CHAPTER – II
REVIEW OF LITERATURE

In any research, it is necessary to review the past studies and empirical findings in order to understand the nature of relationships amongst the variables of the study. The present investigation aimed to find (a) whether intelligence, parenting styles, classroom environment and academic self-regulation contribute to academic achievement of children (b) whether the relationship between above said variables are different or same across Indian and Iranian cultures (c) whether intelligence, parenting styles and classroom environment contribute to children’s academic achievement via their contribution to children’s academic self-regulation. Thus, the ensuing section is an attempt to explore available empirical evidence related to these three areas.

2.1 Intelligence

Intelligence is a general mental ability capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experiences. Intelligence is strongly related to many important educational, occupational, economic and social outcomes. A high intelligence is an advantage in life because virtually all activities require some reasoning and decision-making.

Differences in intelligence certainly are not the only factor affecting performance in education, training, and highly complex jobs, but intelligence is often the most important.

Different groups of people tend to perform differently on general tests of intelligence. The source of these group differences has been hotly debated, because the groups themselves differ in terms of race, ethnicity, and social class. Following researches show the role of cultural factors on intelligence.

2.1.1 Intelligence and culture

Many studies have b made concerning the effects of social class and ethnic membership on performance on intelligence. Controversy regarding racial and ethnic differences in intelligence has raged for many years. A great deal of this debate has
centered for some time around the 15-point intelligence. There is an intelligence
difference between white and African American children.

A study of black children in southeastern United States indicates that black
elementary school children scored significantly lower on intelligence tests than whites
(Kennedy, Van de Riet, & White, 1961). In another study, Lesser, Fifer, and Clark (1965)
demonstrated that there are social class and ethnic group differences in levels of ability
and ethnic group differences in patterns of performance. On four scales of the Hunter
College Aptitude Tests (verbal, reasoning, number, and space conceptualization) given to
6- and 7-year old children, middle class children were significantly superior on all scales
and subtests. Some believed that these differences were due to racial differences in
genetics (Jensen, 1969).

However, Weinberg (1989) found data from adoption studies that reveal the
inadequacy of genetics as the explanation for these group differences. Findings showed
that African American children who are reared in white middle-class families have an
average intelligence of 110. This is about 15 points higher than the average intelligence
of similar African American children who are reared by their own parents. Of course,
adopted children did not score as high as the biological children of the adoptive parents
(116.7). Weinberg believed that genetics accounts for some of the individual differences
within a group from similar environments, but these group differences appear to be more
related to differences in the typical environments experienced by different groups.

Why do these average group differences exist? Brooks-Gunn, Klebanov and
Duncan (1996) found that without any control for environmental differences, there was
an intelligence gap of 18 points between African-American and white children. But the
gap narrowed to only 8 points when family and neighborhood income levels were
controlled and were reduced to only 3 points, when racial differences were controlled. In
other words, differences in intelligence scores between white and African American
children were almost eliminated by adjusting for differences in family poverty,
neighborhood economic conditions, maternal educational level, and differences in the
opportunities children get to learn.

In the United States, Asian-American and Euro-American children tend to score
higher on intelligence tests than African-American and Native-American children, on
average (Neisser et al., 1996). Some researches show, around the 15-point intelligence score, differences between white and African American children (Herrnstein & Murray, 1994). On the basis of another study, Singelman (1999) suggested that ethnic minority group children suffer from emotional and motivational deficits, which decrease their usual intellectual performance.

In conclusion, the research of Weinberg (1989) and Brooks-Gunn et al. (1996) showed strong evidence against a genetic explanation, suggesting instead that social conditions that are typically confounded with race and ethnicity are responsible for group intelligence differences. Weinberg described this concept in the following statement: “there is a myth that if a behavior or characteristic is genetic, it cannot be changed. Genes do not fix behavior. Rather, they establish a range of possible reactions to the range of possible experiences that environments can provide” (1989, p.101). These researches and findings show the role of culture and cultural differences on intelligence.

2.1.2 Intelligence, culture and academic achievement

The relationship between intelligence and academic achievement has been studied extensively in the beginning of this century. The relationship between two variables is not perfect. However, there is a positive significant relationship between them. Freeman (1942) had reported that the correlation between intelligence and academic achievement at the elementary school level varied from .46 to .60 with a mean value of .51 approximately. In another analysis, Eysenk (1947) stated that studies analyzing correlations between intelligent tests and achievement scores reported coefficients ranging from .3 to .7 with a mean value of .5.

This relationship between intelligence and academic achievement has been confirmed not only at the elementary and middle school levels but also at the high school level. Several studies have been cited below to testify this association in Euro-American and Asian countries.

Entwistle and Welsh (1969) investigated this relationship among 2538 Aberdeen school children, who had been tested on various occasions between the age of ten and fourteen years. The correlation coefficients with verbal reasoning were found to be .83 for boys and .84 for girls, but those with non-verbal reasoning were .66 for boys and .70 for girls.
Mathur and Hundal (1972) investigated the relationship between school achievement, intelligence and socio-economic background factors in a sample of one hundred students studying in ninth class. The correlation between intelligence and achievement was .82. However, the partial correlation (controlling for socio-economic status variables) was found to be .68.

Mehdi (1977) in his study on creativity, intelligence and achievement between seventh and eighth-grade boys, found the correlation between intelligence and academic achievement to be .382. Riedel (1980) studied the relationship between self-esteem, achievement and intelligence among students of three ethnic groups in grades seven and eight. The correlation between intelligence and achievement scores was found to be positive and significant.

Jarial (1981), in a study on ninth-grade students, found that intelligence and academic achievement were positively and significantly related among all the four groups, i.e., males, females, arts and science students.

Grewal (1985) did a study on 355 boys and 200 girls from sixteen higher secondary schools in India. Findings showed that intelligence was one of the important predictors of academic achievement.

Singh and Sinha (1986) did an investigation on 150 male Indians, eighth grade from scheduled and non-schedule castes, and found support for this relationship between intelligence and academic performance. Gakhar (1986) examined the correlation of intelligence and personality with academic achievement in four groups of 50 college students each in Science, Commerce, Arts, and Home science. The results showed that intelligence was more closely associated with achievement as compared to the personality factors in all the four groups.

In another research Fehrmann, Keith, and Reimers (1987) found that intelligence emerged as the most powerful predictor of academic performance. Sudhir and Muraleedharan Pillai (1987) administered a science achievement test, a group test of intelligence and socio-economic scale to 146 male and 165 female Indian secondary school students. Findings indicated that high socio-economic status and high intelligence subjects had higher science achievement scores than low-socio-economic status and low intelligence groups.
Atkinson, Atkinson, Smite and Bem (1993) believed that intelligence might be expected to correlate significantly with academic achievement. The correlation is positive, but declines substantially as students proceed through the system. For example, primary school .6-.7, secondary school .5-.6, college .4-.5, post graduate .3-.4.

Wesley (1994) tested ability, high school achievement, and procrastinating behavior as predictors of college performance. The result showed that ability accounted for a significant portion of variance in college grades. Schicke and Fagan (1994) studied the contributions of intelligence and self-concept to the prediction of academic achievement. Results showed that intelligence was the most powerful predictors of academic achievement.

Sabherwal (1995), in a study on 100 orphanage-reared, 100 home-reared deprived and 108 non-deprived children, showed that for the entire sample, verbal intelligence, performance intelligence, and full scale intelligence correlated significantly with total academic achievement in five subjects, viz., mathematics, English, Hindi, Regional language, Science and Social Studies. Result of these researches show that these two variables are so interwoven that it would not be wise to study academic performance without considering intelligence.

