AN INQUIRY INTO A CADRE OF CHINESE UNIVERSITY STUDENTS' PERCEPTIONS OF THE FEATURES OF AUTONOMY IN MOTIVATION FOR LEARNING DURING THEIR SENIOR HIGH SCHOOLING PERIOD

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Abstract

In the People's Republic of China, students in the university-track senior high schools are prepared for the Nationwide Entrance Examination for Higher Education Institutions (NEEH), which is held at the end of three-year senior high schooling period. Owing to the selective nature of the NEEH, only those whose marks in the NEEH are above certain score control lines are eligible for admission into a higher educational institution. The purpose of this study was to investigate a cadre of Chinese university students' perceptions of the features of autonomy in motivation for learning in university-track senior high schools. The investigation was conducted around two major research questions: 1) what the students perceived as the features of their learning behaviour and emotional experience with respect to the degrees of autonomous versus controlled motivation for learning; and 2) what the students perceived as the features of their learning environment with respect to that as being autonomy supportive versus controlling.

This study was based on the reflective in-depth interviews between interviewer and interviewee contact. A self-report questionnaire with open-ending questions was developed and administered personally as a preparatory stage of the investigation to break down the major research questions into more detailed questions. The investigation

was designed and conducted in the theoretical framework of E. L. Deci and R. M. Ryan's (1985a, 1987) Self-determination Theory. Five graduate students in an eastern Canada university participated in the investigation. The methodology of phenomenological approach was employed in conducting the interviews, analyzing the interview data and presenting the cases. Cases were analyzed and discussed in the light of the Self-determination Theory.

Findings of this study include the following. (1) The learning behaviour of the participants during their senior high years fell into the degrees of *introjected regulation* and *identified regulation* along the continuum of internalization and integration of an extrinsic regulation from heteronomous control to autonomous self-determination. Two of five participants originally approached learning with intrinsically motivated attitudes; they reported some behavioral features such as genuine interest, curiosity, and spontaneity in learning, which were related to intrinsic motivation of learning. (2) Perceptions of emotional experience were congruent with the autonomous versus controlling learning behaviour of the individuals. Those whose learning behaviour exemplified more controlled features perceived less positive emotions than those whose learning behaviour exemplified less controlled features. (3) Learning environment in university-track senior high

schools was perceived as controlling with the features: a) the pre-set goal of learning that all students should try to obtain good marks in the NEEH; b) academic ranking as the major feedback form perceived as mainly controlling, and c) peer competitions for promoting one's academic rank, which was perceived as mainly controlling. The learning environment at home/in the family, in four cases, was featured with parents' expectations and encouragement of obtaining high marks in the NEEH. In three cases, the form of feedback at home was parents' comments on academic marks and ranks which reflected their sole concern with respect to their children's academic performance. Four participants perceived pressure of a different level from home of urging them to gain as high marks as they could in the NEEH. One participant perceived no parent involvement in her learning.

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Table of Contents

CHAPTER ONE

INTRODUCTION

Educational background and purpose of the study

In the People's Republic of China, the senior high schools can be roughly divided into two categories: university-track, and non-university-track. The latter includes technical and vocational schools while those in the former category are responsible for providing the higher education institutions with candidates of good academic standings. A nationwide general entrance examination for higher education institutions (NEEH) is conducted each year to select the college/university freshmen among the candidates. After this selection, about 2 percent of Chinese first graders can eventually go to a higher education institution (of regular education system) (Noah & Eckstein, 1989; Eckstein & Noah, 1993)

The rate of the students who can pass the NEEH is crucial to a university-track senior high school. It affects directly the reputation of such a school, its finance, teacher/ staff, and student sources as well (Lin, 1993). It is only natural that a university-track senior high school exerts its best effort to maintain or increase the proportion of the students whom they can promote into

tertiary educational institutions. Under these circumstances, the students are thrown into an examination-oriented learning environment; their learning is inspired by the expectations of passing or doing well in the NEEH. While there is literature dealing with different aspects of the NEEH, such as purposes and roles (Feuer & Fulton, 1994; OTA, 1992), organizational policies (Brown, 1991; Eckstein & Noah, 1993), system and administration (Lewin & Wang, 1990; Noah & Eckstein, 1989; Zhou, 1988), techniques concerning the preparation of the examination (Lewin & Wang, 1990), and the anxiety and pressure experienced by the students (Eckstein & Noah, 1993; Lin, 1993; Noah & Eckstein, 1989), little literature has been found pertaining to the students' perceptions of the features of autonomy in motivation for learning during their years in a university-track senior high school. The present study is meant to explore this area with the specific purpose of investigating a cadre of university Chinese students' perceptions of the features of autonomy of their achievement motivation operating during the university-track senior high schooling period in the People's Republic of China. The investigation will be conducted around two research questions:

A. What do the students perceive as the features of their learning behaviour and emotional experience with respect to the different degrees of autonomous

versus controlled motivation for learning?

B. What do the students perceive as the features of their learning environment with respect to that as being autonomy supportive versus controlling?

Significance of the study

1. The study will provide additional information in the research area of the features of autonomy in students' motivation for learning in a university-track senior high school environment aiming at a selective examination at the national level. OTA (1992) reported that the primary purpose of entrance examinations for higher educational institutions in European and Asian countries is to "control the flow of young people into a limited number of places on the educational pyramid" (p.135), and these examinations are "under intense criticism" as they principally rely on students test scores for "allocating scarce publicly funded postsecondary opportunities" (p.144). OTA further commented that it would be "ironic" if the U. S. policymakers attempted to adopt a selective examination system similar to those in European and Asian countries. Nevertheless, some people voiced different opinions suggesting re-consideration of a selective examination to detemine the eligibility to receive tertiary level education. Bishop

(1990) asserted that there should be "an absolute or external standard of achievement in high school subjects" for the students to be admitted into selective colleges (p.236), and the lack of such an examination is one of the causes of the adolescents' lack of incentives in the U. S. high schools. Crouse and Trasheim (1988) reported as public opinions that a college-admission testing program that emphasized achievement would create incentives for both high schools and their students. Murphy (1993) debated over U. S. school reform that national academic standards and a national examination system similar to that in European and Asian countries would motivate greater diligence among both the students and teachers. Popham (1987) claimed that measurement-driven instruction was the most cost-effective way of improving the quality of public education as external examinations could guide the direction of curriculum and instruction and thus facilitate the implementation of educational goals. It is hoped that the present study will be of some reference value pertaining to this research area.

2. The higher education system in China is experiencing some reform. However, the NEEH will continue and its nature of being competitive and selective will remain unchanged (SEC, 1993). This study will provide the policymakers and educators with some grass-root level information about the practice of this policy in the domain

of student motivation to learn.

Definition of the key terms

The Nationwide General Entrance Examination for Higher Education (NEEH) is a selective examination based on general senior high school curricula held for the applicants under age 25 for learning in a college / university which is under the jurisdiction of the State Education Commission, and which belongs to the General Higher Education system of the People's Republic of China. Currently, the date of the NEEH is set in early July each year, three days in succession.

University-track senior high school refers to a senior high school whose major academic objective of schooling is to prepare its students for the NEEH.

'Key' senior high school refers to a type of university-track senior high school in P. R. China. This type of school enjoys the priority of having more financial and material resources, and that of selecting teachers and students of good academic standings, and thus can hold the reputation of having very high student admission rates to higher education institutions.

Motivation for/of learning is "a psychological term that refers to internal and/or external factors that

activate or maintain an individual's behaviour" (Shafritz, et al. 1988, p.303).

Extrinsic motivation refers to the "motivation that comes from rewards external to oneself; the desire to learn or accomplish a task due to something other than inner satisfaction derived from the worthiness of the task itself" (Shafritz, et al. 1988, p.189).

Intrinsic motivation refers to the "motivation that comes from the potential for satisfaction of a deeply felt personal need; the desire to learn or accomplish a task based on internal drives and/or the sense of value or worthiness of the task itself" (Shafritz, et al. 1988, p.253).

Examination-oriented motivation for/of learning refers to the dynamic force that a student possesses in learning activities for the purpose of promoting his/her performance in academic tests or examinations.

Examination-oriented learning environment refers to a learning environment that encourages the students to learn to promote their performance in academic tests or examinations.

Autonomy connotes an inner endorsement of one's actions, the sense that they emanate from oneself and are one's own. The more autonomous the behaviour, the more it is endorsed by the whole self and is experienced as action

for which one is responsible (Deci & Ryan, 1987; p.1025).

Heteronomy in contrast to autonomy, refers to the motivation and related behaviour that occur in the condition of 'being controlled.' It is characterized by greater rigidity and the experience of having to do what one is doing. There is intention, but lacking is a true sense of choice (Deci & Ryan, 1987; p.1025).

CHAPTER TWO

RELATED LITERATURE REVIEW

Self-determination theory

The theoretical framework within which this study was conducted and cases were analyzed and discussed is self-determination theory (Deci & Ryan, 1985a, 1985b, 1987, 1991, 1994). This theory belongs to the school of organismic theories of motivation. Unlike the school of mechanistic theories, which tend to view the human organism as being basically passive, and human behaviour as a result of passive organic reaction of internal drives or to the stimuli external to human self, organismic theories tend to view human organism as being basically active, and human behaviour as an expression of volition or initiation of human self (Deci & Ryan, 1985a), while, however, the nature of organism or its intrinsic functioning "can be either facilitated or impeded by the social context" (Deci, Eghrari, Patrick & Leone, 1994). This theory approaches the concept of motivation from three innate psychological needs: competence/effectance, relatedness/affiliation, and autonomy/ self-determination. Accordingly, Deci (1987), Deci & Ryan (1985a; 1994) suggest that people all hope to

see that they are functioning effectively in a social milieu, they do so out of their own choice, and they are inherently motivated to act to satisfy their feelings that they are related to others within that milieu. In the domain of education, self-determination theory is concerned primarily with promoting students' interest in learning, their valuing of education, and their confidence in their own competence and attributes in learning (Deci, Vallerand, Pelletier & Ryan, 1991). In the area of student motivation for learning, this theory proposes that the most positive motivation should demonstrate the features that are associated with the nature of autonomy in motivation, related behaviours and emotions. That is, the behaviour should be "initiated and regulated through choice" by the learner's self; the learner perceives the behaviour as an expression of his/her self (Deci & Ryan, 1987; p.1024). In other words, with respect to the behaviour of learning, for example, the learner initiates the behaviour out of internal needs or genuine interest or desire to participate in the learning activity itself. This type of motivation and related behaviour pattern is supported by the innate psychological need of autonomy/self-determination. By contrast, the least autonomous motivation for learning is regulated by contingencies external to an individual's self. The learner's behaviour is "pressured or controlled by some

interpersonal or intrapsychic force" (Deci & Ryan, 1994; p.4). A learner sees external causality to his/her learning behaviour. This type of motivation and related behaviour pattern is not autonomous as it is not initiated or regulated through the learner's own choice; it is not an expression of the learner's self.

Self-determination theory explores further than the two typical types of motivation of intrinsic-extrinsic dichotomy. It presents the concept that an externally motivated behaviour may fall on any point along a continuum between the two extremes of the most and the least positive motivation and related behaviour patterns. Thus, an externally motivated behaviour is explained with the concept that it may be at any degree of being <u>self-determined</u> versus <u>controlled</u> (Deci & Ryan, 1985a, 1985b, 1994; Rigby, Deci, Patrick & Ryan, 1992). Deci and Ryan (1985a, 1985b, 1986, 1987, 1992a, 1992b, 1994) labelled one extreme as autonomous / self-determined, the other, heteronomous/controlled. This continuum allows the study of student motivation for learning to look into the processes of internalization and integration of an extrinsic regulation underlying the motivated behaviour with regard to the different degrees/levels of the expression of a behaviour in terms of free choice / true intentionality / autonomy. In the light of this theory, a behaviour initiated by an individual's

intention may carry heteronomous features, that is, it does not represent an individual's true choice, when the intention is under the control/regulation external to this individual's sense of self. When an extrinsic motivation is internalized with identified values and integrated into the coherent sense of one's self, the individual's behaviour will carry the features of autonomy, that is, it represents an individual's true choice; the individual experiences a sense of internal causality (Deci & Ryan, 1985a, 1985b, 1986, 1987, 1994; Rigby, Deci, Patrick & Ryan, 1992).

Self-determination theory elaborates on extrinsic motivation developmentally, exploring the quality of different types of extrinsic regulations. The type of extrinsic regulation closest to the extreme of heteronomous control of motivation and related behaviour pattern is 'external regulation.' It refers to behaviour motivated and regulated by external contingencies. For example, when learning, an individual engages in the activity of learning for an external reward or avoidance of a punishment. 'Introjected regulation' refers to the motivated behaviours based on the regulations taken in but not accepted by an individual into his/her personal value and coherent sense of self. Such regulation pressures the individual to behave under strong emotions such as guilt or desire. For example, in learning, an individual studies hard to reach a goal like

everybody else is doing. If he fails to reach this goal, his sense of self/-worth/-esteem will be in jeopardy. 'Identified regulation' occurs when an individual begins to take in and accept a regulation with the identified value of that regulation. The regulation has been integrated into one's sense of self to a greater degree than in the previous two cases; therefore, the individuals behaviours will carry more features of autonomy/self-determination. However, the behaviour of this individual is still extrinsically motivated as the individual has identified the value underlying the activity but the value has not yet been integrated into the individual's coherent sense of self. For example, in learning, a student studies hard for high marks in a college entrance examination. This student's learning behaviour is extrinsically motivated as learning is only instrumental for him/her to reach the goal of obtaining high marks in the examination. What this student really values is the outcome upon the accomplishment of the activity, not the learning activity itself. 'Integrated regulation' is the most self-determined / autonomous form of extrinsic motivation. The extrinsic motivation is integrated into one's coherent sense of self with identified value, and co-exists reciprocally with the individual's other values, needs, and identities. For example, in learning, an individual has a system of values and goals

that initiates his/her genuine desire to learn, and the desire to become a good athlete as well without his/her goals' interfering with each other (Deci, Vallerand, Pelletier & Ryan, 1991; Deci & Ryan, 1985a, 1985b, 1986, 1994; Rigby, Deci, Patrick & Ryan, 1992; Ryan, Connell & Deci, 1985).

Events and contexts of an environment in which occur a learner's initiation, regulation, and motivation become important as they can either facilitate or hinder the nature of autonomy / self-determination in motivation that underlies the learner's learning behaviours (Deci 1987; Deci, Vallerand, Pelletier & Ryan, 1991; Deci,Eghrari, Patrick & Leone, 1994; Deci & Ryan, 1985a, 1985b, 1986, 1987, 1994; Rigby, Deci, Patrick & Ryan, 1992; Ryan, Connell & Deci, 1985). As the contextual factors in a learning environment may be perceived as being basically autonomy supportive versus controlling, the nature of a learning environment may demonstrate the features of that as being autonomy supportive versus controlling, which indicates the functioning significance of an environment (Deci, Nezlek & Sheinman, 1981; Deci & Ryan, 1980, 1985a, 1987, 1994; Ryan, Connell & Deci, 1985). An environment influences a learner's experience, intention, motivation, and behaviour by both specific events such as task-contingent rewards (Ryan, Mims & Koestner, 1983), or feedback (Boggiano &

Barrett, 1985), and interpersonal or social contexts such as mother-child behaviour pattern (Deci, Schwartz, Sheinman & Ryan, 1981; Deci, Driver, Hatchkiss, Robins & Wilson, 1993; Grolnick, Ryan & Deci, 1991), or ego-involvement (Ryan, 1982). The events and the contexts in which the events occur are considered basically autonomy supportive when they provide free choice, optimal challenge, feedback with informational nature, feelings with high self-efficacy accompanied by true task choice, and autonomy-supportive climates in a learning environment. These events support or enhance intrinsic motivation and other self-determined / autonomous learning behaviours. On the other hand, events are considered basically controlling which pressure people to perform in specific ways. These events undermine intrinsic motivation and other self-determined / autonomous learning behaviours. Material rewards, deadlines, imposed goals, feedback with controlling nature, and the climates in a learning environment with controlling styles may function as controlling contextual factors (Deci & Ryan, 1987, 1994; Ryan, Connell & Deci, 1985).

The features of autonomy in motivation for learning can be identified with external behaviour indicators and emotions experienced by an individual in his/her learning. Behavioral indicators and emotional experience associated with an autonomous/self-determined learning behaviour

pattern include interest, enjoyment, curiosity, exploration, spontaneity, creativity, and other positive emotional tone; whereas those associated with a heteronomous/controlled learning behaviour pattern include pressure, anxiety, lack of interest or enjoyment, and other negative emotional tone (Deci & Ryan, 1985a, 1985b, 1986, 1987, 1992a, 1992b, 1994).

Historical and educational contexts of the present Nationwide Entrance Examination for Higher Education (NEEH)

A. Imperial civil service examination system

The first higher education institution in China dates back to Han Dynasty (r. 140 - 86 B.C.). To select young bureaucrats loyal to him, the Emperor Han Wu Di set up an Imperial College and had the outstanding younger scholars in the country come to the college and learn Confucian doctrines together. Examinations were conducted after a period of schooling and were used to select, among the scholars, the new officials of the empire. In Tang Dynasty (r. 618 - 906 A.D.), the nationwide examination system became an open competition to people, limited to young males, who aspired to obtain a position of government official. This system was seen as being fair as participants competed with each other by going through the same series of examinations: many preliminary and local-

level exams, and finally the Imperial Examination in the capital (Brown 1991; Feuer & Fulton; Kuo 1983; OTA 1992; Zhou 1988)

The present Nationwide Entrance Examination for Higher Education (NEEH) no longer serves the purpose of directly selecting officials. However, some features of the NEEH have roots of more than two thousand years deep in the imperial civil service examination system.

1. The highly competitive and selective nature of the NEEH has roots in ancient imperial examination system (Brown 1991; Lin 1993; SEC 1993; Zhou 1988).
2. The uniformity of the NEEH is similar to that of the Imperial Examinations (Brown 1991; Feuer & Fulton, 1994; Lin 1993; Noah & Eckstein, 1989; OTA 1992; SEC 1993; Zhou 1988).
3. The decisive criterion is the participants' performance in the examination (Lin 1993; Feuer & Fulton, 1994; OTA 1992; Zhou 1988).
4. The psychological pressure caused by the expectations of success was intense and overwhelming during the process of preparing for the Imperial Examinations and the NEEH (Eckstein & Noah 1993; Kwong 1983; Lin 1993; Noah & Eckstein, 1989; Niu 1992).
5. The motivation of learning is <u>examination-oriented</u>

(Eckstein & Noah 1993; Lin 1993; Zhou 1988).

B. The Present Nationwide Entrance Examination for Higher Education (NEEH)

The present NEEH system in the People's Republic of China has a history as long as that of the Republic, which was founded in 1949. It was once abolished during the Cultural Revolution (1966 -1976). It was then criticized as being discriminating against the children of working class origins (Lin, 1993). Thus, to "eliminate status distinctions" (OTA, 1992), during the cultural Revolution, the selection system of prospective students to higher education institutions followed a four-step procedure: 1) the applicants apply; 2) the masses recommend; 3) the leadership concerned approves, and 4) the college / university reviews (Lewin & Wang, 1990). The provincial educational bureau allocated a quota of places to factories, rural communes, and army units; the students were selected on the basis of family class origin and political activism. No proper administrative or legal system existed to supervise this selection procedure (Lewin & Wang, 1990). The competitive NEEH resumed in 1977; the criteria of selecting new students for colleges and universities swung back to the performance in this crucial examination.

The nature of the NEEH is officially decided as being

"selective" by the highest authority organization of education of the country (SEC, 1993; p.102). It is also decided that the higher education institutions should enrol the new students according to the principle that the "candidates shall be arranged from the highest score to the lowest score in accordance with their respective total scores in the college / university entrance examination" (SEC, 1993; p.103). Data cited by Hayhoe (1993) from Educational Statistics Yearbook of China, volumes 1988 and 1990, shows that the enrolment of college / university freshmen in 1988 was 669,731 (p.294), accounting for around a quarter of the total number of candidates competing in the NEEH. OTA (1992), Noah and Eckstein (1989) reported similar data. Enrolment in 1989 was less, at 597,114 (Hayhoe, 1993; p.294). The report of Husen et al (1994) gives a clue about the enrolment in 1990. According to their report, in 1990, there were 16,000 senior high schools in the regular education system with 7.17 million students, and 1,075 regular higher education institutions with 2.15 million students. Considering that the average schooling time in senior high level is three years, and in a university it is four years, the average enrolment of senior high school graduates into higher education institutions can thus be estimated around 22.6%. When we substract the percentage of self-fund and contract students from this percentage, the

regular enrolment would be much less. For instance, the self-fund students accounted 6.3% of the total enrolment in 1988, 4.3% in 1989, 2.8% in 1990; contract students accounted 9.4% in 1988, 8.4% in 1989, and 8.8% in 1990 (Hayhoe, 1993). Eckstein and Noah (1993) also reported that in the regular education system in China, around one-third of primary pupils attend junior high school, one-fifth of these students can go to a senior high school, "of whom fewer than 10 percent will be successful in gaining a university place" (p.53). Most senior high school graduates compete in the NEEH for the places other than those for self-fund or contract students if they 1) want to secure a job allocated by the government upon graduation, or 2) do not have enough money to fund themselves, or 3) do not have access to a contract between a university and an enterprise. Besides, the students most seek after comprehensive universities, which number forty-three and account for 4% of the total (Brown, 1991). Students' bias in choosing a college / university makes their competition more severe.

