity or tradition, as measured by the OM Scale. However, the findings revealed that among the subjects studied there were students who scored on the low end of the OM Scale, meaning that their value system was characterized by orientation to tradition. This holds for students born in developing and developed continents alike.

What are the reasons for these existing differences in OM scores? In accordance with Inkeles and Holsinger's (1974) concept of modernity it is the level of education

which determines individual's attitudes and values. Among the respondents in this study the education levels were fairly similar; subjects were either in their first or second year of college education. What was slightly different was their age, which ranged from 17 to 21 years and over. I did not explore the effects of age on the modernity score. One possible explanation, derived from Jones (1977), for the range of OM scores may be that younger subjects were still in the process of adopting a modern orientation, whereas older subjects had already done so. This has not been examined in this research, and may be worth further investigation.

A second possible explanation for the existence of traditional OM scores may be a result of the socialization of minorities into the main culture. Have students, who have been raised in either one of the dominant cultures in the Province of Quebec, namely the Anglophone or Francophone cultures since early childhood, become more modern in their attitudes than students, who have resided only a few years in the main culture? Or can traditional or modern orientation be treated as personality traits, once a certain level of education has been reached? In that case, age should not be a factor. However, religious beliefs could enter this speculation. If one would interpret the antecedent condition called cultural learning experiences as socialization into the main culture, one might say that it did effect students' values and attitudes as measured by the OM Scale.

Do these findings shed light on the question whether cultural learning experiences influence a person's academic attributions? The results of this study do have similarities to previous studies which did not find cultural differences in attributions, such as Chandler, Shama, Wolf (1983), Chandler, Shama, Wolf, and Planchard (1981), Leroux (1985), and Abrami and DeBellefeuille (1984). In the literature it seems that age is a factor associated with cultural differences. Researchers who reported cultural differences in attributions (Fry and Gosh, 1986; Weiner and Peter, 1973; Salili, Maehr, and Gillmoré, 1976) studied mostly school aged children, whereas studies conducted on post secondary-students did not find cultural differences in attributions. The findings of this study conform with those using post-secondary students. Could it be that not age, but educational level, and even more the individual's value system, that is, his orientation to tradition or modernity, are stronger determinants of attributions than cultural differences?

The fact that the overall mean for luck attributions was the lowest of the four attribution measures (M=2.761, SD=1.920), compared to ability (M=4.644, SD=1.943), effort (M=5.636, SD=1.711), task difficulty (M=4.825, SD=1.624) shows that in a post-secondary institution students feel very much in control of academic events by varying effort, so that the influence of chance is much less important, although it exists. It seems that

students who seek education above the compulsory level of high school have learned that there is a relationship between effort expended and outcome, which means that they will feel in control of educational results.

As for the question whether attribution theory holds for all students irrespective of their ethnic backgrounds, this research has shown that the majority of participating students were guided by expectancy and condition when judging hypothetical success and failure situations, which confirms the findings of most studies reviewed. In success conditions ability, effort, and luck attributions were seen as more important than in failure situation. The same holds for the combination factors internal, external, stable, unstable, and to an extent for locus as well. This finding falls in line with the egotism model, which holds that the valence of the actual outcome, success or failure, is the primary determinant for post-performance attributions. The combination factor called internal yielded higher means than the combination factor called external, both for success and failure situations. The subjects seemed to have taken credit for successes by valuing internal attributions highly. However, failures were less attributed to external factors than successes. This finding does not confirm the theory that people tend to use ego-defensive attributions for failure. If students attribute to failure internally, as these subjects did, it could indicate that they feel responsible for the outcome, and may want to avoid future

failure by taking action, such as studying harder. As for the factor stability, unexpected outcomes were significantly related to unstable factors. This means that students did not feel that unexpected outcomes, be it success or failure, were of a stable nature.

What implications can be drawn from these findings for students and teachers concerning the question why academic successes and failures occur? Interpreting the findings of this research, teachers may want to reevaluate their preconceptions regarding the relationship between academic outcomes and minority groups, because ethnicity, which in this context was defined as reporting a developing or developed continent of birth, did not influence the way students judged hypothetical academic successes and failures at all. In order to help students succeed and avoid failures a teacher may want to focus more on students' value systems, their attitudes towards modernity or tradition, that could influence whether and to what degree they perceived themselves as being in control of academic outcomes.

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# APPENDIX

Letter to College Instructor
Study Materials, Coding
Debriefing
Thank-you Letter to Participants

Most of the materials found in this section were reformatted slightly to conform with the margin size requirements of the Graduate Studies Office.