Grenninger (1997) investigated the relationship among kindergarten entry age, intelligence, gender, and academic success in the primary grades. The participants in this study were from the National Head Start / Public School Early Transition Demonstration Project. There was a significant relationship between intelligence and reading achievement, intelligence and mathematics achievement, and intelligence and teacher ratings of classroom performance. It was determined that intelligence significantly added to the prediction of these outcomes.

2.2 Parenting Style

Baumrind conducted extensive observation and interview with parents that resulted in the most well-known and influential typological approach (Baumrind, 1971, 1978). She (1991) used the dimensions of demandingness and responsiveness to drive a three-fold classification of parenting styles- authoritative (parents are demanding, responsive; warm and involved), authoritarian (parents are demanding, using power-
assertive practices and being low in responsiveness) and permissive (parents are somewhat responsive but not demanding).

Since development always occurs in a cultural context, cultural factors play an essential role in shaping the behaviors of parents. This section presents an overview of the relevant literature on cultural differences in parenting styles. Then the effects of these styles on academic performance in different cultures are discussed.

2.2.1 Parenting style and culture

Cultural factors can play a major role in shaping the beliefs and the behaviors of parents. The effects of culture on parenting style have been explored in current researches. A comparative review of child-rearing among American and Chinese parents (Ho, 1981; Hsu, 1981) shows that Chinese parents tend to be less expressive of their affection than American parents; Chinese parents tend to control their children more than American parents; Chinese parents are less likely to encourage independence than American parents; Chinese parents emphasize the value of academic achievement more than American parents.

A review of studies has shown that child-rearing practices vary with the culture, socio economic status, type of family, personality of parents, ordinal position, age and gender of the child (Nizamuddin, 1984).

Lin and Fu (1990) investigated the differences and similarities in child-rearing practices among Chinese, immigrant Chinese, and Caucasian-American parents. They found that Chinese and immigrant Chinese parents tended to have higher ratings than Caucasian-American parents on parental control and emphasis on achievement. It shows that the immigrant group was gradually becoming assimilated into U.S. culture.

Chinese parents have been identified as more authoritarian than North American parents (Steinberg, Dornbusch, & Brown, 1992b). European Americans want their children to be happy and self-reliant individuals, and they believe these goals can best be achieved when parents are warm and exert moderate control (Goodnow, 1988). However, Chinese parents use high power parenting and emphasize child obedience (Chao, 1994; Chen et al., 1997).
Hill (1996) has compared the parenting styles of black and white single mothers among 80 single mothers. It was hypothesized that the black single mothers would use a more authoritarian parenting style and white single mothers would use a permissive style of parenting. No significant differences were found in the styles of parenting between the two groups.

Okagaki and Frensch (1998) placed Asians into the authoritarian category. Asian students appeared less affected by non-supportive parents or parental income than students from other ethnic and racial groups, including Latinos and Caucasians. Their surveys showed that Asian parents placed greater expectations on their children, but were unaware of and uninvolved in their children’s daily activities.

Chen, Liu and Li (2000) investigated parental warmth, control, and indulgence, and their relations to adjustment in Chinese children. A sample of children, initially 12 years old, in China participated in this 2-year longitudinal study. The results indicated that parental warmth significantly predicted later social and school achievement; maternal warmth had significant contributions to the prediction of emotional adjustment.

Varela et al. (2004) investigated parenting style of Mexican, Mexican American and Caucasian-Non-Hispanic families. Results demonstrated that parents in all groups reported using authoritative practices more often than authoritarian strategies. Mexican American parents reported greater use of authoritarian practices than Mexican and Caucasian-non-Hispanic parents.

Sorkhabi (2005) has reviewed studies that examined whether Baumrind’s parenting styles are related to child outcomes similarly in cultures where independence is said to be emphasized versus cultures where interdependence is said to be emphasized. She showed that Baumrind’s parenting style have similar function in both collectivist and individualist cultures. Based on this review, authoritarian parenting is not detrimental or authoritative parenting beneficial to the development of young people in both cultures.

Dwairy and Menshar (2006) have studied parenting style, individuation, and mental health of 351 Egyptian adolescents. Results demonstrated that in rural communities the authoritarian style is more predominant in the parenting of male adolescents, while the authoritative style is more predominant in the parenting of female adolescents.
adolescents. In urban communities, on the other hand, the authoritarian style was more predominant in the parenting of female adolescents.

As these researches show, within the context of continued social change and change within the family as a group of interactive individuals, it is expected that people with different ethnic background and different levels of formal education, differ significantly in their parenting styles.

One of the important variables in this area is difference between paternal and maternal parenting styles. A review of the western literature on parenting reveals that, compared with studies of mothers, relatively fewer studies have been carried out to examine the differences between fathers and mothers in their parenting styles (Shek, 1995). However, some researches have examined sex differences in parenting styles or perceived child rearing practices. Kroger (1983) found that males report mothers to be lax in discipline than the fathers and females found mothers more accepting of individuation and more controlling than fathers.

Forehand and Nousiainen (1993) examined three dimensions of parenting (acceptance, firm control, and psychological control) exhibited by mothers and fathers. Participants were 70 adolescents and their parents. The results demonstrated that mothers reported exhibiting each parenting dimension more than fathers. The father’s acceptance score was the primary predictor of adolescent functioning outside the home.

Gordon (2000) in a study on 451 families living on central Iowa found that mothers were more likely to exhibit authoritative parenting than fathers. Both parents and children agreed that there is very little authoritarian parenting, but that an indulgent style is very common. Consistent with previous research, authoritative parenting was associated with the most positive child outcomes.

However, some of the researches show that there are no sex differences in perceived parental attitudes (Lecroy, 1988; kaur & singh, 1988). Shwalb, Imaizumi and Nakazawa (1987) found that most Japanese fathers and mothers were perceived by their children as understanding and authoritative. Lecroy (1988) measured adolescent intimacy with parents from an inventory in a group of 85 adolescents. Results showed that there were no significant differences between boys and girls in their reports of intimacy with parents.
A few studies have examined parenting styles and its correlates in Iran. Of course, some researches have been done in differences between paternal and maternal parenting styles in Islamic or Arabic countries. Findings of these researches show that father is the head of the family, moral authority and disciplinary agent (Sharifzadeh, 1995). They think that their status in the family is maintained by showing a degree of fear in other family members (Nydell, 1987). Mothers want to have a great effect in all parts of their children’s lives. They are affectionate and very close to their children. Good children mean who are polite, disciplined, obedient, and conform to the values of the group (Fernea, 1991).

Dwairy (2004) has done a research on parenting styles and mental health of Palestinian-Arab adolescents in Israel on 431 Arab adolescents. It was hypothesized that parenting style toward boys would differ from that toward girls and that the authoritarian style applied within the authoritative Arab society is not related with poor psychological adjustment. Findings show that the effect of parenting style is culturally and gender dependent rather than universal.

Most of the studies on parenting styles and child rearing compared maternal and paternal parenting styles in India. Some of them also compared male’s and female’s perception of parenting styles.

Parenting style in India, like other developing countries, has wide variation with some rural areas being extremely traditional and other urban areas becoming more progressive. India has an old civilization with religious and cultural traditions. Seth, Saksena and Strivastava (1978) compared the child-rearing attitudes of mothers in rural and urban areas of Uttar Pradesh. 200 mothers participated in research. Findings show that urban mothers believed more in seclusion of the mother in the rearing of their children, experienced more marital conflict, were stricter and more irritable and suppressed sexuality. Rural mothers foster dependency in their children.