Much like the students competing to do better than others in the NEEH, the university-track senior high schools compete with each other to promote their students into universities. The rate of the students whom they can promote into higher educational institutions is contingent to the reputation of these schools (Lin, 1993; Niu, 1992).

This competition is supported and accelerated by one more tracking system encouraged by the government: the university-track senior high schools are divided into two categories: the key school and ordinary school. Despite any good intentions for running a key school or a 'fast' class in an ordinary school, the fact is that the purpose of their existence is "exam prepping" (Niu, 1992; p.87). The schools brush aside the syllabi; their curriculum solely aims at the NEEH (Lin, 1993; Niu, 1992). The teachers teach only the examinable content, some schools add class hours and load the students with piles of homework, and the students often schedule their time without stop from 6:30 a.m. to 10:30 p.m. (Niu, 1992). A child's preparation for the NEEH starts actually at an earlier age. To be admitted into a key senior high school, the child should first try to get into a key elementary, then a key junior high, than a key senior high school (Eckstein & Noah, 1993; Kwong, 1983).

Given the good intention of the NEEH being "to feed only the best students to the colleges and universities" (Brown, 1991; p.458), the significance of a person's background of higher education has gone further than merely the value of personal growth. The Chinese parents often attach such great importance and honor to their children's attending a higher education institution that some parents "told their children not to return home if they failed to

gain admission to college" (Niu, 1992; p.87).

Related research literature

The related research literature reviewed consists of three sections: A) the literature about the learning behaviour of and emotions experienced by the students in an examination-oriented or competitive learning environment; B) the features of autonomy supportive versus controlling learning environment at school, and C) the features of autonomy supportive versus controlling learning environment at home.

A. The learning behaviour of and emotions experienced by the students in an examination-oriented or a competitive learning environment

The learning environment in a university-track senior high school in China is characterized as being examination-oriented (Cai, 1994; Eckstein & Noah, 1993; Lin, 1993; Zhou, 1988). The students are prepared for the NEEH at the end of secondary level education, which is an "intense competition" and casts pressures on students "that are every bit as severe as in Japan" (Noah & Eckstein, 1989; p.22).

Ames (1984) found that students with a competitive goal structure compare their performance relative to that of

others, and tend to become ego-involved in learning. They also tend to attribute success and failure to their ability. Nicholls (1984a; 1984b) held a similar opinion that when a student harbours an ego-orientation, he/she is interested in performing better than others and intended to prove that his/her ability is superior to others. Johnson and Johnson (1985) asserted that in a competitive social context an individual can win "only if the other participants cannot attain their goals" (p.251), and "the more competitive students' attitudes are, the more they see themselves as being extrinsically motivated" (p.261). Covington did a series of research studies in regard to the features of student behaviour and academic goal pursuit in a competitive learning context. On the basis of an extensive review of related literature, Covington (1992) concluded that in competitions where rewards are scarce, and only a few can win, "success becomes all the more convincing as evidence of high ability" (p.13). He termed the behaviour pattern of students as being "oppositional interaction," which is characterized by "discouraging and obstructing others' efforts to achieve" (p.255). In another study Harris and Covington (1993) found that even when the students competed against a preset standard/norm, instead of competing against each other directly, the students still cared about only the result of success or failure rather than the activity

itself. The desire to reach the standard/norm and to avoid the perception of low ability triggered the goal of learning; that is, learning serves as an instrument, success or avoidance of failure is the goal. Their finding is supported by Seifert (in press).

The NEEH is a typical preset norm-based competition. Though students do not compete with each other face to face, they compete against a set norm. The rewards are comparatively scarce, about 25 percent can win. Additionally, the students are well aware that their performance in the NEEH is crucial to their future and this further promotes their desire to perform well in the NEEH.

In Taiwan, a similar examination is administered each year to serve the same purpose as the NEEH does. It is the Joint College Entrance Examination (JCEE). Kuo, president of National Taiwan Normal University, while praising the function of the JCEE system in terms of serving as "an honest procedure through which a man with humble social background can achieve success and acquire his social goal" (1983, p.3), also reported that the JCEE has placed a heavy psychological burden on the students such as "permanent tension, achievement motives mingled with chronic anxiety, overwhelming pressure of the expectation by family members," as well as elation of success and, for most students, the despair of failure (p.3). In learning, students are

obviously "more interested in examination preparations than in substantive learning and personal growth" (p.11). Chen (1993) further reported that in senior high level, subject matters to be examined in the JCEE receive much more attention in learning, and 70 percent of the students questioned in her study said that the single reason for studying in a senior high school is to get good scores in the JCEE (p.9).

B. The features of autonomy supportive versus controlling learning environment at school

A learning environment could be perceived as autonomy supportive versus controlling by the learners and thus motivated their learning accordingly (Deci & Ryan, 1980). The features of autonomy supportive versus controlling learning environment at school are represented by the features of specific contextual factors, interpersonal, intrapersonal, or social contexts (Deci & Ryan, 1985a; 1986, 1987; Ryan, Connell & Deci, 1985). The most important feature of autonomy supportive environment is the extent to which an individual experiences true choice when he/she makes a decision (Deci, Nezlek & Sheinman, 1981; Ryan, Connell & Deci, 1985; Stiller & Ryan, 1992). The concept of choice is not letting the learners do whatever they like; rather, it means "providing information and guidance to help

develop and channel a child's growing capacity and abundant energy" (Ryan, Connell & Deci, 1985; p.22). When a learner has true choice in learning, he/she experiences that he/she causes the learning to occur and the causality is not controlled by any external factors. In this case, the learner perceives internal locus of causality. The concept of internal-external causality distinction is not the boundary created by one's skin; the line of demarcation is one's sense of self (Deci & Ryan, 1985a, p.111). Next important to the perception of internal locus of causality is the perception of competence. A learner's perception of competence (to control future performance outcomes) is heavily affected by the nature of feedback and the ways of administering it (Deci & Ryan, 1985a; 1985b; 1986; 1987; 1994; Ryan, Connell & Deci, 1985).

Findings from other studies support these opinions. Ryan, Koestner, and Deci (1991) studied the effect of positive feedback and no feedback on task persistence based on the subjects' free-choice. They found that positive feedback tended to enhance intrinsic motivation of the subjects with task-orientation. They also reported other studies pertaining to the effects of autonomy supportive environment on the subjects' behaviour pattern. Deci, Eghrari, Patrick, and Leone (1991) found that when subjects internalized external regulations under autonomy supportive

circumstances, there were strong positive correlations between their behaviour pattern and perceived choice, and positive emotional experience such as interest and enjoyment. On the contrary, when the internalization happened under a controlling circumstances, the correlations tended to be negative. Pelletier (1989) found that subjects who had worked in autonomy supportive context scored significantly higher on items related to working for pleasure or fun, and scored significantly lower on items related to frustration and working to prove something than the subjects who had worked in a controlling context. This finding suggests that an autonomy supportive environment tends to enhance self-determination and facilitate the process of becoming task-involved. In contrast, when people work in controlling context, they tend to become motivated in a less self-determined way, and feel that they are pressured to behave in a certain way for a purpose not initiated or internalized into one's self.

Kuo (1983) reported that the JCEE in Taiwan has a "powerful effect" on the learning environment in high school, even in primary schools. The students "are conditioned to view schooling as truly relevant only when it helps them to climb up the education ladder and to be successful in the next level of entrance examination." The high schools confined the educational process only towards

the single purpose of preparing the students for the JCEE (p.6). Chen (1993) shared the same opinion. Furthermore, on the basis of a related literature review and her own study, she reported that the significance of the competition in the JCEE went beyond the opportunity of receiving a tertiary level education; failure would place on a student "an indelible stamp of inferior intellectual status" (p.48). The senior high school students lived in an environment full of pressures of high expectations of getting good scores in the JCEE from their parents, relatives, teachers, and themselves. Almost all of them reported being unhappy. They saw their learning and school life "to be full of anxiety, pains, burdens, and pressure" (p.51).

C. The features of autonomy supportive versus controlling learning environment at home

The environmental events, interpersonal or social contexts that carry the autonomy supportive versus controlling features can also be found at home. Researchers found that an autonomy supportive parenting style is characterized by providing true choices, taking into consideration the child's perspective upon making a decision, and informative feedback and administering it in an autonomy supportive way. A controlling parenting style is characterized by not providing the child with a true

choice for his/her learning, and administering feedback in a controlling way. They may use performance-contingencies, such as rewards, punishments, and pressure to confine the child to behave towards a certain standard or goal (Deci & Ryan, 1994; Deci, Schwartz, Sheinman & Ryan, 1981).

Stiller and Ryan (1992) examined the relations between students' perceptions of parents' involvement and autonomy support and student's motivation. They found that parents' involvement and autonomy support has positive impact on a) students' positive affect toward school, b) use of positive coping strategies, especially those coping with academic failure, c) students' perceptions of control of academic outcomes, and d) students' perceptions of reasons for performing various academic behaviours. Deci, Driver, Hatchkiss, Robbins, and Wilson (1993) conducted a laboratory experiment exploring the relations of mother's controlling vocalizations to children's intrinsic motivation. These researchers found that the controlling context created by mother is negatively correlated to the child's free-choice behaviour and interest/liking for the task. Grolnick, Ryan, and Deci (1991) examined the relations among children's perceptions of their parents' autonomy support, their motivation for learning, and their academic performance. They found that children's perceptions of maternal autonomy support were positively correlated with three student

motivation variables; they were: perceived competence, perceived control of performance outcomes, and perceived autonomy in learning. Children's perceptions of paternal autonomy support were positively correlated with two student motivation variables; they were: perceived competence, and perceived autonomy in learning. On the whole, adults' attitudes towards children's behaviour implied orientations of autonomy versus control and thus influenced children's behaviour consequently (Deci, Schwartz, Sheinman & Ryan, 1981).

Below is a literature review concerning the features of parenting styles in a social context that confines the students to learn for gaining good scores in a national level examination. Kuo (1983) and Chen (1993) mentioned that parents' high expectations of the children to get high scores in the JCEE (in Taiwan) caused psychological pressure on the students. Lin (1993), Eckstein and Noah (1993) mentioned similar expectations from parents and psychological pressure experienced by the students striving for high scores in the NEEH. Niu (1992) said that in China some parents told their children "not to return home if they failed to gain admission to college" (p.87).

Summary

Self-determination theory views human behaviour as an expression of one's volition, while a behaviour can either be facilitated or impeded by environmental factors. Instead of merely discussing human motivation around the intrinsic-extrinsic dichotomy, this theory looks at externally regulated motivation developmentally. An externally regulated motivation can fall in any degree / level of the internalization and integration of an external regulation along the continuum of autonomy versus heteronomy.

The present NEEH is perceived as a highly competitive and selective examination. It has roots in the imperial civil service examination system and now it influences the students' learning in a university-track senior high school. The students compete to become the state-quota freshmen in the colleges / universities. The schools concerned compete to promote as many students as possible into higher educational institutions.

Related research literature review reveals that a competitive or examination oriented learning environment tends to direct the goal of learning towards the outcome of learning activities, namely, success or avoidance of failure, and thus turns learning into an instrument to reach the goal. The literature review also reveals that as only

about a quarter of the applicants can win in the NEEH, the senior high students generally feel pressure to obtain good marks in the NEEH, as their performance in the NEEH is crucial to their entire future.

From the perspective of self-determination theory, the most salient feature of autonomous behaviour is perceived true choice, which occurs when a person perceives an internal locus of causality. The environment in which a behaviour occurs may demonstrate features of autonomy supportive versus controlling. An autonomy supportive environment supports or facilitates autonomous aspects of a behaviour; a controlling environment controls or undermines autonomous aspects of a behaviour in one way or another. Features of autonomy in regard to learning behaviour and features of an autonomy supportive environment can be identified with a learner's behavioral and emotional indicators. Autonomous learning behaviour is characterized with spontaneity, interest, willingness to meet optimal challenges, enjoyment, exploration, and other positive emotional tone. Controlled learning behaviour is featured with pressure, having to behave in a certain way, anxiety, lack of interest, and other negative emotional tone.

With the impact of the NEEH on the institutional behaviour of a university-track senior high school, the learning behaviour and emotions of the students and the

environment in which the learning behaviour and emotions occur carry the features associated with the impact of the NEEH. These features may signify the nature of autonomy versus controlled / controlling at any degree / level. The features of autonomous versus controlled learning behaviour and emotional experience can be examined through the perceptions of the students. The contextual factors regarding the features of autonomy supportive versus controlling functional significance of a learning environment can be examined through the perceptions of the students. This study explored the features of autonomy in regard to the learning behaviour and emotions of the students, and the features of autonomy supportive versus controlling of their learning environment through students' perceptions.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of this study was to investigate a cadre of university Chinese students' perceptions of the features of autonomy in their achievement motivation operating during the senior high schooling period. The process of investigation concerns an attempt to obtain knowledge of understandings and insight of an individual student's specific perceptions from his / her own perspective. The questions to be asked cannot effectively be structured into multiple-choice format. A qualitative research methodology appears to be more appropriate. In this study, a self-report questionnaire with open-ending questions and in-depth interviews were utilized. Open-ending questions broke down the research questions into more detailed questions and thus helped to elicit more detailed responses relevant to the research questions and served as preparatory stage for the interviews. An in-depth interview is appropriate for a study about some phenomena of students' motivation when a multiple-choice format research methodology cannot obtain raw data practically (Gay, 1992).

A phenomenological perspective was applied in the development of the questionnaire and interview question-list during the process of conducting the interviews and presenting the cases. Perception is a topic which basically concerns the phenomenological method (Alexander, 1970). Kohak (1978) explained Husserl's perspective of phenomenology as "a study of experience" (p.39). Phenomenology claims that experience is the only given reality; it perceives the world as experience and phenomenon. Alexander (1970) stated that phenomenology aims at the description of experience or "phenomena of consciousness." It understands the experience or "phenomena of consciousness" as being types of project (perceptual, cognitive, emotional, etc.) of the subject, accompanied by appropriate behavioral patterns, by which the subject supplies the world with his/her unique senses and meanings. Phenomenology emphasizes that the self is the source of meanings and values which, in turn, are under the control of the environment, projects, decisions of the subject, whose existence is unavoidably related to the world around him/her in one way or another (p.3). As a research approach, phenomenology is built upon the basic tool of 'seeing and grasping clearly'; it proposes to focus on just a specific piece of experience, "to see and grasp it afresh" (Kohak, p.132). The phenomenological research method is

essentially descriptive, and restrained to the description and categorization of the various sense-giving insights or types of project within an individual's inner world unity (Alexander, 1970). A phenomenological method appeared suitable for this study.

Major research questions and rationales

This study looked at two major research questions:

A. What did the students perceive as the features of their learning behaviour and emotional experience with respect to the different degrees of autonomy versus heteronomy in motivation for learning?

B. What did the students perceive as the features of their learning environment with respect to that as being autonomy supportive and controlling?

Below are rationales to back up these two major research questions:

1. To investigate the features of autonomy in a learner's motivation for learning, it is not enough to simply label his/her learning behaviour as being motivated or amotivated, nor to distinguish between that as being intrinsically and extrinsically motivated. A learner's learning behaviour may fall into any degree between the

extremes of being autonomous and heteronomous. Extremely autonomous behaviours are seen and relevant emotions are experienced when a learner harbours typical intrinsic motivation or self-determined extrinsic motivation. These motivations for learning are desirable as they are positively related to high quality learning. Extremely heteronomous behaviours are perceived and relevant emotions are experienced when a learner is typically under the control of overt external contingencies. A study to investigate the features of a learner's learning behaviour should examine his/her behaviour that may occur in any degree between the two extremes, instead of examining only the features that demonstrate merely the two extreme motivations.

2. Learning environment means the social context in which a learner learns. It is particularly related to the different types of extrinsic regulations (in the larger domain of 'extrinsic motivation'). Unless a learner is typically motivated intrinsically, his/her motivation for learning is under the influence of contextual factors such as feedback and rewards. Different types of learning environment cast different types of impact on a learner's motivation for learning, and different learners may interpret an external event in different ways. An environment is typically autonomy supportive when it

encourages the features of autonomous learning behaviours, whereas that of controlling regulates or controls a learner's behaviour with external contingencies. The features of a learning environment may portray the nature of that environment as being autonomy supportive versus controlling. A study to investigate a cadre of university Chinese students' perception of the features of autonomy in their achievement motivation operating during the senior high schooling period in the People's Republic of China should investigate the features of autonomy supportive versus controlling of the learning environment in which these students had their senior high schooling for the purpose of gaining a fuller picture and an understanding of the 'whys' or 'hows' of the existence of the features of autonomy in their motivation for learning.

3. By putting forward Question A, the investigator expected to obtain data concerning a learner's perceptions of the features of autonomy in his/her learning behaviour and emotional experience.

4. By putting forward Question B, the investigator expected to obtain data concerning the features of autonomy supportive versus controlling of the learning environment in which particular features of autonomy an emotions in a learner's learning behaviour once existed.)

For each research question, a set of sub-questions were

developed to breakdown the major research question into sub-sections for more detailed information relevant to the purpose of this study (see Appendix A for the list of sub-questions and relevant rationales for these two research questions).

Data collection

Before data collection, a letter was sent to the participants for their consent to participate in this study (see Appendix I for a sample letter to the students). The questionnaire was administered personally. A personally administered questionnaire has some of the same advantages as those of an interview, such as the opportunity of providing an individual with necessary explanations (Gay, 1992) (see Appendix C for a sample of the questionnaire). Interviews were conducted by way of direct interviewer-interviewee contact after using the preparatory questionnaire for the purpose of obtaining further information and clarification of the answers to the questions in the questionnaire (see Appendix B for the list of questions put forth in interviews). One of the advantages of in-depth interviewing is to enable the subjects, when they are encouraged to reflect back in time, to focus on specific time points and retrieve deep feelings associated with their then personal experience (Mostyn, 1978). To

conduct such an interview, in addition to the list of questions in the interview, a written guide was prepared according to the answers that emerged in different cases. The verbal responses were recorded on audio tapes. The interviewer took notes of the interviewees' non-verbal responses. The tapes were transcribed.

Data analysis

This study investigated people's perceptions of the features of autonomy in motivation for learning. It was a study of phenomena. A phenomenological approach was appropriate for analyzing the data on the basis of which the cases were presented. The process of data analysis followed the major steps presented in Some guidelines for the phenomenological analysis of interview data by Hycner (1985).

The following major steps in the procedure of phenomenological data analysis were used.

Transcription

The interview tapes were transcribed. This included the literal statements and significant non-verbal responses. Together, they provided the basis of units of general meaning.

Bracketing

The significance of this process was to suspend as much as possible the presuppositions or interpretations that the investigator might attribute to the phenomena which emerge during the investigation. It helps the investigator to approach "the phenomenon as a phenomenon" (Keen, 1975, p.38); the investigator was thus able to listen for the meanings from the events as a whole with an attitude of openness to the responses of the participants. A separate list of the investigator's presuppositions to the interview questions was prepared before conducting the interviews and used as a reminder for the investigator during the interview (see Appendix D for a sample of written guide prepared to bracket the investigator's preassumptions during an interview).

Listening to the interview for a sense as a whole

This step included listening to the interview tapes and reading the transcripts a number of times for the purpose of developing an understanding of the context from which were extracted specific units of meaning. Special attention was paid to the para-linguistic levels of communication, that is, the intonations, the emphases, the pauses, etc.

Delineating units of general meaning

This step involved a "very rigorous process of going over every word, phrase, sentence, paragraph and noted

significant non-verbal communication in the transcript" in order to elicit the meanings in the responses (Hycner, 1985, p.282). By this process, the investigator wanted to capture the essence of the meaning buried in a word, phrase, sentence, paragraph and significant non-verbal communication. Hycner (1985) described this process as being a condensation of the verbal and non-verbal responses. The result is called a unit of general meaning, which expresses a unique and coherent meaning in the context (see Appendix E for a sample of units of general meaning of one interview question).

Delineating units of meaning relevant to the research questions

At this step the investigator began to address the research questions to the data. The actual procedure involved addressing the research questions to the units of general meaning. A unit of general meaning was noted as a unit of relevant meaning if it appeared to respond to or clarify the research question(s). A unit of general meaning was not included in the units of relevant meaning if it did not appear to respond to or clarify the research question(s). To achieve reliability, the procedure also involved the use of another "judge" (a graduate student who was well informed with the data analysis steps and procedures of this study) to verify a unit of general

meaning as whether or not it should be included into the units of relevant meaning. This was especially necessary when a case was uncertain or ambiguous. After the units of relevant meaning were obtained, a further step was taken to eliminate the redundant units whose meaning can be expressed in other units (see Appendix F for a sample of units of relevant meaning).

Clustering units of relevant meaning

This was the step when the investigator tried to determine if any of the units of relevant meaning naturally clustered together. A cluster consisted of several discrete units of relevant meaning under some common theme or essence. As the process relies heavily on the judgement of the investigator, the investigator should guard against personal presuppositions when analyzing the data. Another graduate student was involved for judgement when ambiguity or uncertainty emerged (see Appendix G for a sample of cluster of units of relevant meaning).