# STUDENT MOTIVATION PROJECT

## INSTRUCTIONS

The three questionnaires are intended to gather information about C E G E P students' attitudes toward factors which affect academic motivation. I would appreciate that you complete all the questionnaire items to the best of your ability. Mark your answer on the answer sheet. Please, do not mark anything on the questionnaires. Try to work at a steady pace and answer the questions in the order that they are given. I welcome your comments on this study, place these on the reverse side of the answer sheet. If you have any questions or problems, please raise your hand and you will be helped individually. Interested students will be provided with a more complete description of the study's purpose once all questionnaires are completed. If you participated in this study previously in another class, please do not complete the questionnaires again.

Thank you.

Questionnaire # 1

1) Have you ever gotten so highly involved regarding some public issue that you really wanted to do something about it?

a) frequently b) a few times c) never

2) If schooling is freely available how much schooling do you think children of people like yourself should have?

a) high school b) C E.G E P
c) university (undergraduate school)
d) university (graduate school)

3) While some people say that it is useful to discuss ideas about new and different ways of doing things, others think that it is not worthwhile since the traditional and familiar ways are best. Do you feel that thinking about new and different ways of doing things is

a) always useful b) usually useful c) only useful at times
d) rarely useful

4) What should most qualify a person to hold high office?

a) coming from a distinguished family background
b) devotion to the old and time-honored ways
c) being the most popular among the people
d) high education and special knowledge

5) Which is most important for the future of Canada?

a) the hard work of the people.
b) good planning on the part of the government
c) God's help
d) good luck

6) Scientists in the universities are studying such things as what determines whether a baby is a boy or girl and why are there earthquakes. Do you think that these studies are.

a) all very beneficial b) all somewhat beneficial
c) all somewhat harmful d) all very harmful

7) a) Some people say that it is necessary for a man and his wife to limit the number of children so that they can take better care of those they do have

b) Others say that it is wrong for a man and wife to voluntarily limit the number of children to be born
Which of these opinions do you agree with more? (Circle a or b on the answer sheet)

8) Which of the following kinds of news interests you most?

a) world events b) the nation c) your home town d) sports
e) religious events or festivals

9) Do you enjoy meeting new people or would you prefer to spend your time with people you already know

a) meet new people b) prefer people already known

10) Do you think a man can be truly good without having any religion at all?

a) yes b) no

11) Have you ever talked or written to some government official or political leader to tell him your opinion on some public issue, such as what the government should do about the high unemployment rate?

a) yes b) no

12) How often do you usually get news and information from the media?

a) every day b) a few times a week c) occasionally d) never

13) Would you tell me what are the biggest problems you see facing Canada? (Please, write your answer on the answer sheet)

14) Where is Prague? (Please, write your answer on the answer sheet)

Coding for Questionnaire # 1

modern answer

1) frequently

2) C E G E P and university

3) always useful

4) education

5) hard work and government planning

6) scientific study is beneficial

7) favors birth control

8) mass media sources , and not personal, non media sources

9) meet new people

10) yes

11) yes

12) the more modern answer involves more responses than the more traditional answer, 2 and over considered modern

13) correct country

14) every day

Questionnaire # 2

1) Your age.
a) 17 or under b) 18 c) 19 d) 20 and over

2) Your sex.
a) Male b.) Female

3) Field of Concentration
a) Academic Program b) Vocational Program c) Other

4) Your grade average
a) 50% - 59% b) 60% - 69% c) 70% - 79% d) 80% - 89%
e) 90% -100%

5) What is your first language?
a) English b) French c) Italian d) Greek e) Chinese
f) Arabic g) Japanese h) Spanish i) Persian j) Other

6) In what continent were you born?
a) North America b) South America c) Africa d) Asia
e) Europe f) Australia

7) How many years have you been a resident of Canada?
a) 0 - 2 years b) 3 - 5 years c) 6 - 8 years
d) 10 -12 years e) 13 -15 years f) 16 years or more

8) To what extend do you perceive yourself as being a member of a minority group?
a) not at all b) very little c) somewhat d) a great deal

9) Are you religious?
a) not at all b) very little c) somewhat d) a great deal

Questionnaire # 3 11

## Hypothetical Exam Results

The following is a description of a course examination situation Read the description carefully. Note the list of factors, which accompany the rating scales, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance Circle the number which best indicates the importance of each factor.

Situation

Suppose you are strong in a subject and you received an excellent grade on the first very important exam.