Prasad, Sinha and Prasad (1979) studied perception of parental expectations and need for achievement in 260 male students from south Bihar. Low achievers perceived their mothers as stricter and more demanding than their fathers. High achievers perceived fathers as having higher expectations, being more competent and demanding higher standards than mothers did. Singh and Singh (1986) studied the effect of gender on
perception of maternal and paternal behavior in Indian adolescents. Results showed that the same sex parent was perceived more positively while the opposite sex was described as more rejecting by boys and girls.

The study of Sinha, Prasad and Sinha (1989) showed that girls perceived their fathers as permissive, loving, and protective; whereas boys perceived their fathers as restrictive, neglecting and rejecting. Girls as compared to boys perceived mother’s behavior as restrictive, neglecting, protecting and rejecting while more girls as compared to boys perceived only loving behavior in their mothers. The study of Khetarpal (1990) showed same results.

Since boys are seen as a source of economic security, male children are valued more than female children (Sharon, 1990). “Research on parent-child interactions in India is sparse. These researches have concentrated on infanticide, malnutrition, and child welfare programs”(Roopnarine, Talukder, Jain, Joshi, & Srivastav, 1990). In this culture mothers are kind, indulgent and affectionate. However, fathers are strict decision making (Konantambigi, 1996; Sharon, 1990).

Nizamuddin (1992) studied child-rearing practices among the Hindus, Muslims and Christians in the city of Madras. Sample covered 180 families from the Hindus, Muslims and Christians. Feeding, playing and disciplining were the areas explored. Results showed that Hindus more frequently used punitive measures and the Muslims and Christians used more rewards. She suggested that rewards in the form of praise or an occasional special treat for meeting a difficult situation successfully has a strong value and reveals to the child that what he/she has done is absolutely right.

Kaur (1992) has revealed that female’s perception on the behavioral indices of recreation, nutrition, puberty development, demonstration of love and overall perception of mother’s child-rearing practices were better than in the males whereas male’s perception of the health scale was better.

Mohan and Nalwa (1994) found females to perceive the parental child-rearing practices significantly better on the behavioral indices of recreation, economy, nutrition, clothes, puberty development, demonstration of love, personality development, health as well as overall perception.
2.2.2 Parenting style, culture and academic achievement

Since the culture shows a dominant role on parenting style, the role of culture on the relationship between parenting styles and academic achievement can be investigated. Over the last 35 years researches conducted in Euro-American countries have consistently shown that authoritative style (i.e., parents have high demandingness and high responsiveness) is associated with academic achievement in children (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994; Jones, Forehand, & Beach, 2000).

One of the first studies on parenting styles and its correlates was conducted by Baumrind (1967) on the basis of a longitudinal sample of children from preschool through adolescence. She found that preschool children of authoritative parents were more mature, active and achievement-oriented than children of other parenting styles such as authoritarian and permissive. Findings were stable during adolescence.

In contrast, authoritarian and permissive parentings are associated with poorer academic performance in children (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Steinberg et al., 1989; Steinberg et al., 1994; Yedwab, 1997).

For example, Dornbusch et al. (1987) conducted a study of Chinese high school students in Hong Kong as well as European American and Australian high school students. They indicated that authoritative style was unrelated to the grades of Hong Kong Chinese, but positively related to the grades of European Americans and Australians. Authoritarian parenting was positively related to grades of Hong Kong Chinese.

Roy (1994) classified the families of 106, 14- to 16-year olds into one of the four groups (authoritative, somewhat authoritative, somewhat non-authoritative and non-authoritative) according to student ratings of parental behavior. Results revealed those adolescents who characterize their parents as authoritative have a more positive orientation to school than those who characterize their parents as non-authoritative or somewhat non-authoritative.

Torres-Villa (1995) examined parenting styles, language and parents’ education as predictors of school achievement for Hispanic students. The results of study showed that mother’s authoritarianism and mother’s permissiveness together explained 12% of the variance of GPA. Also, father’s permissiveness alone explained 27% of the variance of the GPA in male students.
Trama (1998) studied academic achievement in relation to intelligence, parental involvement and children’s motivational resources. The data retained were from 947 upper elementary school and secondary school students in India. Findings demonstrated that mothers’ involvement indices were found to play a significant role in influencing motivation / achievement of secondary school girls, while in the case of secondary school boys, paternal involvement variables were found to do so. Mothers’ involvement indices were found to contribute in diverse ways towards the motivational / achievement of their grown-ups rather than younger daughters. It also was found to hold true for father and sons. Moderate parental involvement can be seen in authoritative parenting style.

McNeely (1999) examined the relationship between academic achievement and parenting styles. 190 participate from two schools, junior students from a large, urban, upper-middle class high school (School A) and students from a mid size, urban, technical high school (School B) participated in the research. The results showed that higher academic achievement was associated with students who perceived their mothers as authoritative. No significance was found in reference to father’s parenting style. No significance was found relating to the variables of gender, ethnicity and parental emphasis on academic performance, or school attended when compared by parenting styles.

Aunola, Stattin and Nurmi (2000) studied the relationship between adolescents’ achievement strategies and parenting styles. 354 adolescents participated in the research. The results showed that adolescents from authoritative families applied most adaptive achievement strategies characterized by low levels of failure expectations, task-irrelevant behavior, and the use of self-enhancing attributions.

Ehrle (2000) in a study on 128 tenth graders from a predominantly white Milwaukee-area high school found that grades and student competencies were negatively and significantly related to authoritarian parenting. Also, authoritarian parenting explained 21% variance in grades. Students who describe their parents as authoritarians tend to receive low grades.

Attaway and Bry (2004) examined the relationship between maternal beliefs in control and responsiveness and adolescent academic achievement. The analysis indicated that higher maternal beliefs in control were significantly associated with lower grade
point averages. There was no significant relationship between demographic variables (maternal education level and adolescent sex) and adolescent academic achievement.

As the above researches show, higher academic achievement is typically associated with lower parental authoritarianism and higher parental authoritativeness in western culture (Dornbusch et al., 1987; Steinberg et al., 1989) However, empirical relationships obtained in one culture may be a product of its cultural milieu and may not generalize to other cultures (Van de Vijver & Leung, 1997).

But, the findings of some studies in Asian countries show a sharp contrast. Most of the researches in this area have been done on Asian American students and their families. Findings of some researches show that there is a positive correlation between high academic achievement and an authoritarian parenting style i.e., when parents have high demandingness, but low responsiveness; whereas, authoritative parenting style appears to have no effect on children’s academic achievement (Chao, 1994; 2001; Chao & Sue, 1996; Leung, Lau & Lam, 1998).

Steinberg et al. (1992a) examined the impact of authoritative parenting, parental involvement in schooling, and parental encouragement to succeed on adolescent school achievement in an ethnically and socio-economically heterogeneous sample of 6400 American 14-18-year-olds. Findings showed the positive impact of authoritative parenting on adolescent achievement was mediated by the positive effect of authoritativeness on parental involvement in schooling.

Steinberg et al. (1994) tested whether there were ethnic group differences in the effects of parenting styles. They indicated that authoritative parenting was relatively more advantageous for European American youth than it was for Asian American youth.

Blair and Qian (1998) examined the relationship between parental control and academic achievement for adolescents of Filipino and Chinese descent. They demonstrated that parental control was positively associated with the school performance of Chinese adolescents, while not with that of Filipino adolescents.