Determining themes from clusters of meaning

At this stage, the investigator examined all the clusters of meaning to determine if there was some common theme or essence of these clusters. This common theme or essence was also that of the portion of the transcript from which these clusters were developed (see Appendix H for a sample of a common theme of a group of clusters).

Return to the participant with the themes

The purpose of this step was a "validity check" (Hyncer, 1985, p.291). The investigator returned to the research participants with the themes derived from the interview and engaged in a dialogue about the findings obtained so far. When a participant showed the intention of modifying or adding further information for clarification, a second interview was conducted, focusing on the issues and areas not covered in the first interview.

Identifying general and unique themes for all the interviews

At this stage, the investigator began to look for the themes common to most or all the interviews as well as the individual variations. This procedure required, as Hyncer (1985) related, a phenomenological viewpoint to elicit the themes common to most or all interviews as well as recognize the unique themes existing in different cases. The first step was to note if there were themes common to all or most of the interviews. If there were, these themes were clustered together as indicators of a general theme. The second step was to note if there were unique or minor themes; they represented individual variations.

Contextualization of themes

After the general and unique or minor themes were noted, they were put back into the overall contexts from

which these themes emerged. These themes were reported / described within their contexts.

Composite summary

A composite summary of all the interviews helped to capture the essence of the phenomena being investigated. In this study, it described the general perceptions and emotions experienced by all the participants as well as significant unique or minor perceptions in different cases.

Sample

Five graduate students from the People's Republic of China studying in a university in eastern Canada participated in this study. The gender ratio of male and female was 40% : 60%. respectively. Since the NEEH stopped in 1966 and restarted in 1977, the participants were those who attended a university-track senior high school in the People's Republic of China after the year 1977.

Limitations of the study

1. The sample group were the Chinese students studying in a university in eastern Canada, which limited the generalization of the findings to other ethnic groups and geographic areas.

2. The study was based on the reflection of the features of motivation for learning of the sample group in their senior high schooling period. It may not apply to different schooling periods of the sample group.
3. As the raw data depended on the exactness and accuracy of the reflections of the sample group at the time point of engaging in the interview, the findings may not be generalized to the reflections done at other time points.
4. As the sample group were all once winners in the competition of the NEEH, they may have under estimated the psychological pressure or mental stress during the preparatory period for the NEEH, or interpret the features of their learning behaviour and the features of being autonomy supportive versus controlling of their learning environment concerned from a high-achiever's perspective.

CHAPTER FOUR

CASE ANALYSIS AND DISCUSSION

Introduction

To investigate a cadre of Chinese university students' perceptions of the features of autonomy of their achievement motivation operating during their senior high schooling peri , five case studies were conducted around two major research questions. They are:

A) What did the students perceive as the features of their learning behaviour and emotions experienced with respect to the degrees of autonomy versus heteronomy in motivation for learning?

B) What did the students perceive as being the features of their learning environment with respect to that as being autonomy supportive versus controlling?

In this chapter, the five cases are analyzed individually and the findings are organized around the sub-questions developed for each of the major research questions (see Appendix A for the sub-questions).

For major research question A, the entries for respective sub-questions are:

Choice in learning

Goal(s) of learning

Emotional experience in learning

For major research question B, the entries for respective sub-questions are:

Learning environment at school

Choice of achievement target(s)

Feedback

Emotional experience

Learning environment at home/in the family

Freedom of choice in learning

Feedback

Emotional experience

Case One: Liang

Liang, male, 31 years old, is now a graduate student in a university in eastern Canada. He participated in the Nationwide Entrance Examination for Higher Education Institutions(NEEH) in 1982. His parents were workers in a big plant in China. He grew up in the residence quarter of that plant. He was not satisfied with his marks in the NEEH, which, he thought, were too low for a student who had always ranked at the top of academic performance among more than one thousand students in the same grade in a key senior high school. He perceived that it was his worries and

anxiety about getting good marks in the NEEH that generated excessive pressure and nervousness, which resulted in poorer scores than he had expected. Liang perceived his performance in the NEEH as being decisive for his entire future. Unlike the in-school exams, which allow a student opportunities to do better next time, he said, "The NEEH gave final decisions." From grade one through his senior high schooling period, he was the top student in his class and in most cases the top student across the classes in the same grade. Upon finishing junior high school, he took passing the NEEH and going to a university as one of the goals of his senior high level learning.

Research question A

Choice in learning

Liang reported that it was his own choice to attend a university-track senior high school. He made this choice under the following conditions. First, his excellent performance in the Joint Examinations of Junior High Graduation inspired his ambition to look for a future better than that of a blue collar worker. He saw the possibility of passing the NEEH with good marks and then receiving higher education. This idea was consistent with his belief: he should become a person who was admired and respected in

the society. This belief was based on his high perceptions of ability developed from the fact that he was the top student in his class starting from grade one. As a result, as he said, he could only accept an outcome (of schooling) that was better than that of most of his peers. His self-esteem was evident when he said: "My self-esteem would not allow me to have a lower level education." Secondly, the decision of going to a universiy-track senior high school was also derived from the expectations of his family. His father often mentioned to the children that "the best place in China is City X; the only way possible for you people to go to City X is to attend a university there." Thirdly, as he matured he began to understand the significance of his father's expectation. As his choice was developed under the strong influence of his parents' expectation, it was by nature not a self-determined choice.

Goal(s) of learning

For Liang, the goal of senior high level learning was explicit: passing the NEEH with good marks so that he could go to a good university in City X. Furthermore, higher education meant to him further goals. His senior high learning was an oppotunity to meet the following personal goals.

1) Passing the NEEH with high marks;

2) Going to a good university in City X;

3) Opportunity to live in City X;

4) Opportunity to enter the white collar class;

5) More choices and opportunities for a personal career; and,

6) Upgrading one's social status and gaining respect and admiration from the society.

Liang thought that the Chinese people traditionally attach high values to high level education. Rich or poor, a person with a good educational background is respected and admired. Liang believed that university education was fundamental to his future.

Emotional experience in learning

Liang described his learning experience in a university-track senior high school as being "endless, endless work," which demanded a large amount of input of time, energy, patience, "brain work", and "sacrifice of things like entertainment." It was mainly his strong desire and determination to go to a university in City X that enabled him to persist in that situation.

> Learning itself was tedious and tiring with heavy workload. Basically, few people would like to take so much pains [in a university-track senior school] only to learn for learning's sake. Learning was tiring. But I had my goal of senior high schooling. Among the components of my motivation for learning, a small portion goes to my initial willingness to learn; the overwhelming majority goes to the goal: going to a university. We all knew that life [in a university-

> track senior school] was hard for a teenager; anybody could easily give up at any time. Only the rational understanding [of why we were in such a school] kept us there, and with this reason we stuck on, and on.

Liang further explained that in China, with the strict NEEH, people who went on to a higher education institution were not those who were cleverer or smarter or brighter but those who were more keenly aware of the significance of studying harder than others and who could endure the hardship required to maintain their high academic ranks. He said, "The 'bitterness' of schooling will be paid off with the 'sweetness' of better life in the future. The winners are those who have the last laugh."

Liang did not worry about his learning; he did not find the subject matter difficult for him. Whenever he had questions or problems, he went to his teachers, who were always cooperative and helpful. He felt pleased when he solved difficult problems, through which he said "I saw my ability." He experienced boredom after working for a comparatively long time. Pressure and anxiety were there, too, due to his worry about unsatisfactory performance in the NEEH. As his ultimate goal of attending a university-track senior high school was to get into a good university in City X, if he failed in obtaining this goal, "all my effort and time would be in vain." Though he never failed or did poorly in school, and he felt he was successful in

learning, his worry did exist.

Research question B

Learning environment at school

Liang's senior high learning consists of two periods. The first period, the first year in senior high, was in the school attached to the big plant where his parents were working. Children were provided with cosy classrooms, a beautiful campus, nutritious food, and facilities that would elicit admiration from the students and teachers in other schools. Regardless of all these advantages, Liang and his parents decided that Liang should leave this school because of its poor academic standing. The second period of Liang's senior high schooling was spent in a key school run by a local educational committee. "Everything looked poor," he said, "but they had a rich source of reference materials, and teachers there had rich experiences."

Choice of achievement target(s)

Liang's target was definite: to obtain high marks which could enable him to go to a university in City X. This choice was the product of his own needs and family expectation and was congrugent with the essential goals of university-track senior high school. In the schools, the subject matter not to be examined in the NEEH was brushed

aside. The teachers did not bother to teach it; the students did not bother to learn it.

Feedback

Liang received feedback on his academic achievement frequently through various kinds of ranking.

> First year in senior high was in the school attached to the big plant where my parents were working. The academic ranking was really devastating! Wow! Instead of on school campus, the announcement [of academic ranking] was posted at the front gate of the plant. Six thousand people would see it, know it, and talk about it. In the key [senior high] school, the ranking was among more than one thousand students in the same grade. Furthermore, the students were re-allocated into different classes absolutely according to their ranks in a certain exam. I was in Class 1, it had 60 students ranked from No.1 to No.60. Class 2 would have No.61 to No.120, and so on so forth. The principal [of the school] mentioned several times at school assembly that those who could manage to remain in class 1 were most hopeful to pass the NEEH. The re-allocation might happen as often as five or six times a semester; that also explains why I could only remember approximately 10 classmates, the group that remained unchanged in Class 1.

Money was used as a performance-contingent reward. The student ranked No.1 was awarded ten dollars, twice as much as a student's expense on food for one month at that time. Certificates of Merit and Badges of Honour were other types of reward. These could be issued by educational committees at all levels and by the school, grade, or class concerned as well. Liang personally liked the ranking and rewards, not because of the money. He liked the honour these rewards carried indicating the top place in the ranking, and he felt

proud of it. He perceived that it signified the outcome of his ability and effort in learning. He did not think that this kind of feedback could help solve any problems in learning directly, but it served

> as a type of positive pressure. It could inform you of how well you did, and encourage you, inspire you, or push you to study more diligently for greater progress; otherwise your rank would be in danger of falling down.

He commented without hesitation that this type of feedback was "definitely evaluative." He felt that he was evaluated all the time not only with the academic ranks but with the constant comments about the students' academic performance and ranks from the people around him, which sometimes "got on my nerves and gave me pressure."

Emotional experience

Liang felt "tense" during the years in that key senior high school. He attributed the "tense" atmosphere to two sources. One was the "invisible peer competition." The competition

> was not [the type when] you won he failed, or vice versa. Because it was impossible to beat anybody that way who was ranked close to you. The only way to promote one's rank was to spend more time in studying. You put in 10 hours [after class], I put in 12. Some students hid away good reference books / materials in case their peers might get hold of them.

The other source that created the "tense" atmosphere was that the school time schedule "was militarized." All the students were required to live in the school dormitory

and observe the schedule on week-days (i.e., Monday to Saturday).

> We should get up at 6:00 a.m., then [there was] one hour for self-study, then 1500-meter running, then breakfast. Bedtime was set at 9:30 p.m. and the power [of light in the classrooms] was cut off. Most students would not go to bed until around midnight. We bought candles and worked by the candlelight. I did not realize the consequence until I was in the university three months later: my eyesight had deteriorated drastically from 2.0 to 0.3 simply in the last year of senior high.

Whenever he reflected back on the "militarized" type of school life during the interviews, Liang would emphasize that he merely accepted it as everybody else did at that time. He felt that he was under great pressure and "intense atmosphere," and he believed that other students had similar emotional experiences. He also mentioned that "[there was] too much work" during the key senior high schooling, "no time for social activities, no time for recreational activities," and the school life also impressed him as being "dull, tedious."

Learning environment at home / in the family

Liang's parents are both workers in a big plant. Within the family, education was valued above everything else. For example, children were excused from family chores if they preferred to spend the time studying. Furthermore, Liang's father collected every Certificate of Merit, Badge

of Honour, school report, and other objects indicating Liang's performance or academic standing throughout the years from grade 1 to the university. Although his parents could not offer any practical or tutorial help in academic areas; they took close notice of Liang's academic performance. Learning was greatly valued in the family.

Freedom of choice in learning

Liang's parents held the opinion that the children should receive the highest level of education that they could possibly reach. The family's expectation was explicit: the children **should** try to get themselves into a good university, therfore they **should** exert their utmost in learning from a very young age. Liang's choice of going to a university-track senior high school was both his own choice and his parents' preference as well. Liang knew well that his parents would be unhappy or disappointed if he had preferred a technical or vocational school to a university-track senior high school. This awareness functioned during the process of making his choice of going to a university-track senior high school, and setting his goals of learning.

Feedback

Liang's parents did not give much verbal commentary on his academic achievement directly. His father's only comment on Liang's performance was "a Monkey King in the

mountain where there are no tigers." Liang interpreted this comment as his father's way of cautioning him to guard against arrogance or conceit, and encouraging him to keep trying. Additionally, Liang perceived "silent expectations" and "silent evaluations" from his father's practice of collecting the symbols of his academic success such as Liang's Certificates of Merits, Badges of Honour, and school reports. He could see that good performance in learning was greatly valued in the family, and he **should** try to maintain his academic status. Liang perceived a kind of "pressure" here that he should try his best in learning.

Emotional experience

Liang never perceived an "intense" atmosphere at home. His parents did not need to tell the children to study hard overtly, as they all knew well that they were expected to obtain high marks. At home, the children knew what to do by looking at the father's facial expressions. For example, when Liang was chatting with his friends but saw his father sitting in the chair with sullen looks, he knew that he should begin working. Though there was no unpleasant emotional experience of any kind, Liang knew well what his parents expected him to do, and therefore, what he should do.

Case Two: Yong

Yong, male, 25 years old, is now a graduate student in a university in eastern Canada. He participated in the NEEH in 1987. He was satisfied with his performance in the NEEH, which enabled him to attend a university in China with a world-famous academic standing. Yong received his senior high level education in a key school which had the best academic reputation in a county of moderate size in southern China. He was the top student in his senior high class, and his academic status never went below No.3 among six classes of students in the same grade. During the last year in junior high school, Yong started to take passing the NEEH (with good marks) and going to a good university as one of the goals of senior high level learning. Yong's parents are ordinary peasants in a remote region of the same county where Yong undertook his senior high schooling. Despite some financial difficulties in the family, his parents tried their best to support their son's education.

Research question A

Choice in learning

Explicitly, Yong said that going to a university-track senior high school was his own choice, "because **I want** to go

to a university, **I want** to have university level education." He made this choice under the following conditions. First, his steady good academic achievement from elementary to junior high enhanced his self-confidence in learning. He was confident that if he kept trying, he "would have no problem passing the NEEH." Second, he said, his "genuine interest" in learning inspired him to pursue tertiary level education. Upon finishing junior high school, he had three choices for his future. One was to go back home and help his parents with farm work, which meant that his future would be tied to the farmland with physical work all the year round. This possibility was certainly not appealing to him. Another possibility was to go to a technical or vocational school, which meant both attaining an identity card signifying a radical change from a peasant to a government employee, and relief from the economic situation of the family upon his graduation in three years' time. The identity card was of great value to a country youth: he would have a job in town and he would not have to worry about going hungry when crops were bad. A steady salary, though small, would be a considerable help to a peasant family. Yong had no problem passing the entrance examinations to a technical or vocational school. But this type of future was not appealing to him either. The third alternative was a university-track senior high school, which

was his choice.

> I was well aware that I myself was the only person in the world that I could rely on for my future. Some people of my age could count on assistance from their parents, relatives, friends, and so on. I had nobody [to count on]. The only thing I could do for a better career that an ordinary peasant youth could hope was to do well in school and then go to a university. But it was not the only reason. I chose the university- track senior high school mostly because I had a **genuine interest** in learning; I just **love** learning so much. My learning in the past, especially in junior high, unfolded before me one new world after another. I found myself attracted by knowledge, information, new thoughts and so on, and became more and more curious about more things in human world as well as in the natural world. I was **really** geting more and more interested and curious in learning; I was longing to receive as much regular education as possible.

Goal(s) of learning

Yong had two major goals of learning in a university-track senior high school. One was to gain good marks in the NEEH, so that he could go to a good university, the other was to acquire more knowledge and new thoughts so that he "could be more critical and creative, and **more able** to understand the world." To his mind, he could go on pursuing these two goals if he could go to a good university. For Yong, senior high learning was only the first step to reach a series of goals in life. His goals included the following.

1) Expanding the scope of knowledge and thoughts during learning in senior high;
2) Passing the NEEH with high marks;

3) Going to a good university;

4) A status of government employee (Note: This could also be obtained by going to a technical or vocational school), and,

5) The possibility for a wider range of career and quicker promotion, and further education abroad.

Yong believed that university education could satisfy both his aspiration for future development and personal interest and curiosity in learning.

Emotional experience in learning

The most salient emotional experience Yong had during senior high learning was "interest, yes, interest." He perceived a strong sense of interest when: 1) he found that "the scope of knowledge was expanded;" 2) some "curiosity was satisfied;" and 3) he solved a difficult problem, and saw his "competence, and felt happy, and grew more interested in learning." He also described how his self-confidence was enhanced: "Seeing that I could solve the problem while other students couldn't, I felt that my effort was worthwhile and my ability was affirmed." He was more interested in his "own business" than "beating other students," for "it's meaningless [caring about beating others]; you can't become more knowledgeable only because you can beat a certain group of people." Yong was

especially keen on solving problems of optimal challenge level to him. He perceived a stronger sense of interest, enjoyment, perseverance and spontaneity while he was engaged in learning activities where he saw challenges than when he participated merely out of his interest in expanding knowledge.

Yong was asked several times about unpleasant or negative emotional experience in learning activities. "No. I don't think I had any. Only some times I knew I could do better; I lost marks because of my carelessness. I felt [that it was] a pity, but never felt worried or anxious." Yong did not think that the situations of this kind had ever cast any negative influence on his self-confidence in learning, either. When he was asked whether or not he would study as diligently as he did if there has been no NEEH, he replied that if so, there would be "less pressure" on the students, and learning "would be more enjoyable," because he would "feel freer" to do whatever he "liked." But, he did not know whether or not other students would feel so.

On the whole, Yong liked his senior high learning experience, feeling that it was "pretty good," and he was "pretty satisfied" with it. The reason was that his two major goals of learning were both realized: his knowledge was expanded enormously, and he gained admission to a university in China with a world-famous academic reputation.

It was not surprising that during the interviews, he attributed his good sense of self-esteem, self-confidence, self-image, self-efficacy, and self-expectation during his university level learning "mostly" to his learning experience in senior high schooling period.

Research question B

Learning environment at school

The school where Yong received his senior high level education enjoyed the best academic reputation in a county of medium size in southern China. All the students were either from peasant's families, or families in a small town within the region of that county. For the overwhelming majority of them, attending a higher education institution meant "a world of difference" between their present life condition and that in the future. A higher education background promised them new hope, greater ambition, higher social status, and more possibilities for one's career.

Choice of achievement target(s)

Clearly and unequivocally, Yong said that his achievement target of senior high learning was to obtain high marks that would enable him to go to a **good** university. He said, this was his own choice.

> I made the choice. Unavoidably, my parents also had a share in it: expectations, inspirations, and

> encouragement. Socially, as a rural youth, if I failed in the NEEH, the consequence would be **serious**. But, this decision was in nature my own choice, my own initiative, for sure. I want to receive good education, [which would be] beneficial to my future. This was the only way [by which] I could strive after a better future, with my own endeavour.

As a student, Yong did not have the autonomy of choosing his curriculum. His achievement targets in routine school learning activities were confined by the subject matters covered by the teachers. The subject matters not to be examined in the NEEH were nearly "ignored." For example, students pursuing Liberal Arts would not learn Physics, Chemistry and Biology, and students pursuing Science would not learn History and Geography starting from the second year in senior high. The content of certain subjects not to be examined in the NEEH was not taught either. For example, the content of mathematics was divided into two categories: that for Liberal Arts and that for Science. Students preparing for Liberal Arts majors did not learn the content set up to examine the Science majors in the NEEH. The teaching / learning contents were in many parts different for Liberal Arts candidates and Science candidates. Yong chose the route of Science, which allowed him little opportunity to learn History and Geography. Much as he liked Geography, he studied this course for only one semester in the first year of senior high, and the school authority did not demand that the students should do as well

in it as in those subjects to be examined in the NEEH. Consequently, neither the teacher nor the students took the Geography course seriously.

Feedback

Yong got the feedback on his academic achievement from school reports, which were mailed to his parents, and from different kinds of academic rankings, which were publicly announced. Rankings were based on both the students' performance across all subjects in semester finals (i.e. the total marks), and achievement within a particular subject. Students ranked within the top three in a particular subject would receive rewards. Students ranked at the highest places in the total marks were reported to the school authority for the titles of "Three Merits Students," "Outstanding Student Cadre," certificates of honours, a small sum of scholarship, and announcement of the names of these students at the school assembly. The photos of the few top students of each grade were displayed in the glass cases along the main path on the campus. Yong's photo was there throughout the senior high years. Yong liked the rankings, "because every time I was the best, the number one at the top." He was known to all the students in the school, and received high opinions from his peers, teachers, family relatives, and family neighbourhood. "I earned the place by my own effort and competence; I felt proud of it."

Yong thought that ranking signified more than just an honour.