Please circle the number which best indicates how important each factor was in determining your success on this exam.

| | | very unimportant | | | | | | very important |
|---|---|---|---|---|---|---|---|---|
| 1 | Ability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | Effort | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | Ease of the Test | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Good Luck | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Good Method of Study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | God's Will | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Interest in Subject | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | Parental Pressure | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | How the Test was Marked | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 | Knowledge of the Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 | Other: Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 | Other: Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



ANSWER SHEET 11

Questionnaire # 1

1) a b c
2) a b c d
3) a b c d
4) a b c d
5) a b c d
6) a b c d
7) a b
8) a b c d e
9) a b
10) a b
11) a b
12) a b c d
13) _____
_____
_____
14) _____

Questionnaire # 2

1) a b c d
2) a b
3) a b c
4) a b c d e
5) a b c d e f g h i j
6) a b c d e f
7) a b c d e f
8) a b c d
9) a b c d

Questionnaire # 3

1) 1 2 3 4 5 6 7
2) 1 2 3 4 5 6 7
3) 1 2 3 4 5 6 7
4) 1 2 3 4 5 6 7
5) 1 2 3 4 5 6 7
6) 1 2 3 4 5 6 7
7) 1 2 3 4 5 6 7
8) 1 2 3 4 5 6 7
9) 1 2 3 4 5 6 7
10) 1 2 3 4 5 6 7

11) Other: Specify _____

1 2 3 4 5 6 7

12) Other: Specify _____

1 2 3 4 5 6 7

Questionnaire # 3 12

## Hypothetical Exam Results

The following is a description of a course examination situation Read the description carefully Note the list of factors, which accompany the rating scales, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor

Situation

Suppose you are weak in a subject and you received an excellent grade on the first very important exam

Please circle the number which best indicates how important each factor was in determining your success on this exam.

| | very unimportant | | | | | | very important |
|---|---|---|---|---|---|---|---|
| 1. Ability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 Effort | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Ease of the Test | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Good Luck | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 Good Method of Study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 God's Will | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 Interest in Subject | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 Parental Pressure | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 How the Test was Marked | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 Knowledge of the Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 Other Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Other Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ANSWER SHEET 12

Questionnaire # 1

1) a b c
2) a b c d
3) a b c d
4) a b c d
5) a b c d
6) a b c d
7) a b
8) a b c d e
9) a b
10) a b
11) a b
12) a b c d
13) _____
_____
_____
14) _____

Questionnaire # 2

1) a b c d
2) a b
3) a b c
4) a b c d e
5) a b c d e f g h i j
6) a b c d e f
7) a b c d e f
8) a b c d
9) a b c d

Questionnaire # 3

1) 1 2 3 4 5 6 7
2) 1 2 3 4 5 6 7
3) 1 2 3 4 5 6 7
4) 1 2 3 4 5 6 7
5) 1 2 3 4 5 6 7
6) 1 2 3 4 5 6 7
7) 1 2 3 4 5 6 7
8) 1 2 3 4 5 6 7
9) 1 2 3 4 5 6 7
10) 1 2 3 4 5 6 7

11) Other: Specify_____

1 2 3 4 5 6 7

12) Other: Specify_____

1 2 3 4 5 6 7

Questionnaire # 3 21

## Hypothetical Exam Results

The following is a description of a course examination situation Read the description carefully. Note the list of factors, which accompany the rating scales, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance Circle the number which best indicates the importance of each factor.

Situation
Suppose you are weak in a subject and you received a failing grade on the first very important exam.

Please circle the number which best indicates how important each factor was in determining your failure on this exam.

| | very unimportant | | | | | | very important |
|---|---|---|---|---|---|---|---|
| 1. Lack of Ability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Lack of Effort | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Difficulty of the Test | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Bad Luck | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 Poor Method of Study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. God's Will | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 Lack of Interest in Subject | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 Parental Pressure | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. How the Test was Marked | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Lack of Knowledge of the Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Other Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Other: Specify on answer sh | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ANSWER SHEET 21

Questionnaire # 1

1) a b c
2) a b c d
3) a b c d
4) a b c d
5) a b c d
6) a b c d
7) a b
8) a b c d e
9) a b
10) a b
11) a b
12) a b c d
13) _____
_____
_____
14) _____

Questionnaire # 2

1) a b c d
2) a b
3) a b c
4) a b c d e
5) a b c d e f g h i j
6) a b c d e f
7) a b c d e f
8) a b c d
9) a b c d

Questionnaire # 3

1) 1 2 3 4 5 6 7
2) 1 2 3 4 5 6 7
3) 1 2 3 4 5 6 7
4) 1 2 3 4 5 6 7
5) 1 2 3 4 5 6 7
6) 1 2 3 4 5 6 7
7) 1 2 3 4 5 6 7
8) 1 2 3 4 5 6 7
9) 1 2 3 4 5 6 7
10) 1 2 3 4 5 6 7

11) Other: Specify _____

1 2 3 4 5 6 7

12) Other: Specify _____

1 2 3 4 5 6 7

Questionnaire # 3 22

## Hypothetical Exam Results

The following is a description of a course examination situation Read the description carefully. Note the list of factors, which accompany the rating scales, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation

Suppose you are strong in a subject and you received a failing grade on the first very important exam.