Wang and Phinney (1998) studied differences in child rearing attitudes between immigrant Chinese mothers and Anglo-American mothers. They found that for immigrant Chinese mothers in the United States, authoritarianism was positively associated with higher cognitive competence of their preschool children.
Chao (2001) proposed that ethnic differences in the effects of parenting style may be due to the way that parenting style has been conceived. Parenting style as based on Baumrind’s typologies may not have the same meaning when examined from an ethnic perspective. For example, authoritarian parenting is more commonly found among traditional Eastern Societies. This style is positively associated with academic achievement within these cultures (Roopnarine & Hossain, 1992). There is the possibility that varied culture-specific patterns of practice are not captured by the standard typologies.

However, a few studies show that parenting style is not consistently associated with the academic performance of Asian American adolescents and other Asian groups. Some findings indicated that there is no relationship between parenting styles and academic achievement and some of them repeat the Euro-American findings.

For example, Steinberg et al. (1992a) found that for both European American and Asian American, authoritative parenting had positive effects on adolescent’s school performance.

Kim (1996) examined the effects of parenting style, cultural conflict, and peer relations on academic achievement and psychosocial adjustment among Korean immigrant adolescents. The results revealed that parenting style was unrelated to their school performance.

Chen et al. (1997) examined authoritative and authoritarian parenting and social and school performance in Chinese children. They found that authoritarian parenting was associated positively with aggression and negatively with peer acceptance, sociability-competence, distinguished studentship and school academic achievement, and authoritative parenting style was positively associated with indices of school adjustment and negatively with adjustment problems.

McBride–Chang and Chang (1998) found that authoritative and authoritarian styles were unrelated to adolescents’ academic test scores. Also, parents who were more authoritative were less encouraging of their adolescent’s autonomy.

Mehrafrooz (1999) studied the relationship between mother’s attitudes towards child rearing practices (authoritative, authoritarian and permissive), with locus of control and academic achievement of fourth standard students in Primary school in Iran. Results
showed that the relationship between mother’s authoritative style and academic achievement was positive. There was a negative relationship between mother’s authoritarian style and academic achievement. While, the relationship between mother’s permissive style and academic achievement was insignificant.

Kim (1999) investigated parental warmth, control and involvement in schooling in relation to Korean American adolescents’ academic achievement of 245 students. The results revealed that a majority of Korean American adolescents perceived their mothers and fathers as warm, lax controlling, and highly involved in schooling. No significant differences in perceived maternal and paternal parenting behaviors were found. Also, multiple regression indicated that after controlling for demographic variables, about 15% of the variance in adolescents’ grade point average was explained by three principle variables: perceived paternal involvement in schooling, maternal acceptance, and family acculturation.

Garg, Levin, Urajnik and Kauppi (2003) investigated the relationship between parenting style and academic achievement in East Indian and Canadian adolescents. Findings for Canadian sample revealed that authoritative parenting was related to the highest levels of academic achievement. However, the results failed to find a relationship between parenting style and academic achievement for Indian sample.

These contradictory results show the interwoven relationship between these variables. Also, a few studies have examined the effects of authoritative parenting on adolescent outcomes for Asians. So, many of these researches have examined the effects of authoritative parenting on academic achievement for Asian American and Asian immigrant families. These samples are not a real representative of Asian samples.

Therefore, similar studies in Asian countries will help clarify the effect of cultural factors on parenting styles and its correlates. Of course in last decade, so many researches have been done in this area in India and Iran, but not in cross-cultural context.

2.3 Classroom environment

From both teachers and children’s perspective, the emotional connection between adults and children in schools is an important factor in children’s school performance (Pianta, Steinberg, & Rollins, 1995; Pianta, 1997; Entwisle & Hayduk, 1988). Through
the early elementary years, there is substantial evidence supporting the link between the quality of teacher-child relationships and children adjustment. Most of the classroom environment studies have been conducted in western countries, primarily in the United States and Canada. Very little research has investigated these relationships in developing non-western countries where there is often the greatest demand both for increased teacher training and means for evaluating the performance of those already teaching.

However, a number of important studies have been carried out in non-western countries. Following empirical researches show the role of culture on classroom environment and the relationship between classroom environment and academic performance.

2.3.1 Classroom environment and culture

In measuring education systems in different cultures, there is a suggestion that there are some differences in educational systems. For example, schools in east countries are more examination-oriented and teachers are seen as authority figures (Fisher & Rickards, 1998).

Chapman and Kelly (1981) investigated the dimensions of teacher behaviour and classroom characteristics used by Iranian and American students. Results show that the dimensions on which Iranian and American students evaluate their teachers are substantially different. For example, the activities of teaching and classroom management differ markedly between cultures (opportunity for student participation, overanswering, pace of coverage). Some of these differences between Iranian and American high school students in rating of teacher behaviour can be better understood, when we evaluate Iranian educational system. The Ministry of Education selects the textbooks and instructional materials to be used in the schools. Classroom pedagogy insists on memorization and recitation. Therefore, Iranian students have more verbal participation in class than American students.

Steven and Stigler (1992) indicated the importance of cultural differences in learning interactions between teachers and students in different cultures. Findings revealed that teachers in China stress clarity in explaining and showing enthusiasm in their teaching as the highest priority, while teachers in America felt that sensitivity and patience are the most important attributes of a good teacher.
Tamir and Caridin (1993) have done a research on the learning environment in Biology and Chemistry classes as perceived by Jewish and Arab high school students in Israel. They found that learning environment in Jewish schools was perceived as more positive than in Arab schools. Differences were not found in rural and urban schools.

Hofstede (1994) believed that teaching and learning is essentially cultural transmission and culture acquisition. He identified some of the cultural dimensions which make differences in learning and classroom environment in different countries, for example collectivism versus individualism and long-term versus short-term time orientation. Collectivism refers to the phenomenon that people are integrated from birth into a strong, cohesive group that provide protection, in exchange for the protection, the group expects loyalty; Individualism refers to the expectation that everyone is expected to look after himself or his immediate family. Long-term time orientation is influential in cultures where philosophies are many thousands of years old. Long-term time orientation shares the beliefs that older people have more authority than younger people. These different dimensions have different effect on learning and classroom environments. Following empirical researches also show this effect.

Baker (1998) investigated students’ perception of classroom factors that impact success for African-American students. Using semistructured interviews, students were asked to identify factors and instructional strategies that were the most beneficial to learning. Findings show that students felt that positive relationship with faculty helped create an optimal learning environment. The pragmatic nature of this research would hopefully promote a more equitable learning environment.

To explore the potential of cross-cultural studies, Fraser and Aldridge (1998) in a cross-cultural study in Australia and Taiwan found that students in Australia perceived classroom environment more positively than students in Taiwan. They indicated that significant differences were indicated on subscales of task orientation, investigation, involvement, cooperation, and equity. Findings show that students in Australia perceived that they have more opportunity to get involved in the experiments and scientific phenomena. Moreover, the results showed that in Taiwan the most important element of being a good teacher was perceived as having good content knowledge, but in Australia, having a good interpersonal relation between teacher and students is considered the most important in the educational process.
Fisher and Rickards (1998) examined educational systems in different contexts and cultures. They found that students from Asian background seem to perceive teachers significantly more positively in the classroom compared with students from other cultures.