> The ranking might have different significance for other students. My case might be special, but it did encourage and urge me on to study hard, give me confidence to face challenges, brim me with energy, keep me in good spirit, and help to maintain my initiatives in learning. The rewards were much more moral than material. For example, when I met difficulties in learning, I told myself, "You are the best, you have the ability to solve this problem." The consciousness of my academic rank and how well I could do provided me with courage and confidence, so I wouldn't be downcast when I felt, sometimes, tired or dull with working for a long time. These good things cheered me up and helped me to walk out of the 'valley of low spirit.'

Yong perceived that the ranking was by nature "evaluative;" however, it "also delivered information of how well one student did" in the past semester.

> Ranking was also informational. Half a year's hard work, you wanted to see how well you did. [When I] saw that my rank was at the top, I felt satisfied and rewarded, [I felt that] I was responsible for the achievement, [I felt] proud of it. Everybody loves praise. I saw [that I] did well, [my achievement was] recognized by the school society, and [I was] praised for it, then I knew how well I did and how well I could possibly do in near future.

Yong also said:

> yes, I wanted to maintain my [academic] status. As long as [I] was there, I should try to keep my No.1. If I dropped to below No.3, that meant [I was] not doing so well as I used to. [It] also meant [that I was] not working diligently as I should.

<u>Emotional experience</u>

Generally, Yong liked the atmosphere in the school. There were peer competitions, which he perceived as being

"positive, because nobody would resign oneself to lagging behind." The students holding top places competed to maintain their academic status, but they "did not mind helping each other." Yong regarded peer competition as normal phenomena in a school setting where students competed to do better, "We competed with each other to maintain or upgrade our academic status, but we were not 'rivals.'" He was never refused help from his peers, and he was always willing to help others. Talking from his personal experience, Yong perceived that the atmosphere in the school was marked with a much stronger interest in learning and a tendency toward "striving after a better future" than in many schools in bigger cities or wealthier counties, because "going to a college /university was the only way out for us" but "[it did] not necessarily [mean so] for them."

Yong experienced some unpleasant emotions, though. A few times, he perceived anxiety and boredom. Anxiety came from his worry and fear of a poor mark in the NEEH. He said

> The NEEH was so important to people like me. It's decisive nature was the same to every participant, but [was] more so for people like me. [It would be] a big leap if one won the battle. The difference [between a winner's future and a loser's future] would be striking. Every teenager had dreams for his/her future. The NEEH was a make-or-break event for us. [It was] simply too naturally that everybody, including myself, felt anxious and worried in the last couple of months before the NEEH. One's performance in the NEEH meant one's entire future. I was under much less pressure than other students, for I did not need to worry about whether or not I could possibly pass that

> examination. Starting from the very beginning of senior high learning, I had never doubted if I could pass the NEEH. I was the top student in the class and across all the classes in the grade. For me, the question was not if I could go to a university at all, but what type of university I could go to. But other students were different, especially those on the 'edge' of success or failure. We could all see that they were under excessive pressure to perform well in the NEEH.

Yong observed that anxiety also came from the intense atmosphere prevailing on the school campus created by the students, teachers, and parents. For example, three months before the NEEH, a notice was put in a conspicuous school bulletin place telling the students how many days were left before the date of the NEEH. Yong said, "You couldn't but sense a kind of invisible pressure whenever you passed that bulletin board." Boredom came from the following sources. The first, also the most frequent, source was the monotonous school life repeated day after day, year after year. "Thrown into such a lifestyle, no social life, no recreations, only rigid learning, anybody would grow impatient or tired or bored after some time." He went on explaining, "In that kind of learning environment, one tended to become more moody and easier to fall in low spirit." The second source was "dull and tedious drills" for the purpose of getting used to the skills needed in the NEEH, and his exerting efforts in learning the content which was "absolutely useless" for future learning, but was necessary for good marks in the NEEH.

Learning environment at home / in the family

Yong's parents were both ordinary peasants. Among all things in and out of the family they cared most about Yong's future. Yong thought that his parents' love, caring, encouragement and support had half the share of the credits of his achievement in school, the other half went to his diligent work. He also viewed that between his parents and himself the "support and encouragement were mutual."

> I did well in school, they felt proud of me and enjoyed due respect from the community. They could see that what they did for me was worthwhile. My parents encouraged me to study hard and supported me financially. It was not easy for my parents [to do so]; they made a living by pure physical farming day after day. They gave whatever they could to support [my senior high learning], hoping that I could have a good future.

Freedom of choice in learning

Yong's choice of going to a university-track senior high school was respected in the family. Though it meant that the parents would have to support Yong's senior high education plus university education, which was a heavy expenditure to a peasant family, his parents supported his decision. They did so because Yong chose it and they knew that Yong would work hard to realize his goal and it was good for Yong's future.

Yong's parents had expectations for his senior high learning: going to a good university so that Yong could have a good future. Yong perceived it as inspiration, and

encouragement. He also perceived it as a "positive pressure or push." He told himself that he **must** get good marks in the NEEH, "if I don't do well [in the NEEH], I'll let them down."

Feedback

Yong's parents seldom commented on his academic performance at school; the major reason was that Yong was always "the best, the top number one student." On the whole they quite trusted him. The most frequent comments they gave were "Guard against arrogance or self-conceit, and go on studying hard."

Emotional experience

Yong lived in school residence throughout his senior high schooling period. He went home only for vacations between the semesters. He did not perceive any unpleasant emotional experience at home or with his parents; he perceived the atmosphere in the family with respect to his learning as "loving, caring, and encouraging." He helped with the farm work when he was at home. His parents held the opinion that when he was in the school, he should study hard, when he was at home, he should carry out his share of responsibility at home. Yong agreed with this opinion.

Case Three: Juan

Juan, female, 30 years old, is now a graduate student in a university in eastern Canada. She participated in the NEEH in 1983, and was not satisfied with her performance in the NEEH. She thought that it was a pity that she could have obtained higher marks if she had not been "too nervous and too concerned about the result." To her mind, the NEEH was "so important" that she "was really, really nervous during the process of writing the NEEH." Juan received senior high level education in an ordinary university-track school; it was not a 'key' school nor famous for its academic standing. Her academic status in her senior high class was "forever at the top No.1." In junior high period, Juan's academic rank was between 25% below and 25% above the average, never entered top 25%. During the first year of senior high, Juan "suddenly realized" that she could do very well in the subject matters, and the teaching/learning content became easy for her. The idea of passing the NEEH and going to a university began to take shape, and soon became one of her goals in learning. Juan's parents were factory workers in a big city in eastern China. They were busy with their shifts and always returned home tired. Juan needed to look after most of the housework, and her own learning.

Research question A

Choice in learning

Juan said that to pursue senior high level education in a university-track senior high school was her own choice. Upon finishing junior high schooling, she was left alone to make decision about her future learning. In spite of the fact that her academic performance was not high in junior high school, she decided to go to a university-track senior high school instead of a technical or vocational school. She made this decision under the following conditions. First, at the bottom of her heart, she liked learning, she "hoped to expand the scope of knowledge, know more about and understand better the world." She wanted to be "more knowledgeable than the average Chinese people." Secondly, she regarded university-track senior high schooling as the "only form of **regular** senior high level education," and the **right** track to seek for knowledge. Thirdly, she thought that regular senior high level education, if she could not pass the NEEH and go to a college/university, was the minimum for her educational background. One reason why Juan made this choice on her own was that her parents did not care about her education at all because she is a **girl**. They only cared about her brother's education. They held the opinion that a girl "could not have any career," and when a

girl got married, all the previous effort and money invested in her education by her parents "would have nothing to do with her maiden family." So, from their point of view, it was unnecessary for them to care about their daughter's education. Throughout her senior high schooling, Juan looked after her learning all by herself; she "never got any help" from her family.

Goal(s) of learning

In first year senior high, as soon as Juan realized that it was hopeful for her to pass the NEEH and go to a college/ university, she took this idea as one of the goals of senior high level learning. This goal meant to her the possibilities of "a good future." Juan perceived that, on the whole, her senior high learning was connected to the following goals.

1) Passing the NEEH with good marks;
2) Going to a good university;
3) Opportunity of having a good future.

Juan's interpretation of a good future was "jobs of a brain worker, mental worker, not a manual worker, and opportunities for promotion or going abroad." When she was engaged in learning, her immediate goal was to "answer all the questions right, to solve the problems, and understand the teaching/learning content well." University education

also meant to her "an expansion of knowledge and field of vision, and some foundations for the development of personal abilities."

Emotional experience in learning

Juan had both pleasant and unpleasant emotional experience in senior high learning. Her pleasant experience included interest, enjoyment, and spontaneity, which she underwent when she was engaged in learning activities.

> When I understood or knew something that I did not know before, I became more concentrated in listening [to the teachers], more interested in learning, and more eager to learn. When I solved some problem by myself while most of my classmates could not [solve these problems], I sensed a kind of self-confidence, and enjoyment, [which was] like from a victory after a battle against difficulties or obstacles in learning. Enjoyment might be mild, it gave me good mood, good spirit, and gave me adequate energy in everyday school life. I didn't need anybody to urge or push me to learn; I learned by myself, **spontaneously**. Every time my classmates came to me with questions, I could give right answers. They asked, "How come you know everything?" I didn't know. I just followed the teachers, and the teachers repeated the teaching content again and again in class. If they couldn't understand how I knew so much [of the teaching / learning content], I simply couldn't understand why they found the subject matters so difficult [to them]; for me, they were just easy. There were challenges, but [they were] reasonable, never too severe [for me] to handle. I think that was one main reason why I enjoyed learning: I put in effort, learned something, s^w my progress, and the achievement.

When Juan was asked if she would study as hard as she did provided that there had been no NEEH, Juan said "yes," and went on explaining that schooling "to the essence" was

meant to "promote one's **quality**." It would be too "narrow" if one thought that "learning was simply pursuing high marks."

Juan perceived unpleasant emotional experience mostly during the last three months before the NEEH. The unpleasant emotional experience in learning activities came from "a repugnance" to some subject matters to be examined in the NEEH that did not appeal to her at all. Juan "just hated and felt disgusted with" the subject matters of Politics for the "dull" content and the "rotten" ways of learning which "primarily required mechanical memorizing." The significance of the NEEH to Juan, like to any other participants, was like "setting the tune with one beat of the gong;" it gave the final ward to her future. To pass the NEEH with high total marks, Juan

> had to obtain a high mark in every subject, including Politics. [I felt that] I was **forced** to do something, and it was **not learning**, [it was] not merely something I was not interested in, I **hated** it. This made me "miserable."

On the whole, Juan "loved" her learning experience in senior high, for it enhanced her self-confidence, self-efficacy and self-esteem, and as a result she felt that she was "smart and clever" in learning activities.

Research question B

Learning environment at school

Juan's senior high school was an ordinary university-track school in a big city in eastern China. As any other ordinary university-track senior high school, this school also strived to increase the number of students whom they could promote into a tertiary educational institute. Students rated hopeful to succeed in the NEEH were treated differently from those rated as less hopeful. Juan was regarded as hopeful of success in the NEEH; therefore, she received special considerations from the school. For example, at that time she was not in good health. The school supplied her with a bottle of soy-bean milk every morning for free, and a sum of money every month adequate for her nutritious food and meals, study expenses and daily expenses. She was the only student in the class enjoying these privileges. The last two months preparatory to the NEEH were hot summer days, as there was no air-conditioning system in the classroom, a large piece of ice was put beside her, and the only electric fan in the classroom was set towards her direction. None of her classmates was treated this way in those days.

Choice of achievement target(s)

Juan's immediate achievement target of learning was to

"learn well the teaching/learning content." She perceived achievement status in the class as her criterion. This did not mean that she intended to "beat the others,"

> no, I did not care about what other students were doing. I only minded my own business. I knew I was the top No.1 by total mark, and wanted to maintain this status. [That] meant my learning was going well. What other students were doing mattered little to me; I just studied hard and tried my best.

One of Juan's achievement targets for her senior learning was to achieve high marks in the NEEH so that she could go to a good college/ university with a better hope, a university with very good academic reputation.

Juan regarded herself as an "obedient" student; she followed faithfully what her teachers taught. For instance, since the subject matters not to be examined in the NEEH were ignored in class, she would not bother to pursue any knowledge about them, either.

Feedback

The feedback Juan usually had in school were marks on the assignment, tests and exams, which would eventually turn into public academic ranking. Rewards were there, too, varying from oral or written praise, Certificates of Honours/Merits, to monetary commendations. Students receiving big awards were known to all the students, teachers and staffs in the school society. Juan was often awarded rewards, but she did not perceive the motivational

impact of these rewards in her learning.

> I did not really care about the praise or rewards; I was not learning for them. If they were there, and I was awarded some rewards, [that was] good, and I would go on working hard. [If there was] no praise, no rewards, and things the like, I would study hard as well. Of course these thing would inspire and encourage me [in learning], enhance my self-confidence, and my courage especially when I came across difficulties. I was more interested in learning, in understanding the teaching / learning content than the rewards. Even if I did not get any rewards for some time, I would keep going and study hard. My case might be different from some others', [because] essentially, I knew how well I was going along. Of course I need to know how well I was doing after a longer time, say, a semester. My [academic] rank would tell me.

Juan perceived herself staying somewhat "indifferent" in the situations of rewards. She certainly felt happy when she was awarded a reward, but never had the feeling that she liked these things specifically. In her words, she just "didn't really care [about it]." However, Juan held a different opinion about academic ranking. She perceived that: 1) Ranking was external evaluation; 2) Ranking provided information about her performance in general; and 3) Ranking was an indicator of how well she was progressing in learning in comparison with other students. It explained why when her academic rank went up, she felt "excited," and felt "disappointed" when her rank moved down.

Emotional experience

Juan liked the learning environment/atmosphere in her senior high class. Academically, she was always the No.1 in

the ranking. Socially, she always enjoyed great popularity among her peers and teachers. She liked the learning environment in her senior high class chiefly because "it was good for learning in general."

> I liked the teachers particularly. All of them were very devoted [to their work]. They did their best to help us with learning. Seven days a week, they came to the classroom during morning and evening self-study hours, absolutely voluntarily. Why? They hoped that more students would pass [the NEEH]. Most students could help each other, though not everyone. Lots [of the students] were my friends. We compared notes, discussed learning content, argued on the answers, and so on. I was always willing to help my classmates when they came to me with questions.

Juan thought that peer competition was "pretty severe" among the students. Some hid away good reference materials from other students, or "grudged" their classmates answers to questions in learning. Juan was unconcerned about the competitions; she never minded helping her classmates. The major reason was that she was high above at the top, and she had adequate confidence and ability to maintain her academic status.

Juan experienced unpleasant emotions in school as well, mainly pressure and anxiety. The pressure and anxiety mostly came from the worry and fear of a poor score in the NEEH, and anticipation of the consequence.

> I think it was unfair, the NEEH, **it was**! People [who could] enter a university by the NEEH were not all those [who were] excellent and promising in learning. They [were those who] could manage to get high marks in **every** subject as well as high total marks in the NEEH.

> I was one example. My total mark was always at the top in my class, but I was not the best one in every single subject. Some students were excellent at some subjects but not so good at some others. If they couldn't get high total marks in the NEEH, they would lose the opportunity for higher education. It was just **unfair**. People may have different aptitude, but the NEEH favours one specific type of students: [that is] those [who can] get high marks in every subject.

Juan could do well in every subject, yet she was constantly under the pressure, anxiety, and fear that she would "fail or do poorly in the NEEH" and as the consequence she would not be able to go to a university at all. In addition, she mentioned a "small pressure" came from the privileges that she received from the school. She was afraid that if she did not perform well in the NEEH, she would let the teachers down.

Learning environment at home / in the family

To Juan's mind, her parents "did not care" about her learning in senior high. They

> never encouraged me to study or asked about my learning in high schools. They didn't have any expectation for my senior high learning, as far as I could see, never told me what they'd like me to do, or discussed with me about such things, never urged me or inspired me to do **anything** about my learning or for my future. It appeared to me that they didn't care whatever I was doing and how I was doing in the school.

At home, Juan had a series of chores to accomplish everyday. Her parents cared more about whether or not she had finished the chores and how well she did it than they

did regarding her learning. She often did some readings or homework while she was cooking a meal, so it was not unusual that she burnt rice or a dish.

Freedom of choice in learning

Juan observed that she was **left** to herself to make decisions about her senior high level education, rather than be **given** freedom at home. She made decisions about what type of education she would like to pursue, goals of learning or targets of achievement for senior high schooling. She had nobody at home to consult about these things. She said that she was actually shouldering the full responsibility for her learning and future. She described herself as the one "neglected' in the family.

Feedback

As far as Juan could remember, her parents "**never gave any response**" to her learning, nor said anything about how they felt about her performance at school. There was no reaction on the part of the parents when Juan's grades went up or down, for, as Juan pointed out, it signified "nothing" to them.

Emotional experience

Juan thought that the learning environment at home was "good," because "nobody was interested in me, so nobody would bother me when [I was] working at home." Her parents only cared about her brother and his learning. By the time

she was in senior high, she had long been used to the situation at home. Nevertheless, she would really appreciate it if her parents could possibly pay "a bit more attention" to her and her learning.

Case Four: Wei

Wei, female, 26 years old, is now a graduate student in a university in eastern Canada. She participated in the NEEH in 1986, and was not satisfied with her performance in the NEEH, for "the scores were lower" than she had expected. She further explained that this outcome was due to the following causes

> during the process of writing the NEEH, first, [I was] very **tired**, spiritually and physically. Imagine, [I had been] preparing for the NEEH for so long time, three years, [I felt] tired, just felt tired out, lack of energy. Another [cause], it seemed I was not using my brain sufficiently, I was only doing the items **mechanically** as we were **drilled**. The third [cause] was nervousness. I knew I didn't have to worry or feel anxious, I was able to do the items well, but ... well, that's what happened. The examination was **so** important, nobody could help but feel nervous to a certain degree.

Wei perceived her academic rank in senior high class as second 25% above average, not the top 25%. Wei received senior high level education in a nation-famous key high school in a large city in northern China. Her father is a professor in a large university in the same city, her mother

is a staff member in the university. Wei has a brother, and the family of four lived in an employee residence section of that university. Early in grade four or five, the idea of passing the NEEH and going to a university began to develop in her heart and eventually became one of the goals of her senior high level learning.

Research question A

Choice in learning

Wei perceived that the decision of going to a university-track senior high school was her own choice. While this idea suggested much personal value to her, she considered that the development of this idea was shaped consciously under the circumstances in which she grew up. First, in the family, her father received higher education in a university with first-class academic standing in China and then became a professor in a famous university. Wei noticed that high level education and learning was respected and encouraged in the family. When she was small, she began to take it for granted that she should receive higher education, and it seemed to her that it was the best way to lay foundations for the future. Secondly, the neighbourhood of her family was full of university professors and staff, and most of their children and grandchildren had higher

education background. As Wei had it, people were "doing education, talking about education" and they "admired education." This impressed Wei that higher education was a piece of "indispensable" experience in one's life; it was just "natural" for her to go to a higher educational institute, like everybody else did. Thirdly, when Wei reached the age of senior high, she viewed further that higher education signified much personal value to her.

Goal(s) of learning

Wei regarded it "natural" to regard passing the NEEH and going to the university as the goals for senior high learning. However, Wei did not decide to go to a university **simply** because everybody else was doing so. Learning in a university-track senior high school implied the following personal goals.

1) Passing the NEEH with high marks;
2) Going to a good university;
3) Positive contribution of a higher educational background to one's social status;
4) Positive contribution of a higher educational background to one's economic status;
5) Opportunity of "decent" jobs, and
6) Possibility of living a life which she preferred.

Wei interpreted the meaning of "decent" jobs as those "associated with intelligence and higher level education."

In addition, Wei mentioned the "academic aspect" of what the goal of pursuing high marks in the NEEH meant to her. She said that during the process of pursuing this goal, she noticed that

> to pursue this goal, I concentrated my mind in learning. As a result, I found **delight** in work. I found that by learning seriously, the more I learnt, the more I wanted to learn.

Emotional experience in learning

Wei reported both pleasant and unpleasant emotional experience in senior high learning. Pleasant emotions included interest, enjoyment, delight, and spontaneity; they emerged from the process during which Wei was engaged in learning activities.

> I could see delight and enjoyment [when I] saw the scope of my knowledge was enlarged, discovered my potentials or growth of ability [of learning], such as a way to solve a math problem by myself, etc., and [I would] become more interested in learning. I studied hard [in senior high] conscientiously and spontaneously; [I] never need any external 'pushes.' I can still remember the time a couple of months before the NEEH, the teachers helped us to arrange and re-arrange the learning content in order, I was surprised to see that I had learned so much, and was happy with it, and felt more eager to go to university.

Wei felt that she experienced delight and interest "very often, almost everyday," and occasionally these emotions impressed her as being "strong." Wei thought that she had "two big gains" from senior high learning: a) to get prepared for the NEEH, and b) to have "acquired knowledge

about many things in the world," which later on facilitated her learning in the university.

On the other hand, Wei observed unpleasant emotions involved in learning activities. Most commonly, they were pressure, anxiety, frustration, and boredom. Pressure mainly came from the anticipation and expectation of her performance in the coming NEEH, besides the peer competition. The awareness of the negative consequence of failure in the NEEH made Wei

> quite depressed. Like a 'vicious circle,' I would grow anxious [in learning], and [became] more anxious if I found myself not doing ideally in academic work. ... [If I] failed several times to meet my expectations for my academic performance, I felt more anxious, frustrated and disappointed with myself.