Please circle the number which best indicates how important each factor was in determining your failure on this exam.

| | very unimportant | | | | | | very important |
|---|---|---|---|---|---|---|---|
| 1 Lack of Ability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 Lack of Effort | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Difficulty of the Test | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Bad Luck | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Poor Method of Study | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. God's Will | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 Lack of Interest in Subject | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Parental Pressure | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 How the Test was Marked | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 Lack of Knowledge of the Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 Other. Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Other Specify on answer sheet | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

ANSWER SHEET 22

**Questionnaire # 1**

1) a b c
2) a b c d
3) a b c d
4) a b c d
5) a b c d
6) a b c d
7) a b
8) a b c d e
9) a b
10) a b
11) a b
12) a b c d
13) _____
_____
_____
14) _____

**Questionnaire # 2**

1) a b c d
2) a b
3) a b c
4) a b c d e
5) a b c d e f g h i j
6) a b c d e f
7) a b c d e f
8) a b c d
9) a b c d

**Questionnaire # 3**

1) 1 2 3 4 5 6 7
2) 1 2 3 4 5 6 7
3) 1 2 3 4 5 6 7
4) 1 2 3 4 5 6 7
5) 1 2 3 4 5 6 7
6) 1 2 3 4 5 6 7
7) 1 2 3 4 5 6 7
8) 1 2 3 4 5 6 7
9) 1 2 3 4 5 6 7
10) 1 2 3 4 5 6 7

11) Other: Specify _____

1 2 3 4 5 6 7

12) Other: Specify _____

1 2 3 4 5 6 7

STUDENT MOTIVATION PROJECT

In educational settings, where students learn and teachers evaluate student performance, questions such as "Why did I fail this exam?" and "Why did I do so well on this exam?" are asked People are information seekers, they search for reasons to explain events concerning themselves and others By doing so, people believe that they can control situations better, and therefore bring about or avoid a recurrence of a particular event

For example, imagine a student who has always had excellent marks in Biology, but failed his last very important exam. With a personal history of very good marks in this particular subject, he is most likely not to question his ability. The student may conclude that he should have studied harder; he may realize that the amount of effort put into this particular exam preparation did not result in the expected high mark he had hoped for. Knowing the reasons which have led to the unexpected exam failure, the student will realize that counting on past performance and his ability is not enough in anticipating a successful outcome.

The attribution theory of achievement motivation (Weiner, 1983) explains reasons for questions concerning success and failure for academic achievement . Ability, effort, task, and luck are seen by many people as the main causes for success and failure, other causes are mood, interest in the subject, fatigue, other people's help or hindrance, the way the test was marked, God s help, etc A student who thinks that ability and effort have caused his success, will feel in control of the event, because ability and effort are called internal factors He will also feel pride. A student, who thinks that bad luck or a test which was too difficult were the reasons for his failure, may not be ashamed, because he may believe that these external factors are beyond his control Therefore, he may not study harder for the next exam, and may have to face failure again.

Which of the variety of factors a particular person employs when he searches for reasons for success or failure, depends among others on the individual's value system, which has been shaped partly by his socialization process (Triandis, 1977). Do students who have a modern outlook on life find different reasons than students who have a more traditional point of view? Do students described as modern give internal reasons (ability and effort) for success , and external reasons (luck, difficulty of the task) for failure? Do students described as more traditional have more luck and task attributions than students with a more modern value system? Does a person's ethnicity, his place of birth, his mother tongue, or his length of stay in Canada have an influence on the way he perceives academic successes and failures?

Knowing about answers to these questions may help improve student / teacher relations, and may help students to avoid academic failure and promote accademic success.

Education Department

February 5th, 1986

Dear Student,

You probably remember participating in a student motivation project at your C.E.G.E.P. in May or June 1985. By doing so you helped me very much, without your cooperation my Master's thesis would not have been realized. As you have requested, I am sending you a summary of the study and the results.

Attribution theory holds that in academic settings students tend to attribute success to internal factors (ability, effort) and failure to external factors (luck, task difficulty). Controversy surrounds the influence of cultural differences on attributions. To explore this controversy 362 male and female C.E.G.E.P. students (including yourself!), of multicultural backgrounds, aged 17-21, were first assessed as having a traditional or modern value system (OM-Scale) before completing an attribution questionnaire on hypothetical student performance.
Statistical analyses showed that students born in developing continents judged those given hypothetical success and failure situations very much like students born in developed continents. However, students' judgements were guided by condition (success/failure) and expectancy (expected/unexpected). More importantly, analyses of subjects at the extreme ends of the OM-Scale revealed that modern orientation was significantly related to effort and internality and traditional orientation to luck. The implications of these findings are that there are more attributional similarities than differences between students of various multicultural origins, and that existing differnces are due to the individual's value system, which is his orientation to tradition or modernity.

Once again, thank you very much for your kind cooperation, and the best wishes for your studies and your work.

Sincerely,

M.A. Candidate
Educational Studies
Tel. 848-2012