Aldridge, Fraser and Huang (1999) investigated classroom environments in Taiwan and Australia with multiple research methods. A sample of 1,081 Grade 8 and 9 General Science students from 50 classes in 25 schools in western Australia and 1,879 grade 7-9 students from 50 classes in 25 schools in Taiwan participated in this research. The results indicated that students in Australia consistently view their classroom environment more favourably than students in Taiwan do. There was a statistically significant difference for the involvement, investigation, task orientation, cooperation and equity scales.

Li (2000) studied the characteristics of graduate classroom environment as perceived by the graduate students and faculty in technology course at Chinese Universities. 317 graduate students and 8 teachers in 8 classes from 6 Universities in China participated in this research. The results showed that students felt that courses were well organized, clearly delivered, and task-focused. Students felt that they needed more influence in the classroom. Teachers perceived organization and clarity and teacher support as more important characteristics of their classrooms. When contrasted with the results of other studies conducted with American students, ratings of the Chinese students were consistently lower. These findings indicate that graduate technology classrooms in Chinese Universities are still quite teacher-centred.

Moreover, Khine and Fisher (2001) in an investigation of 1,188 (543 male and 645 female) students from 54 science classes reported that there are differences in students’ perception of learning environment of Asian and western teachers. Results showed that students perceived that there was more student cohesiveness and teacher support in the classroom of the western teachers. Students also perceived that in the science classes of western teachers, there was more task orientation, cooperation among students and equity. Students in the classrooms of western teachers enjoyed their science lessons more than those students in the other classes.

Rowlett (2001) examined students’ perception of classroom climate in Tennessee public high school. The survey instrument assessed student perceptions on nine subscales
of classroom climate: involvement, affiliation, teacher support, task orientation, competition, order and organization, rule clarity, teacher control, and innovation. Findings showed that perceptions of classroom climate were not significantly influenced by curriculum path, either technical or university, although they did appear to be influenced by teacher, school, race, age, and grade.

Apart from this, several studies indicated gender as a significant variable in students' perception of classroom environment. Some researches revealed that boys have more positive perception of classroom environment than girls.

For example, Khoo and Fraser (1997) used a modified version of the WIHIC to measure classroom environment in evaluating adult computer courses. From the original questionnaire, six scales, Student Cohesiveness, Teacher Support, Involvement, Autonomy / Independence, Task Orientation and Equity were chosen to be included in a newly developed questionnaire. Out of these six scales, Student Cohesiveness and Teacher Support scales were combined into one and named Trainer Support to suit the nature of the subject. In investigating the differential effectiveness of computer courses for different gender, they found that males perceived significantly greater Involvement. But, females perceived significantly higher levels of Equity in the computer classroom environment. In the Trainer Support dimension, it was found that males perceived greater Trainer Support than females.

Kim, Fisher and Fraser (2000) studied 543 grade 8 students in 12 different secondary schools in metropolitan and rural areas of Korea. Statistically significant differences were found between boys' and girls' perceptions of the learning environment on all seven scales. It was reported that boys perceived more Teacher Support, Involvement, Investigation, Task Orientation, and Equity than girls did.

However, some researches revealed that girls have more positive perception of classroom environment than boys. For example, Owens and Straton (1980) indicated that girls preferred more cooperation than boys but boys preferred more competition and individualization than girls. Overall, these studies have shown that girls generally hold more favourable perceptions of their classroom learning environments than boys in the same classes.

Goh and Fraser (1997) found that at primary school level, the girls in Singapore generally viewed their classroom environments more favourably than boys. In research of
Fisher and Rickards (1998), statistically significant gender differences were detected in students’ responses to classroom environments scales. They found that females perceived their teachers in a more positive way than males did.

New cross-cultural study has not been done in India and Iran to study the classroom environment. Therefore, study of cultural background differences can be used as a basis for identification and development of teachers’ behaviours (Khine & Fisher, 2001). There is a need to describe the similarities and differences in classroom environment in different countries and to identify the teaching behaviours associated with student achievement.

2.3.2 Classroom environment, culture and academic achievement

Many researches have been done about relationship between classroom environment and academic achievement in different countries and on different dimensions of classroom environment.

O’Reilly (1975) investigated the relationship between achievement and classroom environment in 48 mathematics classes in Ontario. The results indicated that the set of 15 learning environment inventory scales (Fraser, 1986) accounted for 67% of variance in raw achievement scores.

Many factors within classroom can affect students’ academic and social motivation; the role of classroom climate is significant. One important factor linked to the climate is teachers’ control orientation. Teachers’ orientation whether they believe that children should be controlled or be given freedom to make decision, determines the structure of classrooms that in turn affects students’ motive to learn (Deci, Schwartz, Scheinman, & Ryan, 1981).

Haertel, Walberg and Haertel (1981) in a meta-analysis, which examined 823 classes in eight subject areas and represented the perception of 17,805 students in four nations, demonstrated that students’ perceptions of classroom environment are a critical factor in determining certain aspects of student’s outcomes such as motivation and academic achievement.

Also, Costello (1984) studied the degree of relationship between ability grouping upon student’s perception of their classroom social climate and the relationship of the climate upon the student academic achievement. The results of the study support the
belief that there is a relationship between student’s perception of classroom social climate and academic achievement in mathematics and English classes.

Upadhyaya (1984) analysed the classroom environment in tribal setting and its effect on learning. He found a positive correlation between them. Other researches showed positive correlation between classroom climate and academic achievement (Sood, 1994; Goh & Fraser, 1997). Schniedewind and Davidson (1987) found that supportive classroom environment was related to level of student satisfaction and achievement.

Planta and Nimetz (1991) found that children’s abilities to form warm, trusting and low-conflict relationships with teachers in the early elementary years are salient marks of children’s adaptation to the social environment and, as such, may predict academic achievement.

Cabello and Terrell (1994) have done a research on creating warm and caring classroom climates by teachers. They found that African American elementary school children’s academic motivation and achievement were enhanced in classrooms in which regular formats and routines were established and student involvement in classroom procedures was encouraged.

Dewan (1996) compared academic achievement, family environment, classroom environment, motivation and intelligence of senior secondary students of different socio-economic groups. The sample was 420 students from Chandigarh and Ahmedabad. It was found that the children from high and average socio-economic status group perceived the family environment and classroom environment in a better manner as compared to the those from low socio-economic status group. Also, there were positive and significant relations between academic achievement and some variables of classroom environment viz. involvement, task orientation, competition, order and organization, and teacher control.

Hunus and Fraser (1997) studied the associations between perceptions of learning environment and attitudinal outcomes of students in Brunei. They found that there was a significant relationship between the set of environment scales and students’ attitudes towards chemistry theory classes. The student cohesiveness, teacher support, involvement and task orientation scales were positively associated with the students’ attitudes.
Moreover, Chionh and Fraser (1998) investigated associations between classroom environment and the outcomes. The relationships between examination results and the seven classroom environment scales were studied in Geography and Mathematics classrooms in Australia and Singapore. Results showed that better examination marks were found in Mathematics and Geography classrooms where students perceived the environment as more cohesive. Self-esteem and attitudes were more favourable in classrooms to having more teacher support, task orientation and equity.

Riah and Fraser (1998) studied the learning environment of high school Chemistry classes in Brunei. The findings show strong associations between the learning environment and student outcomes. The findings of this study are replicated by other studies in Singapore and Korea (Chionh & Fraser, 1998; Kim, Fisher, & Fraser, 1999).

Rawnsley and Fisher (1998) investigated associations between learning environments in Mathematics classroom and students’ attitudes towards that subject in Australia. The results showed that students developed more positive attitudes towards their Mathematics classes where the teacher was perceived to be highly supportive, equitable, and in which the teacher involved them in investigations.