Besides, Wei sometimes blamed herself for the marks she lost which she regarded that she should not have lost in some important exams, such as mid-term or semester finals. Wei termed "important exams" as those after which there would be a ranking based on the students' performance in the exams. Sometimes learning itself brought forth "boredom." Despite the delight and enjoyment involved in learning activities, Wei experienced boredom in some learning activities. One example was that sometimes she felt "too much learning content, the work was bottomless, [and] boring." Another example was that the students were required to practice on "all kinds of drills again and again

in and out of class **absolutely** for the purpose of getting familiar with the examination skills" that might be needed in the NEEH. The unpleasant emotion occurred "quite often, too'" and sometimes "could be strong or very strong." Wei never failed in any exam, but sometimes she did comparatively poorly. In these cases, she would at first be "thrown into" a state of being "low -spirited," then determined to catch up. Wei perceived that these feelings sometimes could be "strong" with her.

Generally, Wei said that she liked her learning experience in senior high, "anyway, to acquire knowledge by one's own endeavour is a kind of **delight**." Wei, too, pointed out that the teaching method in her senior high school impressed her as mainly "cramming and spoonfeeding," lacking the encouragement of initiatives, critical thinking, creativity, and self-confidence on the part of the students. She felt dissatisfied with it.

> When I reflect back now, I think [that my learning in senior high] couldn't be **completely** called 'learning'. Learners have initiatives in learning, and are active, creative and critical; they are not **pressed** by a goal that they **have to** think or behave in a certain way in order to reach the goal. But we were [pressed by a certain goal]. We were **students**, not **learners**. [If we] failed, all our effort and three years' time would go waste. Nobody **dared** to be **too** creative or critical to risk a failure in the NEEH.

Research question B

Learning environment at school

Wei received senior high level education in a nation-famous key school in northern China. Most of the students there were children of the employees of the universities nearby. Wei observed that most of her classmates **truly** valued knowledge and education besides the fact that they were all striving to pass the NEEH, and, if they could, with high marks. As far as she knew, 80% of the senior high graduates attended a college /university in 1985. It was high above the national average of 24% (Noah & Eckstein, 1989).

Choice of achievement target(s)

Wei's achievement target was explicit: to gain good marks in the NEEH so that she could go to a good university. As Wei perceived, she chose this target but it was developed under the influence of the surroundings in which she was brought up. Wei's achievement target was consistent with the expectation on the part of her senior high school for the students.

The subject matter not to be examined in the NEEH were also delivered in Wei's senior high class with the hope that they might be feasible for the students in the NEEH. In spite of the good intentions of the teachers, the students

were simply "too practical" to pay serious attention to these matters. Wei explained that one cause was that they already had "too many things to look after with their studies."

Feedback

The major forms of feedback in Wei's class/school were "exams and ranking." Exams were the means of getting marks, on which were based all types of ranking.

> I think ranking was necessary for me to evaluate my academic status in comparison with other students. I'd like to see how well I was doing. When [my rank went] up, I felt happy and satisfied; I saw the achievement and my effort was paid off. When [the rank went] down, I felt anxious, my parents felt anxious, and there could arise a sort of pressure. But I liked ranking, it gave me references for my learning. [They also] urged you to do better, if you wanted to maintain or upgrade your rank. I would rather take ranking as a means of external stimulus; if [there had been] no ranking, learning activities would become more dull or less exciting. My rank was always in the middle, not at the top, but I liked it, liked the encouragement [it gave] to you learning.

At the same time, Wei observed that ranking "certainly cast negative impact on those ranked below the average, they must have sensed more pressure, anxiety, frustration, etc."

Performance-contingent rewards included the honourable title of 'Three Merits Student" and the privilege of sitting in the additional classes designed for the purpose of preparing a few top students in each class to obtain extremely high marks in the NEEH, and expand their range of knowledge. Wei perceived these rewards as "good," for those

learning well "should be honoured," and those with more potentials "should be given more challenging tasks." However, she disliked the "message" that the classes carried that they "tended to indicate some students were superior to some others."

Wei interpreted the feedback as "both evaluative and informational." Ranking was "evaluative," and Wei certainly felt that she "was evaluated externally." It was also "informational because it let me know how well I was doing in comparison with my classmates." Exams were "evaluative." But after each exam, the teachers would "elaborate on the items," and this helped them to deal with the difficulties/problems in learning.

Emotional experience

In general, Wei liked the learning environment in her class /school, because: a) the students had a craving for knowledge and a desire for progress; and b) the teachers were all responsible, knowledgeable and professional. It was "favourable for learning." However, as the priority of all learning activities was given to the purpose of preparing the students for the NEEH, Wei also perceived that the overall atmosphere was "tense; learning tasks could sometimes be hard, tedious or dull, though enjoyable sometimes."

The school life was rather dull. The adolescents'

> growth and development was narrowed to only one aspect: the expansion of knowledge. Other aspects, especially non-intelligence aspects were ignored or squeezed out of the school campus. [There was no] recreational activities, for example. Social intercourse and communications [among the students] were limited to exchanging ideas in learning, discussing questions, and things the like.

Wei experienced pressure from peer competition. Students in Wei's senior high school were not competing to see who could go to a university, because the majority of them would not have any problem passing the NEEH. They competed to **learn more**, to be more knowledgeable, to be more capable or more effective in learning. In other words, they competed to see that, as students in an "elite" school, if one was "more outstanding or remarkable in a certain aspect than some others." "Everybody was trying their best to upgrade their academic ranks," so Wei often felt the pressure that she needed to study harder not only to maintain her academic status but catch up with those ranked above her. Wei also observed that as everyone was working toward the same goal; i.e., to promote one's academic rank, not all could satisfy their expectations. Those who failed to meet their expectations often felt disappointed, frustrated, or depressed.

Learning environment at home / in the family

Wei's parents both work in a university. They paid

"great attention" to Wei's learning. They kept track of Wei's academic performance and often gave their comments. Their expectation for Wei's senior high learning was clear and explicit: going to a key university. At home, they provided her with **all** the physical and environmental conditions that she needed in learning.

Freedom of choice in learning

While Wei mentioned that her parents' expectation had "a small share" in her goals of senior high learning, she regarded the goal of going to a good university as basically her own choice. She thought that as the idea of going to a key university began to take root in her heart at a small age, when she was in senior high, the idea had long been assimilated into her own value system. Actually, the goal of going to a good university reflected her own choice and her parents' expectation as well. This type of choice was not really self-determined, as Wei could not make a choice which was inconsistent with her parents' expectations.

Feedback

Wei perceived that the feedback which she received at home was "more evaluative than informational." For example, her parents mainly cared about the marks she got: when she got 90 or above, they would be pleased; when the marks were in 70s, they would think that her performance "was too poor." They sometimes analyzed the situations of her

academic ranks, and gave her information about how much progress she had made and discussed with her what she should do to "improve the grades." Wei said that her parents evaluated her with grades; the criteria were grades; their expectations were about grades; they were only concerned about her grades.

Emotional experience

Wei said that she greatly appreciated the encouragement which she received from parents throughout her senior high learning. Wei also appreciated that her parents never blamed her for comparatively poor marks in tests or examinations. However, she "disliked" the criterion of their evaluation of her academic work, particularly, which was

> utterly the **marks**. They thought high marks meant [I was]doing well in learning, low marks meant [I was] not doing well. This criterion was too narrow and inflexible. They didn't take much notice of what I was doing everyday. For example, they did not know what difficulties I had, in which aspect I was strong or weak in learning, or what I thought about my ability. They only looked at the marks, ... I could see they wanted to know more about me and understand me, but they didn't know how to do it.

Wei sometimes felt it was "hard" to comply with some "rules" set up in the family with respect to Wei's "use of time after school." For example, throughout the two years from grade 2 senior high until the time she finished the NEEH, she "was not allowed to watch TV," nor mix with her

friends/classmates for any purpose other than academic work. This phenomenon was "quite common" in the families with children in senior high schools, and regarded as "appropriate" for these students. Wei felt "uneasy" with it and thought that people should care **more** about the needs and development of the teenagers than merely academic work, or marks.

Case Five: Kun

Kun, female, 23 years old, is now a graduate student in a university in eastern Canada. Kun participated in the NEEH in 1990, and was satisfied with her performance, for her score "was high enough" to send her to the department and the university where she had wanted to go. Kun received senior high education in a nation-famous key high school in northeast China. The admission percentage of the senior high graduates to the higher education institutes was 98% in 1990, and 100% in 1991 in that school, while the respective national average was around one quarter (Hayhoe, 1992; OTA, 1992). Kun's parents are both professors in a key university in northeast China, in the same city where Kun had her senior high level schooling. Kun has a sister and a brother, the family lives in a large employee residence section of the university where her parents are teaching.

Kun's academic status was "always within the top 10% " in her class. Early in grade 1 or 2, Kun began to take the idea of getting high marks in the NEEH and going to a good university as one of her goals of learning.

Research question A

Choice in learning

Kun said that the choice of going to a university-track senior high school was her own decision.

> It was just natural [to have this goal]. I think people would all think that way. First, [they would] see if [it was] possible to pass the NEEH and go to a university, if not, they would think of going to technical or vocational schools. I did well in school, my parents both received higher education, my sister and brother were going to university then, it was just natural for me to attend a good university-track senior high school, and then go to a good university. I never thought of going to a vocational school; I wanted to have at least undergraduate level education.

Kun also pointed out that the environment in which she was brought up "must have influenced" her choice and goal of learning to a certain degree. People in the neighbourhood of her family were all associated with higher education in some ways. The prevailing expectation among the parents for their children was "going to a university, a good one." People would not ask a parent if his/her child could pass the NEEH, for they thought nobody in the neighbourhood would fail. They were only interested in **which** university a child

was admitted. Actually, as far as Kun could remember, no senior high graduates in that neighbourhood failed in the NEEH between 1985 and 1994. Under this circumstance, Kun grew up with the concept that "everybody should have university education, no such education, **no future**." This, as she observed, was a **belief** that "must have influenced" her choices in learning and "drove" her working hard.

Goal(s) of learning

Kun thought that the goal of obtaining high marks in the NEEH and going to a good university just **was** there, and **natural** to her.

> I think it's **natural** [for me to think of going to a university]. When you reach a certain age, you go to a primary school. **Naturally**, you should get good marks and then go to a key junior high school. **Naturally**, you should try to go to a good senior high school, and **Naturally**, you should try to go to a university. I never thought I would not or would not be able to go to a university.

While Kun took this goal as being natural to her, she also perceived more personal value associated with this goal. She summarized her goals of learning in a university-track senior high school as the following.

1) Passing the NEEH with good marks;
2) Going to a good department in a first-class university;
3) Finding a good job, and
4) Laying foundation for a good future.

By saying " a good future," Kun explained that higher education was a starting point for personal development socially, economically, and professionally. Anybody who wanted to have a good future should first of all receive higher education.

Emotional experience in learning

Straightforward, Kun said that generally speaking, she "did not experience apparent pleasant emotions" when she was engaged in senior high learning.

> I studied hard in order to satisfy my parents and myself. I brought pressure to bear upon myself so that I wouldn't let them down, [and] let myself down.

Sometimes, Kun experienced "happiness and delight" in learning, but not often, when she found that she could deal with the teaching/learning content easily. She also noticed that her range of knowledge was expanding during the senior high schooling period, but the expansion itself did not bring her new interest or enjoyment in learning; instead, it signified that she was having more content to "deal with" to prepare for the NEEH.

Without any hesitation, Kun said that she underwent "quite a few unpleasant emotions," such as pressure, anxiety, frustration and boredom, though none of them was very strong.

[These unpleasant emotions] came from exams, before and

> after, scores, parents' dissatisfaction with my performance, etc. [I felt] pressure before important exams, for example, semester finals. Because the scores would be reported to the parents.

After the exams, Kun felt anxious about the result. She described how she felt:

> I felt anxious after the exams and before I knew the scores. It was a strange feeling. I neither wanted to know the score very soon, nor wanted to wait long. I didn't know whether my parents and myself would be satisfied [with the result]. I was afraid my parents wouldn't be satisfied or even worse, would be disappointed.

It was not surprising that Kun felt "frustrated" and disappointed when she saw that her performance was under her parents' expectation and her own expectation. Consequently, it brought forth "new pressure." Kun observed that different people would experience unpleasant emotions to different degrees. For her, because she was not a person "haggling over every bit of scores," she would sense the unpleasant emotions as "not very strong," and get over them quickly. Most of her classmates would feel "strongly depressed, low-spirited, or frustrated" for a much longer time when they failed to meet various types of expectations.

Boredom happened when: 1) she had to learn something "uninteresting at all" **simply** for the purpose of preparing for the NEEH; 2) the teacher repeated the school content that she knew well; 3) she had to work for a long time on all kinds of assignments, and 4) when she felt that

"learning was dull."

Kun summarized her learning experience in senior high school as "not bad, though dull, [and] boring. I got high scores in the NEEH, and entered my first-choice department of the first-choice university. My effort was not in vain." What Kun described as "not bad" is not learning itself, but the result which she achieved **through** learning: her high marks in the NEEH.

Research question B

Learning environment at school

Kun received senior high level schooling in a nation-famous key high school in a big city in northeast China. This school always has a very high admission rate of her senior high graduates to the higher educational institutions. Kun observed that students there "would have no problem to pass the NEEH if they could only stay around the average" of the academic status, or even lower. Kun's classmates were from different districts all over the city, and from all kinds of family background. Almost all of them were once top students in their junior high classes.

Choice of achievement target(s)

Kun's achievement target of her senior high learning was to obtain high marks in the NEEH so that she could

"enter a good department in a first-class university." To strive after this target at the end of senior high schooling, Kun's immediate target was to achieve high scores in mid-term and semester final examinations. Kun regarded academic ranks as the "natural outcome" of the scores: high marks would result in high places in ranking. She believed that she only need to "look after well the scores in the exams," and the rank would turn up consequently.

Kun noticed that subject matters not to be examined in the NEEH were "skipped" by both the teachers and the students. The teaching/learning content was "completely under the control of the NEEH."

Feedback

The major way by which Kun got feedback of her academic achievement was "through scores," then followed by the rankings. The teachers handed back the examination papers in class and students were informed of their scores. The ranking situation was announced with a "big report form posted in the classroom." Kun perceived that neither she nor her classmates "really liked" the ranking, because it made the students "nervous" and those ranked below average "embarrassed." Given this fact, nobody showed their feelings either for or against it explicitly or publicly. She further explained

[as] ranking was so common in school that it had become

> a "school routine practice." People all took it for granted, so no one questioned it any more. [It is] like a part of the examination procedure in high schools, you go to school, you take exams, and there's ranking. On the contrary, if [there was] no ranking, people would feel **odd**. Normally, the parents would ask to see the ranks [of the students], if there was no ranking, [it would] seem a part of school life was missing.

Kun termed the feedback "both evaluative and informational." She thought that scores and rankings were "evaluative," but the teacher would "analyze the items in the examinations", which supplied information for the improvement of "student performance." Besides, Kun said, a poor score would "upset" her; then, it would "urge" her to work harder. When her rank went up, she would feel "happy and more confident" in learning. When her rank went down, she would feel "upset, then [would] work harder." In this sense, Kun said, score and ranking served as a type of "stimulus."

There was no performance-contingent rewards in the class except the title of "Three Merits Student," which was granted to those whose total scores were above a certain level. Kun and her peers all "supported it," because they thought that "good students **should** be honoured."

Emotional experience

Kun felt that she "liked" the learning environment in the class /school.

Although everyone was busy with studies, my classmates

> could help each other. No one discriminated against the students whose scores were low. Teachers were nice, helpful and professional. The atmosphere was **harmonious**. Generally, I would say [there was] no problem if you went to a classmate for help, and nobody would refuse to help a classmate.

Peer competition was there, however. "Most students" were competing to "advance their academic ranks." Kun perceived peer competition as "in most part positive," for she thought that "it could help" the students "to work diligently for better performance." Kun did not perceive that she had apparent negative emotional experience with respect to peer competition; instead, she observed the competition as "just **natural**," and like academic ranking, it was "part of the school life."

Learning environment at home / in the family

Kun is the youngest child of a couple of university professors. Kun's sister and brother both passed the NEEH with good marks. A popular belief prevailing in the neighbourhood of the family was that all the children there would pass the NEEH and go to a college/university. People would not be surprised if a child from that neighbourhood was admitted into a best-known university; they would be surprised if some child failed the NEEH. People in Kun's family had the same belief. They

> never had any doubt if I could pass the NEEH. Their concern was **what type of university** I could go to.

> NEEH for them was something **ordinary**, and passing the NEEH should never be a problem for me. Everyone [in the family] received higher education, nobody [in the family] had ever thought that I would **fail** the NEEH.

Kun's parents "definitely" cared about Kun's senior high learning. At home, they "often" reminded Kun of her school work, such as doing homework, reviewing or previewing lessons, getting more familiar with the teaching/learning content, or doing drills to ameliorate the skills feasible in the NEEH. There was no written time schedule at home, but throughout three years' senior high schooling, Kun was not supposed to watch TV or visit her friends or have visitors coming except during the few weeks of summer vacation and winter vacation.

Freedom of choice in learning

An unspoken belief in Kun's family was that Kun had no problem passing the NEEH, and her parents expected her to go to "a good department in a first-class university." Kun grew up with the same belief and same expectation. It seemed to her that this was the "**only right way**" for her education and preparation for her future. She had never thought of other possibilities or choices. Kun regarded this choice was her own, for it occurred to her "just so naturally." As a matter of fact, Kun's choice of type of education and goal(s) of learning was based on the personal value which she associated with the **outcome** of her senior

high learning, not the learning itself.

Feedback

Kun's parents "often" evaluated Kun's academic performance.

> After final exams each semester, they asked about my scores and evaluated them. [They asked about] the overall situation [of the examination scores] and compared my scores and academic ranks with other students'. They wanted to see if I got good marks as I should [get], if I put in adequate effort. When they saw poor scores, they said I was not working hard. I didn't like it, particularly [when they] compared my achievement with others'. They would say, 'Look, that girl/boy got higher marks and her/his rank is always within first three in the class.... Your rank is lower,' and so on so forth. I never liked it, but said nothing. [As] this type of evaluation happened from time to time, I was used to it, and later on I just wouldn't bother to take it serious.

Kun mentioned that in comparison with many other parents, her parents were "much more reasonable," for they evaluated her performance, and also discussed with her learning content and strategies. Kun took her parents' evaluation as "normal concern" for her learning.

Emotional experience

On the whole, Kun felt "comfortable" with the learning environment at home. Though there were limits to her time schedule and social intercourse with her friends, as these phenomena were "quite common" in the neighbourhood, Kun took these limits, parents expectations, and evaluations as "**natural**." For her, as long as one was in a university-track senior high school and striving after good marks in

the NEEH, such things were "just natural and understandable." Another reason was that her parents "never forced or drove" her to learn. Concerned about Kun's learning as they were, they knew that Kun would pass the NEEH, and highly possibly with good marks. They also knew that their daughter would "push" herself to realize her goals in learning.

Sometimes, however, Kun would "suddenly felt keyed up or anxious" when she thought of the coming NEEH. It was "so important" to her future that she could not but feel "nervous" and worried about how well she would perform in the NEEH. Kun always sensed high expectations for her good performance in the NEEH in the family, which, she reflected, was "partially responsible" for such kind of "unnecessary nervousness."

Discussion

In this section, cases are analyzed and discussed in the framework of self-determination theory (Deci & Ryan, 1985a, 1987, 1994) around two major research questions.

Research question A: What did the students perceive as the features of their learning behaviour and emotional experience with respect to the different degrees of autonomy

versus heteronomy in motivation for learning?

A. Features of learning behaviour

Central to a self-determined behaviour is the experience of choice (Deci & Ryan, 1985a, 1985b, 1986, 1987, 1994). The behaviour "emanates from the integrated sense of self that underlies the autonomy orientation" (Deci & Ryan, 1985a, p.154). All the participants reported that the choice of going to a university-track senior high school was based upon their own initiative. Further examination reveals that the significance of "own choice" varies in five cases.

Liang's decision of going to a university-track senior high school and then going to a good university in City X mirrored a combination of his own volition and the expectation of the family. His volition came from his awareness of the fact that a crucial step to a better future was to get into a good university in City X, which was also the expectation of his parents. The decision did not imply real freedom of choice of his goal of learning. For example, he could not choose going to a technical school because his parents would be unhappy, and his self-esteem "would not allow" it. Therefore, his choice of learning in senior high level was not self-determined. Not only was this choice controlled by an environmental event (i.e. parents' expectation) to a large degree, butalso it was

initiated by Liang's awareness of the fact that he had to do well in school content in order to get good marks in the NEEH before he could go to a good university in City X.