Baek and Choi (2002) found that the seven subscales in the Korean classroom environment scale (i.e., involvement, affiliation, competition, task orientation, order and organization, rule clarity and teacher control) had a significant correlation with students’ academic achievement.

Koul and Fisher (2002) studied science classroom learning environments in India. A sample of 1021 students from 32 science classes in seven co-educational private schools completed the questionnaire on What is Happening in This Class and attitude scale in Jammu, India. The results of the simple correlation analysis revealed that all the seven scales were significantly correlated with attitudes to science classroom environment. The standardised regression coefficient showed that out of seven scales, three scales retained their significance. This means that the scales Investigation, Task orientation and Equity are independent predictors of students’ attitude towards science lessons.

Barth, Dunlap, Dane, Lochman, and Wells (2004) investigated the effects of classroom environment on aggression, peer relation, and academic focus for students in
65 classrooms in 17 schools. The results show that poorer classroom environment was associated with poorer levels of student aggression, peer relations, and academic focus.

Rita (2005) studied classroom environment of 146 gifted and 115 non-gifted Biology students and the associations between student perception and cognitive achievement. What Is Happening In This Class Questionnaire was administered in research. Statistically significant associations were found for the majority of scales. Teacher Support, Investigation, and Equity were all significant independent predictors of student achievement while Student Cohesiveness had a negative association with achievement.

Stetson (2005) investigated the relationships among student social acceptance, learning characteristics, and perception of classroom environment in a Canadian middle school. What Is Happening In This Class was administered on different groups: students who are socially unaccepted, students with learning difficulties, and students with high or low achievement. Each group showed differences in their perceptions of some factors of classroom environment. While there was a substantial overlap among the populations of unaccepted students and those with learning difficulties or low achievement, unaccepted students reported a more positive environment than other students, and students with learning difficulties reporting a more negative environment. Rejected students, students with learning difficulties, and students with low achievement all reported lower equity in the classroom than their peers did.

Connor, Son, Hindman, and Morrison (2005) conducted a research on teacher qualifications, classroom practices, family characteristics, and preschool experience on first grades' vocabulary and early reading outcomes. Results indicated that students whose teachers were more warm and responsive and who spent more time in academic activities demonstrated stronger vocabulary and decoding skills at the end of first grade.

However, Morris (1974) indicated that there is no significant relationship between perception of classroom environment and academic achievement. In another research Lovitz (1974) showed that there is no significant relationship between classroom environment and academic performance.

To date, there are no studies that compare the classroom learning environments found in Iran with those found in neighbouring countries of Asia. Most classroom
environment researches have involved students in western countries. Also, comparative studies enable researchers, teachers, and teacher educators to gain better understandings about their own beliefs and social and cultural restraints to their teaching (Aldridge et al., 1999).

2.4 Academic self-regulation

Recent years have witnessed increasing academic self-regulation research. Researches have compared good with poor self-regulators to determine key processes; examined the relations among self-regulation, motivation, and learning, explored the development of self-regulatory skills; and conducted interventions to improve students’ self-regulation (Schunk, 2005). Numerous theories and models have tried to identify processes intervening in the self-regulation of learning, and to establish relations and interactions between these processes and academic achievement (Zimmerman & Schunk, 2001). In general, one of these factors is culture. The following empirical researches show the role of this factor.

2.4.1 Academic self-regulation and culture

Some theorists state that autonomy is important only in western countries. They argue that autonomy is as an attribute of individualistic behavior relevant to western countries (Miller, 1997; Oishi, 2000). Thus, it seems that culture has an important role in this area.

Therefore, cross-cultural studies on autonomy and internalization have been done in different countries. Autonomy and internalization process have been tested due to its conversable nature.

Gellert (1993) investigated competition and achievement orientation in the American university system. The results showed that although both American and German students largely choose their own curricula and are responsible for planning their studies, German students seem to experience fewer constraints and external regulations in their studies. For example, although German students are often encouraged to attend lectures, attendance is not required. Voluntary attendance does not appear to be popular practice in American universities. It shows that some educational systems appear to offer more opportunity for self-regulation and self-guidance.
Okagaki and Sternberg (1993) assessed native Anglo- and Mexican-American and immigrant (i.e., Cambodian, Mexican, Filipino, and Vietnamese) parents’ beliefs concerning the need to develop autonomy versus conformity to external standards. In general, immigrant parents emphasized the importance of their children learning to conform to external rules, while native parents stressed autonomy.

Asakawa and Csikszentmihalyi (2000) compared Asian American and Caucasian American students and found greater relative autonomy for academic motivation among the Asians. They attributed this to the more connected or relatedness-supportive family styles of the Asian participants, which facilitated the internalization of academic values.

Chirkov and Ryan (2001) did a research on Russian and American high school students. They demonstrated that teacher and parent autonomy supports were equally important to self-determined motivation and well-being. Therefore, this finding shows that the positive outcomes are associated with autonomy beyond individualistic nations.

Levesque, Zuchlke, Stanek, and Ryan (2004) found that German students felt significantly more autonomous and less competent than American students. German students perceived more self-determination toward school, and performed better academically.

Sheldon et al. (2004) have done a study to examine the self-concordance (identified and intrinsic motivation) and subjective well-being in four cultures. 551 college undergraduates from South Korean, Chinese, Taiwanese and the United States participated in this research. Results revealed that the least introjected motivation was in the South Korean sample, the Taiwanese and Chinese samples reported the most introjected motivation, and the United States was in the middle. The United States showed the most identified motivation, but the other three samples showed lower levels of identified motivation. Also, the Chinese sample showed the most intrinsic motivation for goals, however the United States, South Korean, and Taiwanese sample reported less intrinsic motivation. Finally, results revealed that in every group, people felt more intrinsic perceived locus of causality than extrinsic perceived locus of causality with respect to their personal goals.

Some of these researches have been done in Asian countries. For example, Hayamizu (1997) investigated Japanese high school students and found that external
motivation was related to maladaptive coping, but internal motivation was associated with positive coping. Also, Yamauchi and Tanaka (1998) showed more adaptive learning styles in Japanese students with an internal perceived locus of causality for academic behavior.

One of the personal variables that have been related to differences found in self-regulated learning is gender. Regarding gender differences in self-regulation, there is evidence that such differences exists.

When gender differences in the use of self-regulated learning strategies have been reported, they typically favor female students. Zimmerman and Martinez-Pons (1990) interviewed students in grades 5, 8, and 11 to discover whether gender differences could be detected in their use of 14 self-regulated learning strategies. Girls displayed more goal-setting and planning strategies, and they kept records and self-monitored more frequently than boys did. Girls also surpassed boys in their ability to structure their environment for optimal learning.

Pokay and Blumenfeld (1990) investigated the use of self-regulated learning strategies by high-school students in geometry and found that, as the semester began, girls reported using more metacognitive, general cognitive, and specific geometry strategies than boys did. Girls also reported stronger effort management. At the end of the semester, girls continued to report stronger general cognitive strategy use. Females report a higher use of environmental restructuring and reduced reliance on external regulation than males (Ablard & Lipschultz, 1998).

However, in other studies involving the solution of mathematics problems, males have been found to use more complex learning strategies, such as retrieval of conceptual relations, more frequently than females. Therefore, prior research indicates gender differences in learning strategy (Royer, Tronsky, Chan, Jackson & Marchant, 1999; Carr & Davis, 2001). Different research has also indicated that girls usually make external attributions for successes and failures, and that when they make internal attributions, these refer not so much to effort, but to ability. But, boys attribute successes to stable internal causes such as ability, while failure is attributed to unstable external causes like luck or internal causes like effort (Smith, Sinclair, & Chapman, 2002).

Cross-cultural study of Kurman (2001) revealed that cultural differences in self-
regulation were greater than gender differences, and culture and gender interacted in some ways.

2.4.2 Academic self-regulation, culture and academic achievement

Previous studies have indicated that components of motivational views are well differentiated in early adolescence and may be particularly salient in predicting middle school performance outcomes (Stetsenko, Little, Oettingen, & Baltes, 1995; Roese, Eccles, & Sameroff, 1998; Gottfried, Fleming, & Gottfried, 2001). For example, some researches showed that characteristics associated with underachievement include low academic self-perception, low motivation and self-regulation (Whitmore, 1980; Reis & McCoach, 2000).

Gottfried (1985) found that students' overall motivational orientation was significantly associated with school achievement and self-perceptions. In particular, students who exhibited higher intrinsic motivation had significantly higher school achievement, more favorable perceptions of their academic competence, lower academic anxiety, lower extrinsic classroom orientation, and were rated by their teachers as being generally more intrinsically motivated.

The research of Deci and Ryan (1985) showed that control orientation and grades were significantly negatively related to each other. Pintrich and De Groot (1990) examined the relationship between motivational orientation, self-regulation, and classroom achievement. Findings showed that depending on the outcomes’ measure, the variables that predicted performance most successfully were self-regulation, self-efficacy and test anxiety.

Pokay and Blumenfeld (1990) studied the relation between motivation and use of learning strategies with grades in high school geometry. They found that students’ use of metacognitive strategies was negatively related to grades early in the semester, but positively correlated late in the semester. One limitation in these investigations is that they have relied on the self-reports of students to assess metacognitive strategy use.

Vallerand and Bissonnette (1992) investigated intrinsic, extrinsic (external, introjected, identified, and integrated regulation), and amotivational styles as predictors of behavior of 388 male and 674 female college students. At the beginning of the
academic year, the subjects were subjected to a scale measuring the above-mentioned motivational styles. When the semester ended, students who persisted with course and those who had dropped out were identified. When these two groups of adolescents were compared to the dropouts, the students who had continued with course, had reported at the beginning of the year as being more intrinsically motivated, more identified and integrated, and less amotivated toward academic activities.

In another research, Koetsner and Zuckerman (1994) found that autonomous students are likely to adopt learning goals, while controlled students are liable to adopt performance goals.

Ruban (2000) examined patterns of self-regulated learning and academic achievement among university students with and without learning disabilities. The sample consisted of 226 high achieving students, 86 normal achieving students, 102 low achieving students, and 53 students with learning disabilities. The results revealed that the self-regulated learning factors explained 28% of the variation in students’ cumulative grade point average.

Heastie (2001) re-examined the relationships among self-regulated learning, personal involvement, homework, and cumulative grade point average for high school students in rural West Virginia. Research was conducted at a rural high school, grades 9 and 10, in north central West Virginia. The results indicated that there is a significant positive relationship between self-regulation learning and cumulative grade point average.

Self-regulation skills underlie many of the behaviors and attributes associated with successful school adjustment. In particular, both regulation of emotion in appropriate social interaction and goal-directed behavior, as well as the regulation of attention and the use of strategies in the execution of cognitive tasks, are important for successful adjustment to school (Blair, 2002).

Broder (2003) has done a research on the role of motivational process, personality factors, the use of learning strategies, and scholastic aptitude in academic achievement. 186 undergraduate college students participated in this research. Results show that intrinsic motivation, extrinsic motivation, amotivation, self-efficacy for learning and performance, extraversion, openness to experience, metacognitive self-regulation, and
effort regulation correlated significantly with academic performance. However, openness to experience was only the predictor of academic achievement.

Zealand (2004) investigated the interrelationships among the variables of perception of control, self-determination, and self-regulation with regard to students with and without learning disabilities. 242 participants, in grades 6 and 8 attending 4 urban schools, were divided into 2 groups. Those classified by districts as having learning disabilities and those without, and were matched demographically on age, grade, race, gender and school. Students without learning disability used 4 self-regulation strategies for reading achievement, and 2 for math achievement, as opposed to students with learning disability who used 2 self-regulation strategies that correlated significantly with math achievement.

However, some researches show that there is no relationship between academic achievement and self-regulation. Grolnick and Slowiaczek (1994), in a study on 300, sixth to eighth grade (11-14 years olds) demonstrated that self-regulation showed a significant and positive correlation with grades. However, path analysis did not indicate a significant link between self-regulation and grades.

In another study, Patrick (1997) examined the relations between children’s social relationships, academic self-regulation, and school performance. Findings showed that self-regulatory processes do not appear to influence academic performance.

Ergul (2004) examined relationship among several motivational characteristics (like self-efficacy for distance education, self-regulation and achievement goals) and academic achievement in distance education settings. Participants were 124 freshmen students who enrolled in Anadolu University’s distance learning programs, including such undergraduate programs as economy, finance, public administration, working economy, industrial relations and business administration. The results did not reveal a significant relationship between self-regulation and academic achievement.

Therefore, future studies could examine the relationships among self-regulation or internalization and academic performance in the school context across cultures. These researches should study similarities and differences concerning the role of internalization among cultures (Ryan & Deci, 2000; Chirkov, Ryan, Kim, & Kaplan, 2003).
2.5 Mediating role of academic self-regulation

Learning is conceived as an active, cognitive, constructive, significant, mediating and self-regulating process. Education should help students to be aware of their own thinking, to be strategic and to direct their motivation toward valuable goals. Self-regulated learning has become a current focus for research, one of the essential axes of educational psychology and practice (Reynolds & Miller, 2003). Drawing on motivation theory, indirect links of parenting behavior to school performance through children’s motivational qualities have been studied. Children must experience their behavior as autonomous or choiceful. Some theorists believe that parental factors and classroom environment dimensions may affect self-regulation (DeCharms, 1976; Harter, 1981; Deci & Ryan, 1985; Ryan & Grolnick, 1986; Grolnick & Ryan, 1989; Ryan & Connell, 1989; Baumrind, 1991) and in turn academic achievement.

Moreover, the importance of an autonomy-supportive social context to enhance feelings of autonomy has been supported at all levels of schooling from elementary education to postgraduate education (Grolnick, Ryan, & Deci, 1991; Grolnick, Deci, & Ryan, 1997).

In other words, following empirical researches show that academic self-regulation mediates the influence of parental factors, classroom environment processes and intelligence on the academic achievement.

2.5.1 Academic self-regulation as a mediator of intelligence and academic achievement

The effects of intelligence on student achievement are studied while taking into account the mediating effects of self-regulation. Intelligence is the most important predictor of academic achievement in elementary school students; however, findings are not same for high school students (Trama, 1998). Following empirical researches show this model.

Risemberg and Zimmerman (1993) proposed, “gifted students spontaneously utilize self-regulatory learning strategies more frequently than non-gifted students do. Gifted students also use them more effectively and can transfer these strategies to novel tasks. Self-regulation measures may be a useful adjunct in diagnosing giftedness, and
self-regulation training may further enhance gifted students’ academic achievement.”

Vallerand, Gange, Senecal, and Pelletic (1995) studied intrinsic motivation and perceived competence of gifted and regular elementary school students. 69 gifted and 66 regular elementary school students participated. Findings showed that gifted students perceived themselves as being more competent and intrinsically motivated towards school activities as compared to the regular students.