Yong's choice of going to a university-track senior high school resulted from his "genuine interest" in learning and his awareness of the significance of higher education to his future. While his parents also expected him to have good future, it was he who chose to go to a university-track senior high school instead of a technical or vocational school. His decision implied a great deal of freedom of choice and was basically initiated by himself. For example, his motivation for learning in a university-track senior high school was inspired by his interest in the learning activity itself, a desire for knowledge, and an aspiration for future development. Yong wanted to go to a good university to realize his two further goals: One was to pursue knowledge, which signified his intellectual growth, the other was to have higher education, which signified the foundation for a good future. But first of all, Yong had to get good marks in the NEEH to go to a good university. Although there was a similarity in Liang's and Yong's cases in that they both saw that higher education background related to their further goals, differences did exist in the features of choice and behaviour in learning. For example, Liang's choice was obviously influenced by an environmental

event (i.e. parents' expectation), and his learning behaviour was passive to the extent that he sensed learning as being "tedious and tiring" with a heavy workload and his enduring it was only supported by his goal of getting good marks in the NEEH. Yong's choice was basically initiated from his "genuine interest" in learning, and his learning behaviour was active to the extent that he was "keen on solving problems with optimal challenging level" to him.

Juan's choice of going to a university-track senior high school came from her "liking" of learning and her inclination of having a "regular" educational background. This idea was essentially her own volition. Her goal of passing the NEEH with good marks and going to a good university took shape during her first year in senior high school. It occurred to her as an **outcome** of good academic performance (i.e. when she saw how well she did in academic work, she "suddenly realized" that it was hopeful for her to pass the NEEH and go to a university), and soon she attached much personal value to it. This goal was to a good degree autonomous/self-determined as it manifested freedom of choice, confidence in her own capacities and an attribution to her own ability and effort (Deci, Vallerand, Pelletier & Ryan, 1991). In addition, it was not controlled by external events such as family expectation. She was the "initiator" of her own behaviour and this choice was "characterized by

flexibility and absence of pressure" (Deci & Ryan, 1987; p.1025). Juan's learning behaviour was more autonomous than controlled when she perceived that she was "much more interested in learning itself" than "beating other people" in academic competition.

Wei's and Kun's decision of going to a university-track senior high school was obviously moulded under the influence of the social environment in which they were brought up. They took it for granted that going to a university-track senior high school then to a university was the "best way" or was "natural" to lay a foundation for one's future, and it was so for everyone. Their choice originally came from the social value that "everybody should receive higher education," which was internalized into their belief about education, and to which they attached personal values. In other words, they decided to go to a university-track senior high school, obtain good marks in the NEEH, then go to a good university, without ever having considered not doing so; this type of decision did not imply real freedom of choice (Deci & Ryan, 1985a; p.155). For example, neither of them was offered any other choice; they were **supposed** to follow what other people did in the university-employee society / neighbourhood. However, differences existed between these two cases. Wei reported more initiative in learning when she said that "the more I learnt the more I

wanted to learn." It was less so with Kun. Kun thought that the expansion of knowledge meant that she had more school content to "deal with" in the NEEH, and she studied hard in order to "satisfy" her parents and herself. The value attached to Kun's senior high learning was associated with the accomplishment of learning activity, i.e. to obtain high marks in the NEEH, not with the process of being engaged in learning activity. Therefore, learning activity was only instrumental for her to realize her goal: getting good marks in the NEEH.

Deci and Ryan (1984, 1985a, 1985b, 1986, 1994) described the features of one's learning behaviour at the degrees of *introjected regulation* and *identified regulation* of internalization and integration of an extrinsic regulation along the continuum from heteronomous control to autonomous self-regulation.

With *introjected regulation*, one "regulates oneself with self-approval or disapproval applied contingently" (Ryan, Connell & Deci, 1985; p.35); one thinks that one **should** behave in a certain way. The most notable feature is the intrapersonal controller-controlled conflict (Deci & Ryan, 1986), caused by the separation of the value of a regulation from a person's sense of self. Liang's learning behaviour exemplifies the features of *introjected regulation*, with evidence of intrapersonal controller-

controlled conflict. For example, learning was "tedious and tiring with heavy workload" for him; it was his goal of getting high marks in the NEEH so that he could go to a good university in City X that kept him persisting in learning. This type of learning behaviour signified a separation of the true value of learning activity from the Liang's personal value. In other words, what Liang valued was not the learning activities which he engaged in everyday, but the outcome/goal that he could obtain upon the accomplishment of the learning activities (i.e. high marks in the NEEH). Additionally, his self-esteem served as a type of controller that drove him to do better than his peers. This phenomenon also indicated that Liang's learning behaviour carries the features of *introjected regulation* (Deci & Ryan, 1986b, 1992b).

With *identified regulation*, which represents a further advance towards autonomous self-regulation, one identifies the value underlying an activity, and the value of this activity is of personal importance to him/her. "One does not behave simply because one feels one should, but rather because the behaviour is personally valued" (Deci & Ryan, 1994; p.6). In this study, the relevant behaviour is learning behaviour in a university-track senior high school. Liang and Kun attached much personal value to the goal of learning (i.e. getting good/high marks in the NEEH), while

regarded their learning in a university-track senior high school as only "instrumental" (Deci & Ryan, 1986; p.187) to obtain this goal. They were not really interested in learning activities themselves; their personal value, or, what was of personal importance to them, was associated with the **accomplishment** of the learning activities. As Deci and Ryan described (1985b), while there was autonomy (i.e. they **want** to engage in learning activities), lacking was the genuine interest in or inclination to the inherent quality of learning activities. Wei's learning behaviour carried a greater degree of perceived internal locus of causality. She valued not only the goal (i.e. getting good marks in the NEEH) accomplished at the end of the process of learning, but to certain degree, the genuine interest, though not very strong, in relevant learning activities. For example, she mentioned that when she saw that her knowledge scope enlarged, she would felt more competent in learning, and become more interested in learning. She also studied "conscientiously and spontaneously." However, in her learning, she was concerned more about the outcome (i.e. the marks or her academic ranks) than the learning itself. For example, her positive and negative emotions were mostly connected with the marks or her academic ranks which came forth as the **outcome** upon the accomplishment of the learning activity, not from the activity itself. This phenomenon

suggested that learning activity was also "instrumental" for Wei to reach her goal as well: getting high marks in the NEEH.

Yong's and Juan's learning behaviour also manifested some features of *identified regulation* degree of internalization and integration of an extrinsic regulation along the continuum from the heteronomous control to autonomous self-regulation, although their learning behaviours did carry the features demonstrating an autonomous form of motivation of learning, namely, intrinsic motivation for learning. The features pertaining to *identified regulation* included the following. First, while they were interested in learning activities, the purpose of getting high marks in academic work and maintaining their academic ranks was functioning as well. Moreover, their goal of learning upon completing senior high schooling was to obtain high marks in the NEEH, which would unavoidably distract their attention from the learning task and direct it to marks (i.e. as an evaluation outcome brought forth by learning), and other types of external evaluations from which they drew information about how well they could possibly do in the NEEH. For example, Yong perceived academic ranking as "informative;" he claimed that after a semester's work, "you wanted to see how well you did." Juan mentioned that one "had to obtain high marks in every

subject" in order to get good marks in the NEEH. Secondly, to obtain high marks in the NEEH, they both had to work hard on some subject matters in which they had no interest at all. For example, Juan had to work on Politics; Yong had to work for high marks in the learning content which he thought was "absolutely useless" for future learning. Thirdly, they wanted to maintain their academic status, though they both regarded academic rank as indicator of how well they were doing in comparison with other students, this might operate as controlling element that motivated their learning behaviour. On the other hand, Juan's and Yong's learning behaviour also exemplified, somewhat, the features demonstrating intrinsic motivation for learning. Intrinsic motivation for learning is one form of "autonomous self-regulation" (Deci, Vallerand, Pelletier, & Ryan, 1991; p.330); it "involves doing an activity for its own sake, that is, for its inherent interest and the spontaneous affects and cognitions that accompany it" (Deci & Ryan, 1985a; p.66). It refers to the "motivation that comes from the potential for satisfaction of a deeply felt personal need; the desire to learn or accomplish a task based on internal drives and/or the sense of value of worthiness of the task itself" (Shafritz, et al, 1988; p.253). The features of autonomy demonstrated in Yong's and Juan's learning behaviours included the following: 1) Both of them

emphasized their genuine interest involved in the learning task itself. For example, Yong expressed his "genuine interest in learning" when he said, "I just **love** learning so much," and "I was **really** becoming more and more interested in learning." "Love" and "really" were uttered with emphasis. Juan said that when she learnt something new, she would become "more interested in learning, and more eager to learn"; 2) Both of them included in their goal of learning in a good university the pursuit of more knowledge and development of personal academic qualities. This phenomenon manifested their active, not passive, attitude and willingness to engage in learning tasks; and 3) Both of them learned spontaneously. As spontaneous learning "results from internal processes, readiness, and tendency, rather than external constraint, compulsion, or direction," it is "most strongly associated with interest, task involvement" and other positive emotional experience (Ryan, Connel, & Deci, 1985; p.25). Juan said, "Even if I did not get feedback for some time, I would keep going and study hard,' and "I learnt by myself, spontaneously." Yong experienced "genuine interest" in learning, and a stronger sense of interest, enjoyment, and spontaneity when he faced an optimal challenge in learning. All these features are objective indicators of behaviours supported by intrinsic motivation of learning (Deci, & Ryan, 1985a).

B. Features of emotional experience in learning

Emotional experience in learning is related to the degrees of autonomy versus controlling in motivation for learning. Emotional experience associated with autonomous learning behaviour patterns include interest, enjoyment, curiosity, exploration, spontaneity, creativity, and other positive emotional tone; whereas those associated with heteronomous / controlled learning behaviour pattern include pressure, anxiety, lack of interest, lack of enjoyment, and other negative emotional tone (Deci & Ryan, 1985a, 1987, 1994). Accordingly, people whose motivation for learning bears the features identified with higher degrees of autonomy will experience more positive emotions, whereas people whose motivation for learning bears the features identified with higher degrees of heteronomy will experience more negative emotions when they engage in learning task.

At the *introjected regulation* level, which is closer to heteronomous/controlling motivation for learning and further away from autonomous motivation for learning in comparison with *identified regulation*, the intrapersonal conflict between what one wants to do and what one **should** do generates unpleasant emotions such as pressure, tension, boredom, anxiety, or worry stronger than the intrapersonal conflict does at the level of *identified regulation* (Deci & Ryan, 1985b, 1986). Liang's emotional experience was

consistent with his learning behaviour at *introjected regulation* level. For example, he said that among the components of his motivation for learning, "a small portion" went to his "willingness to learn." Little interest in learning tasks was evident when he described his learning experience as "endless, endless work." Another example for Liang's applying contingently his goal of learning upon the completion of senior high schooling (i.e. getting high marks in the NEEH) was that he regarded learning activity as "tedious and tiring with heavy workload," and "only the rational understanding" of why he went to such a school kept him persisting in that school.

At *identified regulation* level, a degree closer to autonomous form of motivation of learning than *introjected regulation*, learning behaviour related to this level will elicit more positive and less negative emotions than the learning behaviour related to an *introjected regulation* degree does. However, as the inherent interest of the learning task was not completely integrated into one's sense of self, in other words, into one's personal value, one's engaging in a learning task may associate with other outcomes brought forth **by** learning activity, not necessarily the learning task itself (Deci & Ryan, 1985b). In this study, the participants' engaging in the task of learning in a university-track senior high school was motivated by their

goal of learning (i.e. getting high marks in the NEEH), and by the values associated with the **accomplishment** of this behaviour (i.e. learning). The degree of cherishing the inherent quality of the learning activity varies from one case to another. Accordingly, Liang felt "pleased" when he solved problems with certain difficult levels and saw his "ability," but perceived learning as "tedious." Although he was the top student in the class, **pressure** and **anxiety** were there, too, caused by his **worry** about unsatisfactory performance in the NEEH. Kun sometimes experienced "**happiness** and **delight**" in learning, but not often, when she found that she could deal with school content easily. Nevertheless, Kun reported that generally speaking, she "did not experience apparent pleasant emotions" during her senior high learning but underwent "quite a few unpleasant emotions," such as pressure, anxiety, frustration, and boredom, though none of those was strong. Kun studied hard in order to "satisfy" her parents and herself. Whenever she failed to do so, she would experience **pressure** and **frustration**. She experienced **anxiety** when she did not know whether her marks in semester finals would meet her parents' and her own expectations. When she felt that learning was **dull**, or when working for a long time to finish all kinds of homework, she would feel **bored.** As Wei's learning behaviour was less controlled than Liang's and Kun's, she reported

more pleasant and less unpleasant emotional experiences pertaining to senior high learning. She saw "**delight**" and "**enjoyment**" when she saw that her scope of knowledge was enlarged, her ability in learning had grown, and she would consequently become more **interested** in learning. By the end of senior high learning, when she saw that she had acquired much knowledge, she felt more **eager** to pursue further learning in a university. She experienced such pleasant emotions as delight and interest "very often, almost everyday," and occasionally these emotions impressed her as "strong." On the other hand, Wei also experienced negative emotions such as pressure, anxiety, frustration, and boredom. The awareness of the consequence of failure in the NEEH was a **pressure** to her learning behaviour, and she felt **depressed** whenever she thought about the consequence. Wei further summarized that her negative emotions functioned "like a vicious circle." When she failed several times to meet her expectations for good performance in academic work, she would grow **anxious**, **frustrated**, and **disappointed** with herself. She sometimes **blamed** herself for the marks she lost (in the exams) which she believed that she should not have lost. **Boredom** was there when Wei saw that the learning content was "too much, and the work was **bottomless**, and **boring**." Unpleasant emotions occurred to her "quite often," too, and sometimes "could be strong or very strong." Juan

had both pleasant and unpleasant emotional experiences as well. However, Juan underwent positive emotions more often than negative emotions. She perceived negative emotions mostly during the last three months before the NEEH, not throughout senior high learning. The unpleasant emotions came from "a **repugnance**" to some subject matter to be examined in the NEEH that did not appeal to her at all, for example, some content in Politics. She felt that the content was **dull**, and that she was **forced** to learn it in order to gain high marks in the NEEH. This made her **miserable**. Meanwhile, Juan had more to say in regard to her positive emotional experience. For example, when she learned something new to her, she would become more **concentrated** in listening (to the teachers), more **interested** in learning, more **eager** to learn. When she solved difficult problems in learning, she sensed **enjoyment**, and **enhancement** of self-confidence. Moreover, her positive emotions **helped a lot** to keep up her morale while in school. She perceived that she learned **spontaneously**. As she said, she put in effort, learned something, and saw her **progress** and achievement. Consequently, her learning experience impressed her that she was "**smart** and **clever**" in learning. She had pleasant emotions "almost everyday." Yong simply could not recall any apparent negative emotions which he might have experienced during senior high schooling period.

He also lost marks in some exams which he thought that he should not have lost, but never blamed himself for that, nor "felt anxious or worried." The most prominent emotional experience reported by Yong was "**interest, yes, interest.**" He perceived a **strong** sense of interest when his range of knowledge enlarged, his "curiosity was **satisfied**," and he solved a difficult problem, and saw his "ability, and felt **happy**, and grew more **interested** in learning." He also perceived a strong sense of **interest**, **enjoyment**, and **spontaneity** when he was absorbed in learning activities where he saw optimal challenges. As a result, he thought that his learning in senior high helped a lot to enhance his **self-confidence**, **self-image**, **self-efficacy**, and **self-expectation.** Deci and Ryan (1985a) described the emotions associated with intrinsic motivation. When people are intrinsically motivated, they experience interest because people naturally approach activities that interest them, they experience enjoyment and excitement, they feel competent, they perceive internal locus of causality (p.34). Juan's and Yong's emotional experience during senior high years exemplified some features associated with intrinsic motivation. For example, Yong's "genuine interest" in the learning task itself, interest caused by an optimal challenge, his good sense of self-confidence and competence, his feeling of being self-determined in deciding to go to a

university-track senior high school, in setting the goal of getting high marks in the NEEH, and in going to a good university, were consistent to a certain degree with the emotions described by Deci and Ryan (1985a). Juan's interest in the learning task itself was apparent when she perceived that the more she learned, the more she wanted to learn. Her choice of going to a university-track senior high school, and her goal of obtaining good marks in the NEEH were both made in the absence of external pressure; she perceived internal locus of causality involved in making these choices. She saw her competence in learning when her progress and achievement furnished her with the feeling that she was "smart and clever."

Actually, high perceptions of ability / competence in learning were visible across the cases. One example was that none of them had ever doubted whether or not they could pass the NEEH and go to a university. They were only concerned about which university they would possibly attend. Secondly, in face of difficulties in learning, they would all try harder; it evidenced their confidence in their ability / competence. This confidence in competence developed from their learning experience as consistently high achievers. Deci and Ryan (1985a) expected to see a close relationship between perceived competence and intrinsic motivation. However, while high perceptions of

ability / competence were evident with all the students, intrinsic motivation was not so evident with Liang's, Wei's and Kun's cases. Their learning behavior exemplified features related to *introjected regulation* and *identified regulation*. One explanation of this phenomenon given by Deci and Ryan was that in order for the perceived competence to affect intrinsic motivation, the perceived competence must exist within the context where the person does not perceive external control / constraint over the level of his/her performance (1985a, p.58-59). In these three cases, the levels of academic performance were perceived to be strongly controlled / constrained by the goal of obtaining high marks in the NEEH. With this controlling contextual factor, high perceptions of ability did not associate closely with intrinsic motivation in these cases.

Research question B: What did the students perceive as the features of their learning environment with respect to that as being autonomy supportive versus controlling?

A. Learning environment at school

The features of a learning environment may signify the nature of autonomy supportive versus controlling of that environment. In an autonomy supportive learning environment, typically, a learner experiences self-

determination and internal locus of causality in his/her learning. As the behaviours are initiated by the learner's sense of self, it is autonomous, so the learner will experience freedom of choice in learning behaviours. To support autonomy, a learning environment is characterized by supplying a learner first with choices in learning. Other features perceived by the learner, including optimal challenge and informative feedback, are positively correlated to an autonomy supportive environment. Learning within such an environment, a learner will consequently experience positive emotional experience such as interest, enjoyment, or spontaneity (Deci, 1987; Deci, Vallerand, Pelletier & Ryan, 1991; Deci, Eghrari, Patrick & Leone, 1994; Deci & Ryan, 1980, 1985a, 1985b, 1986, 1987, 1992a, 1992b, 1994; Deci, Schwartz, Sheinman & Ryan, 1981; Rigby, Deci, Patrick & Ryan, 1992). Contrasted to an autonomy supportive learning environment is a controlling environment. An environment is basically controlling when a learner perceives the environmental context as being constraining his/her learning in one way or another. Therefore, as the learning behaviour is controlled instead of being initiated by the learner's self, the learner perceives an external locus of causality associated with his/her learning behaviour. In other words, the learner perceives his/her learning behaviour as initiated by factors

outside the self (Deci & Ryan, 1985a, 1987; Ryan & Connell, 1989). Consequently, the learner experiences negative emotions in that environment (Deci & Ryan, 1987). However, it does not mean that the contextual factors determine a learner's learning behaviour in a straightforward way; instead, it is a learner's interpretation of the contextual factors that gives the decisive meaning that determines/governs the learner's behaviour in learning (Deci & Ryan, 1987). Therefore, as events and contexts in a learning environment may be perceived differently by different people, the events and contexts may signify differently from different learners' perceptions (Deci & Ryan, 1986, 1987).

Among the five cases discussed in this study, some contexts in the learning environment demonstrated conspicuously the features of controlling and were common to all the five cases. For example, the learning environment at school did not provide the learners with any choice in learning activities. The environment was examination-oriented; the goal of learning in a university-track senior high school was pre-set for every student: learning for good marks in the NEEH. The subject matter not to be examined was generally ignored in one way or another. The students were encouraged overtly and officially to give as good a performance as they could in the NEEH. These contextual

factors were perceived as being strongly controlling by all the five participants. For example, all of them were working hard to reach the same goal upon completion of senior high learning: getting high marks in the NEEH, and this goal **controlled** their behaviour in learning to a certain extent. For example, this goal kept Liang studying hard in that key senior high school, otherwise he simply wanted to "give up." Kun found "no interest" in learning in senior high school; she studied hard in order to obtain high marks in the NEEH so that she could satisfy her parents and herself. Wei, Juan, and Yong all reported that they **had to** practice on some drills which they felt as dull, or tedious, or boring, merely for the purpose of getting good marks in the NEEH.

Some school contexts were perceived differently by the five participants. First, academic ranking gave different messages to different people. Academic ranking of various types was the most frequently used form of feedback. In Liang's case, the re-allocation of students into different classes absolutely according to their academic ranks in a certain examination was a unique form of performance-contingent reward and peer competition as well. Liang personally liked academic ranking, liked the honour attached to the top place in the ranking, as it indicated the outcome of his effort in and ability for learning. For

him, academic ranking as feedback was "definitely evaluative," but he also perceived it as a type of "positive pressure," when he said that it could "inform you of how well you did, and encourage you, inspire you," or push a student to strive for greater progress. The nature of academic ranking and the rewards following the ranking was from Liang's perceptions both evaluative and informative. However, the information they supplied to Liang was more controlling than autonomy supportive as it did not provide any freedom of choice for Liang's learning. For example, despite the encouragement Liang experienced from ranking, he certainly could not choose not trying hard in learning. The information which he drew from ranking actually served the purpose of how to maintain his academic rank in competition; it was thus in nature controlling (Deci & Ryan, 1992b). To put this idea in other words, the encouragement which Liang perceived in the feedback only pressured him to do what he **should** or what he **was supposed** to do to get good marks in the NEEH; it did not provide him with any opportunities for self-determined behaviour, nor ways of how to make improvement in his learning. Feedback administered in an atmosphere that was basically controlling could not really be "informative" (Deci & Ryan, 1985a, 1986, 1987, 1994). Yong's case was similar to Liang's in the following aspects. First, there was academic ranking; second, he was always at

the top. Yong liked this type of feedback, because he "was the best" every time, he "earned the place" by his "own effort," and "felt proud of it." Yong thought that ranking signified more than just a type of honour when he said that the consciousness of his academic rank and how well he could do provided him with courage and confidence when he faced a challenge, and also helped him to get rid of a bad mood such as being low-spirited, sometimes. From Yong's perception, academic ranking was "evaluative by nature," but also informative as it "delivered information of how well one student did in the past semester." The nature of this type of information was more controlling than autonomy supportive to Yong, as it did to Liang. Juan perceived the significance of ranking and other rewards in the way Liang and Yong did. For example, she perceived that these things would "inspire and encourage" her in learning, "enhance" her self-confidence and courage especially when she faced difficulties in learning. She did not perceive the motivational impact of these rewards in her learning when she said that she "was not learning for them." She recognized that obtaining the rewards was not the goal of learning. In spite of her perceptions that academic ranking was both "evaluative and informational," the feature of which was more controlling than autonomy supportive to Juan, she could not but choose to keep working hard and getting

good marks in her academic work. Although Wei reported that she "liked ranking, and "liked the encouragement" which she saw from ranking, ranking did contribute to anxiety on the part of herself and her parents when her rank went down, and "there could arise a sort of pressure" to her learning behaviour. Kun perceived that neither she nor her classmates "really liked" the ranking, because it made students "nervous" and those below average "embarrassed." She perceived ranking as a type of "stimulus" to her learning behavior. When her academic rank went down, she would feel 'upset," then would "work harder."

To conclude, while academic ranking and other performance-contingent rewards were perceived to influence learning behaviour and emotions in different ways, their basic nature of controlling was seen across these cases. A common feature of controlling is: it pressured these students to work for high marks in the NEEH.

Secondly, peer competition was perceived as having different types of impact with different levels on different people. There was peer competition in all five cases. Two common features pertaining to the competitions were: 1) The competition within a school/ class was under the direct influence of the fact that only a small percentage of the senior high graduates could be enroled in (the state quota) a higher educational institute; and 2) the competition was

encouraged explicitly by school authorities. Liang saw an "intense" atmosphere from peer competition. In addition, the re-allocation of the students into different classes brought the hidden competition into the open. The immediate focus of peer competition could easily be directed to defeating others so as to maintain one's status in a class superior to some others. This added to the nature of peer competition the quality of controlling (Deci & Ryan, 1992b). Yong perceived peer competition during his senior high schooling as "positive, because nobody would resign oneself to lagging behind." Thus, in his case, the goal of peer competition was not to win but not to lose. He viewed it as normal phenomenon in a school setting where students competed to do better when he said, "We competed with each other to maintain or upgrade our academic status, but we were not 'rivals.'" Yong and his peers often helped each other with learning. Yong's perception was to a good extent consistent with what Deci and Ryan asserted (1992b) that in some cases, with competition, people could receive "optimal challenges and feedback that may facilitate competence" (p.18). However, the fact was that in an environment where people were preparing for "a struggle of a lifetime, climbing up to glory or falling into disgrace" (Cai, 1994; p.10), the essence of peer competition could only mean "discouraging and obstructing others' effort to achieve,"

and "winning and benefiting at the expense of others" (Johnson & Johnson, 1985). Consequently, when Yong perceived that optimal challenge in peer competition facilitated competence in learning, the nature of competition was controlling to a certain degree when he and his peers competed for high academic ranks which only a few among many could obtain / maintain. Juan saw that peer competition in her senior class was "pretty severe." Some students hid away reference materials or refused to help their peers with learning. Juan never minded helping her peers. She said that she was not concerned with the competition, one reason was that she was high above at the top of academic ranks, she had adequate confidence and ability to maintain her academic status. Peer competition did not affect her much. However, as the competition was there, its controlling aspect was seen when Juan said that her immediate achievement target of learning in senior high was to maintain her academic status in class, although it did not necessarily mean that she wanted to "beat the others" on purpose. Wei experienced pressure from peer competition as she often saw from it the message that she needed to study harder to maintain or upgrade her academic rank. Obviously, the message which she drew from peer competition manifested the feature of controlling as it pressured her to behave in a certain way (Deci & Ryan, 1987,

1994). Kun perceived the peer competition in her senior high class as "in most part positive," for "it could help" the students "to work diligently for better performance." In addition, she thought peer competition as "just natural." In her case, peer competition might provide chances for "optimal challenges," but mostly was controlling as it drove the students to behave in a certain way (i.e. for better marks).

To sum up, while the impact of peer competition was perceived differently by different participants, the controlling nature of the impact was evident in all the cases. The difference lies only in the different levels of strength of controlling on people's learning behaviour. For instance, Liang might have perceived the competition as being more strongly controlling on his learning behaviour than Yong, Juan, Wei or Kun did.

People's emotional experience in a learning environment was associated with the features of being autonomy supportive versus controlling. In a controlling learning environment, one tends to experience negative emotions in learning, and tends to experience positive emotions in an autonomy supportive learning environment (Deci & Ryan, 1985a, 1987, 1992b, 1994). In these five cases, the participants perceived the features of their learning environment at school differently, and they experienced

different emotions respectively. Liang perceived the atmosphere in his learning environment at school as being "**tense**," and he was pressured to behave in a particular way; i.e., to study hard in order to get high marks in the NEEH. He reported all kinds of negative emotional experience such as **pressure** and **anxiety** due to his **worry** about his future marks in the NEEH, in spite of the fact that he was the top student in his class. Because the pre-set goal of learning in a university-track senior high school is that the students should work hard to obtain good marks in the NEEH, Liang also felt that learning activities there were "**tedious** and **tiring**," and the school life was dull when he said "no time for social activities, no time for recreational activities." His strong negative emotions indicated that the learning environment impacted upon him as controlling to a good degree. Generally, Yong liked the learning atmosphere at school, which he perceived as being marked with a **strong interest** in learning and a tendency of "striving for a better future." However, a few times, he perceived **anxiety** and **boredom**. Anxiety came from the suspense of his future performance in the NEEH, and the **intense** atmosphere prevailing in the school a couple months before the NEEH. Boredom was elicited by the "useless" learning content and drills that he **had to** grasp well simply for the purpose of ensuring good marks in the NEEH. These

negative emotions, though not often, suggested the controlling nature of his learning environment at senior high school. Juan generally liked the learning environment in her senior high school. She enjoyed great popularity among her peers and teachers, and she viewed that the learning environment was "good for learning in general." As Juan was not deeply involved in peer competition, in general, she did not have negative emotions connected to it. Her negative emotional experience, **pressure** and **anxiety**, were mostly attributed to her **worry** and **fear** of poor marks in the NEEH, which also made her **nervous**. It apparently **annoyed** her when she mentioned that the NEEH "was unfair, the NEEH, it **was**!" She also experienced **boredom** from having to learn some subject matters that she "**hated**"; she felt "**disgusted**" with this kind of learning. Her negative emotions indicated that much as she liked learning activities, the controlling element in her learning context elicited her negative emotions. Wei liked the learning environment in her senior high school mainly because there was an atmosphere "**favourable** for learning." However, as the priority of all learning activities was to prepare the students for good marks in the NEEH, Wei also perceived the overall atmosphere as "**intense**, and learning was **tedious** and **tiring**." Wei perceived that the school life "was **dull**," as there were "no recreational activities," and "social

intercourse and communications were limited to exchanging ideas in learning, discussing questions, and things the like." She perceived **pressure** from peer competition, and **boredom** from having to deal with some drills in order to gain high marks in the NEEH. It was not difficult to see that the controlling contextual factor (i.e. learning for good marks in the NEEH) brought forth these negative emotions. Kun said that she "liked" the learning environment in general in her senior high school: the students were helpful to each other, the teachers were professional, and the overall atmosphere was "**harmonious**." Peer competition was there, but Kun did not perceive many negative emotions associated with it. However, a poor score in examinations would "**upset**" her, and "**urge**" her to work harder. She took test score and academic rank as types of "**stimuli**." While Kun did not perceive strong negative emotions brought forth by her senior high learning environment, we could see that she was regulated to behave in a certain way toward a certain direction; i.e., to obtain high scores in the NEEH. The learning environment in Kun's senior high school did carry the features of controlling.

In brief, the negative emotions experienced by the students during senior high years were perceived to be associated with various controlling contextual factors among which the most salient factor was the pre-set goal of

getting good marks in the NEEH.

B. Learning environment at home / in the family

As a learning environment, one's home / family also carries the features of autonomy supportive versus controlling with different parenting styles (Deci, Driver, Hatchkiss, Robbins & Wilson, 1993; Deci & Ryan, 1994; Deci, Schwartz, Sheinman & Ryan, 1981; Grolnick & Ryan, 1989). By examining the contextual factors such as freedom of choice in learning and feedback about learning perceived by a learner, and the emotions experienced by this learner in that environment, we will know the features of that environment as being autonomy supportive versus controlling for that learner (Deci, 1987; Deci, Nezlek & Shienman, 1981; Deci & Ryan, 1985a, 1987, 1994; Ryan, Connel & Deci, 1985).

Liang's choice of going to a university-track senior high school and obtaining high marks in the NEEH so that he could go to City X was made on the basis of his awareness of his parents' expectation and his own willingness. This choice was not self- determined/ autonomous as he actually had no real freedom of making other choices. For example, his parents would be unhappy or disappointed if he chose technical school instead of a university-track senior high school, and he simply could not choose giving up during his

senior high learning. His perception of his senior high learning as "tedious and tiring with heavy workload" betrayed the pressure to his learning behaviour caused by this choice. The feedback (regarding his academic performance) he got from his parents signified much evaluative value. For example, his father collected every certificate of merit, badge of honour, school report, and other symbol indicating Liang's performance at school. From this, Liang could easily infer that, first, learning and good performance was greatly valued; second, Liang **should** try to maintain his academic status to satisfy this "silent expectation" of his parents. He sensed implied "pressure" here. The environmental atmosphere at home was never "intense;" but the children knew that they were expected to obtain good marks in important exams. Liang knew well what he **should** do. The psychological pressure, though not much, and the feeling that one "should" behave in a certain way were both indicators of controlling contextual elements in a learning environment (Deci & Ryan, 1987, 1994).

Yong viewed the support and encouragement between his parents and himself was "mutual." His parents supported his choice of going to a university-track senior high school morally and financially; his good performance at school supplied his parents with pride and satisfaction. Yong felt that his choice in learning was respected in the family.

The most frequent feedback that Yong received from his parents were "Guard against arrogance" and "study hard." Yong perceived the atmosphere at home with respect to his learning as "loving, caring, and encouraging;" he did not experience negative emotions at home. However, when Yong was aware of his parents expectation for his learning (i.e. going to a good university) and said, "If I do not do well in the NEEH, I will let them down," we could see that as Yong applied his parents' expectation contingently, there was controlling features, though not much, in the learning environment at Yong's home.

Stiller and Ryan (1992) reported in their study with 755 junior students that the degree to which a parent's resources were available was an important aspect of motivation contexts which is second to perceived autonomy support. Parents' interest and active role in a student's life, dedication of time and other resources to the student's learning featured an autonomy supportive atmosphere, and was positively associated with the student's achievement at school. Juan perceived no parental involvement in her senior high learning. They "never" cared about her learning, nor did they have any expectation for her learning. Juan even perceived that they did not care "whatever" she was doing, or what she would do in the future. Juan looked after her learning in and outside the

school as well as a series of chores at home. Juan's parents "never gave any response" with respect to her education or learning or academic performance and, as Juan perceived, her grades at school signified "nothing" for them. Juan commented on the learning environment at home as "good," for nobody would bother her when she was working at home. However, she said that she would really appreciate it if her parents would care a bit more about her learning. Juan's home environment was not autonomy supportive for her learning. For example, she was not provided real freedom of choice. She actually perceived no information from her parents regarding the type of education, or goal(s) of learning that she would have at senior high level schooling, at the time of making such decisions. The idea of going to a university-track senior high school **was** initiated by her, but the decision was **limited** by a 15-year-old girl's knowledge and understanding of the possibilities connected to her future. She perceived no information which either supported or controlled her choice from the environment. This type of environment was neither autonomy supportive nor controlling. Although Juan said that she felt the environment at home was "good" for her learning, her hope for her parents' "a bit more attention" towards her and her learning demonstrated her sadness, dissatisfaction or depression experienced at home.

Wei's parents paid "great attention" to Wei's leaning and kept track of her academic performance. Although Wei commented that the decision of going to a university-track senior high school was her own choice, and going to a university was her self-selected goal, it was a fact that Wei's decision of going to a university-track senior high school was modified by her parents' expectation of her education: going to a key university. Her parents' expectation, as a contextual element, functioned as more controlling than autonomy supportive, for it provided Wei with no other choice available upon her making this decision. For example, she could not choose a technical or vocational school, nor could she choose not going to a university upon completion of senior high schooling. This feature indicated that Wei did not have real freedom of choice for her learning. The feedback which Wei received from her parents was mainly their "evaluative" reactions towards her marks. Sometimes they cared about her learning in some other ways, but their care was directed to the single ultimate goal of Wei's senior high schooling: getting good marks in the NEEH. This type of feedback exercised a controlling impact on Wei's learning behaviour. Wei greatly appreciated her parents encouragement throughout her senior high education; however, she perceived unpleasant emotions related to the learning environment at home, such as her

dislike of her parents' way of evaluating her learning, and the rules set up at home concerning her "use of time after school." These negative emotions were associated with the contextual elements perceived as controlling in the home environment.

Kun's parents "definitely" cared about her learning. Their expectation for Kun's senior high learning was: getting good marks in the NEEH and going to a good department in a first-class university. Although Kun said that she chose to go to a university-track senior high school, it was obvious that her choice was consistent with the expectations of her parents, and the popular belief prevailing the university-employee society. As Kun perceived this choice as the "only right way," she was in fact provided with no other choice in her family. When the feature of freedom of choice is lost, the environment is no longer autonomy supportive. In addition, the nature of feedback from her parents was evaluative. They asked about her scores, and compared her scores with those of others. If Kun's scores were not satisfactory, they would say that she needed to work harder. Their feedback conveyed the idea that she **should** try to get desirable marks. As it restrained Kun's learning, it was controlling. Another feature associated with a controlling environment was negative emotions, which Kun experienced when she said that

she "never liked" her parents' comparing her scores with other students, and she sometimes "suddenly felt keyed up or anxious" when she sensed high family expectations for her good performance in the NEEH.

Summary

The Nationwide Entrance Examination for Higher Education Institutions (NEEH) at the end of the senior high schooling period had a profound influence on the students' learning behaviour, emotional experience in learning, the learning environment at school, and the learning environment at home.

With respect to learning behaviours in a university-track senior high school, owing to the pre-set goal of preparing the students for good performance in the NEEH, the students were provided no other choice but heading towards that direction. The subject matter not to be examined in the NEEH was ignored in teaching/learning. Without exception, five participants all reported that their goal upon completion of senior high schooling was to obtain good/high marks in the NEEH, and then go to a good university. While Yong, Juan, and Wei related some active or spontaneous behaviour in learning such as "the more I learned, the more I wanted to learn," Liang and Kun simply kept working in an

extrinsically motivated way as they perceived their learning in senior high as purely instrumental to obtaining good marks in the NEEH and then going to a good university. Furthermore, they all had the experience that they **had to** learn some school content or practice some drills which were "absolutely" useless for further learnin. They were merely for the purpose of getting high marks in the NEEH. The learning behaviours were thus under the control of the NEEH. However, it is worth noticing that as they approached learning with different attitudes or perspectives, the learning behav ur of five participants varies in the degree to which it is autonomous versus controlled. Liang's and Kun's learning behaviour carried the features of being more controlled than did that of Wei, Juan, and Yong. Yong's and Juan's learning behaviour carried the features of being more autonomous than did that of Wei, Liang, and Kun as their learning behaviour demonstrated features of intrinsic motivation such as spontaneity and liking of optimal challenges.

The students' emotional experience in learning was related to their learning behaviour. Liang reported his senior high learning as "tedious and tiring" but related a little positive emotional experience. His emotional experience was associated with his learning behaviour that was more controlling than autonomous. While Yong disliked

his having to work on the school content and drills which were "absolutely useless" for future learning, he reported much positive emotional experience such as interest, enjoyment, satisfaction, and delight, as he originally approached learning activities out of "interest," curiosity and a desire of expanding his knowledge. The features of his emotional experience associated with the learning behaviour are more autonomous than controlled. Juan recalled emotional experience similar to Yong's, which was congruent with her learning behaviour as well. Wei and Kun both described the pressure, frustration, anxiety, boredom, and worry they experienced in learning activities, while Wei described more positive emotions in learning; such as, interest, delight, and spontaneity. These emotions were connected to their learning behaviours. Kun's learning behaviour was more controlled than was Wei's. All of them reported anxiety, worry and pressure caused by the suspense of predicting their future performance in the NEEH. This phenomenon was more significant when we know that three out of five were once top students in their class or grade. It is worth noticing as well that their different emotional experiences also contributed to the fact that as they approached learning activities with different attitudes, and personality charateristics, the emotional experience in the five cases varies.

The controlling features of the NEEH in the learning environment of a university-track senior high school were perceived in all cases. First, the pre-set goal of obtaining high marks in the NEEH controlled the students' learning behaviour. Secondly, the feedback was controlling as the students' attention was directed overtly to maintaining or promoting their academ .nks. Thirdly, they perceived negative emotions due to learning in such an environment. Liang perceived school life as "intense" and "tedious;" Yong saw it as "dull;" Wei perceived the atmosphere at school as "intense, tedious, and tiring;" Kun reported that a poor score would "upset" her; Juan was also under the pressure caused by her fear of doing poorly in the NEEH. These envircnmental and emotional features indicated that the learning environment in the senior high schools concerned in this study carried very obvious features associated with the nature of controlling. However, as Yong's and Juan's learning behaviour manifested features of intrinsic motivation and they experienced relevant positive emotions in learning, they perceived the learning environment at school as being less controlling than Liang and Wei did. Kun's learning behaviour was apparently controlled by her desire of satisfying her and her parents' expectations. Yet, as she took some phenomena such as academic ranking and peer competition for granted or as

being "natural," she did not perceive the learning environment at school to be so controlling as Liang and Wei did.

The NEEH affected the features of learning environment at home as well. First, in Liang's, Yong's, Wei's and Kun's cases, the parents had explicit expectations for these students of getting high marks in the NEEH and going to a good university upon the completion of senior high schooling. Parents' expectations in turn contributed to the students' choice of schools, goals and behaviours of learning. Parental style that did not provide real freedom of choice concerning learning activities was an important feature of controlling. Secondly, the feedback and the way of presenting the feedback to the students in Liang's, Wei's, and Kun's families manifested the feature of controlling as they pressed the students to act/behave in a certain way, urging the students to promote their academic performance. Thirdly, although it was not very strong, Liang, Wei, and Kun perceived pressure at home which "pushed" them to behave towards a single goal, getting desirable marks in the NEEH. These phenomena were all indicators of a controlling learning environment at home.

Finally, one more thing is worth noticing. As all the participants were once high-achievers in senior high, they all had a good sense of self-confidence, self-image and

self-worth. This fact has affected their perceptions of the negative impact of a controlling contextual factor, such as the NEEH, on the students' goals, learning behaviours and emotional experiences. For example, none of them needed to worry about passing the NEEH, because it was never a problem for them to obtain the minimum marks needed in the NEEH to go to a college/ university. What they were striving for was to get good marks so as to go to a good university of their choice. In this case, their pressure of passing the NEEH was much less than it was for those who were struggling for an opportunity to attend a higher educational institution.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Below are the conclusions drawn from the findings of this study.

1. The NEEH controlled the students' learning behaviour in university-track senior high schools mainly by: a) a pre-set goal for all the students, and b) directing the students' learning behaviour toward that goal. The learning behaviour of the participants demonstrated the features of introjected regulation and identified regulation degrees along the continuum of internalizing and integrating an extrinsic regulation from heteronomous control to autonomous self-regulation. In two cases, features of intrinsically motivated behaviours were perceived as the participants originally approached learning out of interest, curiosity and desire of expanding knowledge scope. However, their learning was unavoidably controlled to a certain extent by the goal of getting good marks in the NEEH.

2. Learning environments at school were perceived as being controlling in some aspects among which the two salient features were academic ranking and peer competition. As only a comparatively small portion of the applicants could enter the college / university (as state-quota students), only those whose performance in the NEEH was better than that of some others could have the opportunities. Academic ranking and peer competition reflected the selective nature of the NEEH.
3. Learning environment at home / in the family, in four cases, was featured with the parents' expectations of obtaining high marks in the NEEH. The expectations were perceived as being controlling by the students as they saw no other choice but to behave in ways congruent with the expectations. The only case where the parental style was neither autonomy supportive nor controlling was the case where no parents' involvement was perceived in the student's learning.
4. Emotional experience mirrored the features of a student's learning behaviour and the perceptions of the learning environment. As the learning behaviour of participants was controlled by the goal of getting good marks in the NEEH to a certain degree,

relevant negative emotions were reported. In two cases, positive emotions were perceived as the students originally approached learning with intrinsically motivated attitudes such as interest, curiosity, and a desire to acquire knowledge.

5. As consistently high achievers in senior high schools, the participants never needed to worry about passing the NEEH and then going to a university. Their academic ranks were always very high; therefore, their perceptions cannot represent the perceptions of the students of other achievement groups.

Recommendations for Further Research

Recommendations for further research were put forward on the basis of the investigation conducted in this study.

1. As the participants of this study were all once high achievers during senior high schooling period, further research could be conducted with the participants of different achievement levels during senior high schooling period with the purpose of furnishing the research in this area with the perceptions of the students of different achievement levels for a more complete picture of the features

of autonomy in motivation for learning.

2. Further research could be conducted concerning cultural characteristics of participants from different ethnic groups to compare their perceptions with respect to the features of autonomy in motivation for learning and the features of the learning environment as being autonomy supportive versus controlling.
3. Further research could be conducted with the same group of participants with regard to the features of autonomy in motivation for learning during their higher educational years. This investigation would be useful for a comparative study to see the difference or similarity, if any, between the features of autonomy in motivation for learning during their senior high period and higher education period.
4. Further research could be conducted by using quantitative research approaches to inquire into the degrees of the relationship between the students' perceived features of autonomy supportive versus controlling and emotional experience in a university -track senior high school in the People's Republic of China.

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APPENDICES

Appendix A: The list of sub-questions and relevant rationales for major research questions

Research Question A: What did the students perceive as the features of their learning behaviour and emotions experienced with respect to different degrees of autonomy versus heteronomy in motivation for learning?

1. Could they have choice in learning (e.g. types of education, academic goals, etc.) ?

   1) Upon finishing junior high education, did they ever have the idea that they might like to make other decisions than going to a university-track senior high school and devoting the entire senior high schooling to the preparation for the NEEH?

   2) Was the decision of attending a college/university their own choice?

   3) If they chose going to a university-track senior high school and attend a college/university, was their choice initiated by (a) their own intention, (b) social comparison, (c) interpersonal context, or (d) other reasons? Why and how?

(Rationale:

The most salient feature of autonomous learning behaviour is that a learner chooses his/her behaviour as an expression of his/her own intention. The extent to which a

learner can have a true choice or a learner can experience that he/she is the true origin of a choice is associated with the extent of autonomy of his/her motivation for learning.)

2. What was the ultimate goal(s) of senior high level learning?

   1) Did they feel 'rewarded' just by engaging in learning?

   2) Did they perceive their learning during senior high schooling as being 'instrumental'?

   3) Did they perceive pursuing higher education as being personally important or valuable, in one way or another?

   4) Was there any internal contingency operating, such as self-worth/-esteem, when they set up the goal(s) of learning?

(Rationales:

1. The feature of choosing goal-pursuit is associated with the nature of how much true freedom a learner has when he/she makes such a choice/ sets up a goal, which in turn reflects the degree(s) of autonomy in his/her learning behaviour.

2. Goal-pursuits are associated with various types of motivation, which may be intrinsic motivation or diferent degrees of internalizing and integrating extrinsic value(s)

into one's self.)

3. What emotional experience did they have in learning?

1) Did they experience spontaneity, interest, and enjoyment when they engaged in learning activities? (Note: the interest or enjoyment is different from the happiness or pride or satisfaction derived from good academic achievement, such as good grades.) If they did, when and to what extent did they have such emotional experience?

2) Did they feel interested in or enjoy learning the school content which was not to be examined in the National Entrance Examination for Higher Education (NEEH)?

3) Did they experience pressure, anxiety, frustration, or boredom when they engaged in learning activities? If they did, when and to what extent did they have such emotional experience?

4) Did they experience shame, humiliation, or guilt when they encountered failure? If they did, under what circumstances and to what extent did they have such emotional experience?

(Rationales:

1. A learner whose learning behaviour is initiated by intrinsic motivation or self-determined extrinsic motivation for learning needs no external values to regulate his/her

learning behaviour. The learner performs out of his/her own spontaneity, interest, or choice, and thus experiences enjoyment simply by engaging in learning activities. The extent of positive emotions a learner has experienced, such as interest and enjoyment, is associated with the features of autonomy of his/her motivation for learning.

2. A learner who is driven by extremely extrinsic motivation for learning performs against his/her own interest or choice, and experiences anxiety, pressure, frustration, or boredom. The extent of negative emotions a learner has experienced is associated with the features of autonomy of his/her motivation for learning.

3. The feelings of shame, humiliation, and guilt relate to attribution and consequence of failure, depending on a learner's goal-pursuit in learning. Guilt is more likely to be related to positive goal-pursuit or adaptive behaviour, whereas shame and humiliation are more likely to be related to negative goal-pursuit or maladaptive behaviour.)

<u>Research Question B: What did the students perceive as the features of their learning environment with respect to that as being autonomy supportive versus controlling?</u>

1. What did the students perceive as being the features of their learning environment at school?

   1) Did the learning environment at school provide/offer

choice concerning academic achievement target(s)?

a) Was the target activity (i.e. getting a good score in the NEEH) an optimal challenge to all the students in the class, according to their perceptions?

b) Was there any possibility when they could choose different levels of achievement targets in learning according to an individual's skill and knowledge level?

c) Some subject matter was not to be examined in the NEEH. Would the students spend more than the minimum amount of time needed to pass it on that subject matter?

(Rationale: As 'choice' is the most salient feature of autonomous learning behaviour, an autonomy supportive learning environment should be evidenced by offering / encouraging 'choice' so that the students can choose academic achievement targets or make choices for learning in accordance with their skill/knowledge levels and personal interest.)

2) Was the feedback in general informational of critical / evaluative?

a) Did they perceive feedback as being informational and promoting autonomous learning?

b) Did they perceive feedback as being critical or

evaluative of their progress or achievement?

3) Was the feedback administered in a controlling or autonomy supportive way?

a) In what ways did they get the feedback of their learning, controlling; e.g., ranking, publicising the grades, selective / evaluative / reward-/ punishment-related contingencies, etc., versus non-controlling ways providing information of helping improve autonomous learning?

b) Did they feel the ways of administering feedback as being controlling; e.g., exercising pressure on them to perform in specific ways, or autonomy supportive encouraging heir spontaneous interest and choice in learning?

(Rationales: Feedback is an important variable influencing a learner's motivation for learning. The features of feedback and the features of the ways by which it is administered cast impact on the students' achievement motivations.

1. Feedback as contextual factor can have supportive or detrimental effects on autonomy in motivation for learning, depending on the features of the feedback combined with the ways by which it is administered.

2. The ways of administering feedback can have supportive or detrimental effects on autonomy of motivation

for learning, depending on the features of the ways: non-controlling versus controlling.

3. Positive feedback is informational which is delivered in a non-controlling style.

4. Administered in a non-controlling manner, negative feedback can be helpful by showing the learner the deficiencies in his/her learning.)

4) What was the impact of the learning environment at school have on the students with respect to emotional experience?

a) Did they experience spontaneity, interest, or enjoyment through learning in their class/school? When and to what extent did they have such experience?

b) Did they experience anxiety, pressure, worry, boredom, or frustration through learning in their class/school? When and to what extent did they have such experience?

c) What features did they perceive about the impact of ranking on the students in the class/school?

d) What features did they perceive about peer competitions in the class/school?

e) Did they feel that they were competent to control their learning outcomes (i.e. getting desirable scores in the NEEH), or worry about it?

(Rationales:

1. Autonomy supportive environment encourages autonomous learning so that a learner experiences the emotions associated with autonomous learning behaviours. Controlling environment casts pressure on the learners so that they experience the emotions associated with controlled learning behaviours.

2. The emotions a learner experiences in a learning environment are associated with the features of that environment with respect to that as being autonomy supportive versus controlling.)

2. What did the students perceive as being the features of their learning environment at home?

1) Did their parent(s) or other family members support their spontaneity, interest, and choices for learning, such as types of education, goal-pursuit, academic achievement target(s) ?

2) What types of feedback did they get from their family, informational or critical / evaluative?

a) Did they perceive feedback as being informational and promoting autonomous learning?

b) Did they perceive feedback as being critical or evaluative of their progress or achievement?

3) Was the feedback administered in a non-controlling or controlling manner?

a) In what ways did they get the feedback of their learning, controlling; e.g., social comparison, criterion-related evaluation, reward-/punishment-related contingencies, versus non-controlling; e.g., ways providing information of helping improve autonomous learning?

b) Did they feel the ways of administering feedback as being controlling; e.g., exercising pressure on them to perform in specific ways or autonomy supportive; e.g., encouraging their spontaneous interest and choice in learning?

4) What was the impact of the learning environment at home/in the family have on the students with respect to emotional experience?

a) Did they experience spontaneity, interest, or enjoyment through learning in the environment created by his/her family? When and to what extent did they have such experience?

b) Did they experience anxiety, pressure, worry, boredom, or frustration through learning in the environment created by his/her family? When and to what extent did they have such experience?

c) What features did they perceive about the impact of social comparisons their parent(s) or other family members made on the students?

(Rationale: The learning environment at home, especially the parenting style, influences the features of autonomy in a learner's motivation for learnng.)

Appendix B: The list of questions to be used in the interview

Questions to be used in interview to draw answers relevant to Research Question A: What did the students perceive as the features of their learning behaviour and emotions experienced with respects to different degrees of autonomous versus controlled motivation for learning?

1) Was the decision of going to a university-track senior high school your own choice? Could you tell me why you made that choice at that time?

2) Did you study conscientiously? Why?

3) How did you value higher education at that time?

4) How did you like your senior high learning experience? For example, did you find it interesting or enjoyable?

5) How did you like the school content that was not to be examined in the NEEH?

6) Did you ever have unpleasant experience in learning such as pressure, anxiety, frustration or boredom? If did, where did it come from? What brought it forth? To what extent did you have such experience?

7) Did you ever fail or do poorly? How did you feel when you fail or do poorly?

Questions to be used in interview to draw answers relevant to Research Question B: What did the students perceive as the features of their learning environment with respect to that as being autonomy supportive versus controlling?

1. What do the students perceive as being the features of their learning environment at school?

1) Was there any achievement target in your senior high learning? If there was, what was it? Was the target your own choice?

2) What target activity did your teachers encourage? What would be the teachers' reaction if a student said that he/she thought the target of getting a good score in the NEEH was too high for him/her?

3) What was the academic demand of the teachers in regard to the subject matter not to be examined in the NEEH?

4) How did you perceive the feedback (of your academic achievement) from the teachers? Did you feel the feedback in general informational or evaluative?

5) How did your teachers generally administer feedback? How did you like the ways and the atmosphere in which the feedback was administered?

6) Was there academic ranking in your class? How did you and your classmates feel about it? How did you feel when your rank went up / down?

7) Was there any reward-related activity on the basis of

academic achievement in your class? If there was, how did you and your classmates feel about it?

8) Was there any peer competition going on in your class? If there was, could you give any examples?

9) Were you normally doing well in senior high? Did you feel confident or competent that you would get good scores in the NEEH?

10) How did you like the learning environment in your class/school in general? Where did such feeling come from?

2. What do the students perceive as being the features of their learning environment at home?

1) Did your parents care about your learning? If they did, what did they often do?

2) What was their expectation for your senior high learning? How did you feel about their expectation(s)?

3) Did you sometimes get feedback from your parents? Did you feel the feedback informational or evaluative?

4) In what ways did your parents give you the feedback? How did you like the ways?

5) How would your parents feel and react when your grades went up / down?

6) How did you like the learning environment / atmosphere at home in general? What brought forth such feelings?

Appendix C: Sample Questionnaire

GENERAL INFORMATION

1. Sex: M _____ F _____ Age _____

2. In which year did you take the Nationwide General Entrance Examination for Higher Education (NEEH):

   Year: _____

3. Were you satisfied with your performance at the NEEH when you were notified of your scores ?

   Yes _____ No _____

Explain:_____

_____

4. Your academic rank in your senior high class approximately was:

   1) Top 25% (above average) _____

   2) Second 25% (above average) _____

   3) Third 25% (below average) _____

   4) Bottom 25% (below average) _____

5. When did you first time take passing the NEEH as one of your aims / goals of learning?

   1) Senior high _____

   2) Junior high _____

   3) Primary/Elementary school _____

   4) Never _____

   5) Other time (Please specify) _____

Questionnaire

1. Was the decision of going to a university-track senior high school your choice?

   Yes _____ No _____

   If yes, why did you make that choice at that time?

   If no, who made that choice for you?

2. What was your ultimate goal(s) of senior high level learning?

   Who set the goal(s)?

   What did the goal(s) mean to you?

3. Did you experience interest, enjoyment, or spontaneity in your learning activities? (Note: Interest or enjoyment in learning activities is different from the happiness or satisfaction or pride derived from things like good grades, academic rank in class, etc.)

   Yes _____ No _____

   If yes, 1) When did you have such emotional experiences?

   2) How often did you experience such emotions?

   3) To what extent did you experience such emotions (i.e. how strong/weak was the emotion)?

   If no, what emotional experience did you have instead?

4. Did you ever have unpleasant experience in learning such as pressure, anxiety, frustration or boredom?

Yes _____ No _____

If yes, 1) Please specify.

2) Where did it come from? Or, what brought it forth?

3) To what extent did you experience such emotions?

If no, what emotional experience did you have instead?

5. Did you ever fail or do poorly in senior high schooling period?

Yes _____ No _____

If yes, 1) How did you feel when you failed or did poorly?

2) To what extent did you experience such emotions?

6. How do you like your senior high learning experience in general? Why?

7. What did you want to achieve as the result of your senior high schooling?

Was that your own choice?

If no, who set that target for you?

8. Some subject matter was not to be examined in the Nationwide General Entrance Examination for Higher Education (NEEH). What was your teacher's attitude towards them? What was your attitude towards them?

9. In what ways did you usually get response of your academic achievement in your senior high school?

Did you like the ways and the atmosphere in which the response was administered? Why?

When you got the response, did you usually feel that the information in general helpful to deal with the difficulties / problems in your learning, or to make your learning more effective?

Yes _____ No _____

If yes, why did you feel so?

If no, why did you feel so?

When you got the response information, did you usually feel that you were evaluated by other people or against some criteria?

Yes _____ No _____

If yes, why did you feel so?

If no, why did you feel so?

10. Was there academic ranking in your class?

Yes _____ No _____

If yes, how did you and your classmates feel about it?

How did you feel when your rank went up?

How did you feel when your rank went down?

11. Was there any reward-related activity on the basis of academic performance in your senior high class?

Yes _____ No _____

If yes, could you give any examples?

If yes, how did you and your classmates feel about it / them?

12. Was there any academic competition among the students in your senior high class?

Yes _____ No _____

If yes, could you give any examples?

If yes, how did you and your classmates feel about it?

13. Did you like the learning environment in your class / school in general?

Yes _____ No _____

Where did such feeling come from?

14. Did your parents care about your learning in senior high?

Yes _____ No _____

If yes, could you give any examples about what they often did or how much they cared about your learning?

If no, why did you think that they didn't care about your learning?

15. Did your parents have any expectation for your senior high learning?

Yes _____ No _____

If yes, what was it?

What did that expectation mean to you?

If no, why did you think that they didn't have any expectation for your senior high learning?

16. Did your parents sometimes give you responses about how they felt about your learning?

Yes _____ No _____

If yes, 1) In what ways did your parents give the responsse?

2) How did you like the ways?

3) Did you feel the response in general helpful to deal with the problems in your learning? Why?

4) When you got the response, did you usually feel that you were evaluated by some other people or against some criteria? Why?

17. How would your parents feel and react when your grades went up?

How would they feel and react when your grades went down?

18. How did you like the learning environment / atmosphere at home in general?

What brought forth such feelings?

Appendix D: A sample of written guide prepared to bracket the investigator's presuppositions during an interview

1) Investigator has acknowledged from the relevant literature review that the NEEH influences the students' learning behaviour in a university-track senior high school. Since the influence might be perceived positively or negatively at different levels by different individuals, the investigator should notice the variations in the responses from different individuals rather than generalize the perceptions across the cases during the process of interviewing.

2) As the participants were all once high achievers in senior high years, the investigator should not assume that they must have enjoyed their learning and experienced mostly positive emotions during the respective period of time.

3) Since the marks in the NEEH were crucial to a student's future, the investigator should not assume that the participants must all have once learned under great pressure or fear of poor performance in the NEEH.

4) As the participants were all once high achievers in their senior high school / class, the investigator should

not assume that they must have perceived the contextual factors as positive to their learning such as the curricula, academic ranking, feedback, or peer competition for promoting one's academic rank by beating some other students.

5) Since the Chinese parents are well aware of the decisive consequence of a student's marks in the NEEH, it should not be assumed that the parents must have been concerned only with their children's marks in the exams, or the parents were not necessarily concerned with how their children managed their learning.

Appendix E: A sample of units of general meaning of one interview question

Question: Did you ever fail or do poorly? How did you feel when you failed or did poorly?

Yes. When this happened, I felt disappointed, frustrated, and new pressure. But such emotions were not very strong; they did not last long, either. I think emotions have relationship to one's personality. I am not a person haggling over every bit of scores; that was the reason that I did not sense the unpleasant emotions very strongly. I got over them quickly, too. Most of my classmates would feel strongly depressed, low-spirited, or frustrated for a much longer time than I did, when they thought that they failed to meet their expectations for academic performance.

Appendix F: A sample of units of relevant meaning

Research question A

Sub-question 3: What emotional experience did the student have in learning?

1) Learning was endless, endless work.
2) I had to put a large amount of time, energy, and patience into learning.
3) I saw a lot of personal sacrifices in learning, such as sacrifice of things like entertainment.
4) Learning itself was tedious and tiring with heavy workload.
5) We all knew that life in a university-track senior high was hard for a teenager; anybody could give up easily.
6) Only the rational understanding of why we were in such a school kept us there, and with this reason, we stuck on, and on.
7) The 'bitterness' of schooling will be paid off with the 'sweetness' of better life in the future. The winners are those who have the last laugh.
8) I certainly felt pressure and anxiety in learning. I worried about my performance in the NEEH all the

time.

9) If I failed to go to a good university in City X, all my effort and time would be in vain.

10) Senior high students who could endure the hardship of learning and managed to maintain high academic status could eventually go to a university.

Appendix G: A sample of clusters of units of relevant meaning

No enjoyment in learning (3, 10)

Heavy workload (1, 2)

No interest in learning (4, 5)

No spontaneity in learning (6, 7)

Negative emotional experience (8, 9)

Appendix H: A sample of common theme of a group of clusters

On the basis of the clusters presented in Appendix G, a common theme emerged:

This student perceived little positive but many negative emotions when this student was engaged in learning.

Appendix I: Sample letter to the students

Letter of Consent

Li, Zhide
Box 35,
Education

Dear fellow student,

I am an MEd candidate in the Faculty of Education at Memorial University of Newfoundland. I hope to interview you for a research project conducted for the partial fulfilment of Master of Education thesis requirements.

The purpose of the study is to inquire into a cadre of Chinese students' perceptions of the features of motivation for learning during their senior high schooling period.

You are assured that:

1. Your participation in this study is voluntary. You do not have to answer every question. You have the right to withdraw from the study without prejudice at any time.

2. All information gathered in this study is strictly confidential and at no time will individuals be identified. Your name will not be used in this study.

3. This study consists of two sections. This first section is a questionnaire; it will take you approximately half an hour to complete it. The second section is an interview between you and me; it will be about half an hour to one hour.

4. The questionnaires will be destroyed upon the completion of the study.

5. The interview will be recorded by a tape recorder, and transcribed. No one else will have access to the tape(s) and transcripts except you and I. The tape(s) will be returned to you and the transcripts will be destroyed upon the completion of the study.

6. A copy of the research result will be available to you upon the completion of the study.

Being a student myself, I am well aware of your busy schedule. I will greatly appreciate it if you would return this sheet to me as soon as possible.

This study has been approved by my supervisor, Dr. F. Cramm, my thesis committee, and the Ethics Review Committee of the Faculty of Education. It is also supported by Memorial University of Newfoundland.

If you agree to participate in this study, please sign below and return one copy to me using the inter-mail envelop provided. The other copy is for you. If you have any questions or concerns please do not hesitate to contact me by: 1) email: zli@calvin.stemnet.nf.ca or 2) telephone: 754 - 0086. In addition, Dr. S. Norris, associate Dean of Research and Development, is available to you as a resource person not directly associated with the study.

Thank you for your consideration of this request.

Yours sincerely,

Li, Zhide

I _____ hereby give consent for my participation in the study conducted by Li, Zhide of an inquiry into a cadre of Chinese students' perceptions of the features of motivation for learning during their senior high schooling period. I understand that participation is entirely voluntary and I do not have to answer every question. All information is strictly confidential and no individual will be identified. The interview will be recorded by an audio tape recorder, and will be transcribed. The tape(s) will be returned to me and the questionnaires and transcripts will be destroyed upon the completion of the study. No one else will have access to the tape(s), questionnaires or the transcripts except Li, Zhide and myself.

_____

Date Signature