Trama (1998) investigated the relationship between parental involvements, intelligence, academic achievement and motivational resources in elementary and high school students. Findings showed that there was indirect association between intelligence and academic achievement through self-regulation. These positive links support the view that intelligent children are more autonomous in their academic activities as compared to the less indulgent ones.

However, some researches show a sharp contrast. Radin (1972) reported that in four-year-old lower-class boys, association between motivation to achieve and intelligence was absent. Grolnick and Ryan (1987) reported that there was no significant relationship between relative autonomy index and verbal ability.

2.5.2 Academic self-regulation as a mediator of parenting styles and academic achievement

Some theorists believe that parental factors can affect self-regulation (Baumrind, 1971, 1991; Grolnick & Ryan, 1989). They propose that parental responsiveness and authoritative parenting style can influence children’s self-regulation. In studying the link between parental factors and the child’s development of self-regulation, investigators found that children whose parents provided clear rules and autonomy were strongly self-regulated (Young, 1974; Grolnick & Ryan, 1989).

Moreover, a great deal of research, mostly based in North America (Deci, Schwartz, Sheinman, & Ryan, 1981a; Ryan & Grolnick, 1986; Ginsburg & Bronstein, 1993; Grolnick, Deci, & Ryan, 1997; Vallerand, 1997), indicated positive relations between parents’ and teachers’ autonomy-support and students’ intrinsic and autonomous regulation in school, self-esteem, and perceived competence. These findings have been obtained on all levels of schooling including elementary, high school (Vallerand, Fortier,
& Guay, 1997) and postgraduate education (Williams & Deci, 1996).

Grolnick and Ryan (1989) found that the degree to which parents value and use techniques that support autonomy and responsibility in their children rather than control their children’s initiations was associated with greater self-regulation.

Lamborn et al. (1991) indicated that authoritative parenting style (i.e., parental acceptance–involvement or warmth, psychological autonomy granting or democracy, and behavioral supervision and strictness) is associated positively with psychosocial competence but negatively with psychological and behavioral dysfunctions. In addition, several authors have demonstrated that authoritative parenting style leads to better school performance (Steinberg et al., 1989; Steinberg et al., 1992b). Similarly, some studies have found that parental autonomy support, a concept similar to authoritative parenting style, is an important dimension for understanding the optimal functioning of adolescents at school.

Ginsburg and Bronstein (1993) found that autonomy-supporting (authoritative) families were positively associated with both intrinsic motivation and academic achievement. Also, over- or under-controlling (authoritarian and neglectful, respectively) families were negatively associated with intrinsic motivation.

Gottfried, Fleming, and Gottfried (1994) reported that parental motivational practices were related to student achievement. Specifically, they found that parental encouragement of curiosity, persistence, and independent mastery (i.e., task endogeny) positively influenced intrinsic motivation at age 9. On the other hand, parental negativity and the use of rewards (i.e., task-extrinsic consequences) negatively influenced intrinsic motivation at age 9. Intrinsic motivation at age 9 was, in turn, predictive of achievement at age 10.

Martinez-Ponz (1996) examined a model of parental inducement of academic self-regulation. 105 elementary-school students were surveyed to assess their perceptions of their parents’ influence on their academic self-regulation and their own academic self-regulatory behavior. Factor analysis disclosed that measures of parental modelling, encouragement, facilitation, and rewarding of the students’ self-regulation were loaded on a factor separate from, but related to, academic performance. Moreover, path analysis
disclosed that parental self-regulation inducement significantly predicted student academic achievement through mediation of student self-regulatory behavior.

Guay and Vallerand (1997) demonstrated that autonomy support from parents was positively related to perceptions of competence and autonomy, which in turn were related to an increase in scholastic achievement.

In a study of parenting style, motivational orientation, and self-perceived academic competence, Leung and Kwan (1998) identified four relationships between parenting styles and motivational orientation. They found links between authoritative parenting and intrinsic motivation, and neglectful parenting and amotivation. Also, they linked authoritarian parenting to both extrinsic motivation and amotivation. They offered this explanation of their finding that authoritative parenting led to intrinsic motivation: “although authoritative parents make demands, they accord their children a high degree of autonomy and responsibility, and encourage them to set their own goals and work schedule” (Leung & Kwan, 1998, p. 3).

The research of Trama (1998) demonstrated that intelligence and parental involvement variables (authoritative parenting style) exerted influence on academic achievement directly and/or indirectly by means of influencing the motivational resources of control understanding, perceived competence, and self-regulation. She believed that parents (especially fathers) are generally viewed as more authoritative in the typical Indian middle-class families.

These findings suggest that parenting style that involves responsiveness, warmth, and affection, along with the promotion of autonomous behavior and decision making, promote the capacity to adjust even to a harsh and difficult context that exposes the adolescents to physical, psychological, and social hardships. In contrast, parenting style that uses power-assertive controls in the context of low responsiveness were associated with lower levels of the capacity to adjust to such an environment. It should be noted that authoritative parenting has relationship with other positive characteristics of family functioning, such as high cohesiveness and low levels of conflict. Each of these aspects may have contributed to better coping and adaptation of the adolescents (Gray & Steinberg, 1999; Mayseless, Scharf, & Sholt, 2003). These aspects can increase autonomous regulation and in turn academic achievement.
Purdie, Carroll and Roche (2004) investigated the relationship between adolescents' academic and non-academic self-regulation, authoritative parenting (as demonstrated by high levels of involvement, strictness, and autonomy granting), and parent self-efficacy in four areas. Participants were 214 Australian high school students. Findings showed that there was a moderate correlation between academic and non-academic self-regulation. Strict parenting and the granting by parents of psychological autonomy to their adolescent children did not appear to be important in the development of young people's self-regulatory behavior.

Vansteenkiste and Soenens (2005) examined an integrated model of the relationship between perceived parenting and teaching styles, self-determination in 3 life domains (school, social competence and job-seeking behaviors), and specific adolescent outcomes. Findings indicated that maternal parenting and teaching styles only exert an indirect influence on scholastic competence and grade point average through their effect on scholastic self-determination (autonomy).

These researches revealed that when parents support students in an autonomous manner, students would be more likely to retain their natural curiosity (their intrinsic motivation for learning) and to develop autonomous forms of self-regulation through the process of internalization and help students to perform well academically.

2.5.3 Academic self-regulation as a mediator of classroom environment and academic achievement

Several researches tried to study not only relationships between different dimensions of classroom environment with academic achievement, but also the role of classroom environment models for promoting student motivation (Ryan & Grolnick, 1986; Boekaerts & Corno, 2005).

Also, some theorists believe that classroom environment may affect self-regulation (DeCharms, 1976; Deci & Ryan, 1985; Ryan & Connell, 1989). Cognitive evaluation theory treats intrinsic motivation as a general motivation toward competence and self-determination. Researches show that teacher strategies can encourage self-regulated learning (DeCharms, 1976).

Harter (1981) identified five dimensions of classroom learning each of which is characterized as having both intrinsic and extrinsic motivational poles. The dimensions
are (1) learning motivated by curiosity (intrinsic) versus learning in order to please the teacher (extrinsic); (2) incentive to work for one’s own satisfaction (intrinsic) versus working to please the teacher to get good grades (extrinsic); (3) preference for challenging work (intrinsic) versus preference for easy work (extrinsic); (4) desire to work independently (intrinsic) versus dependence on the teacher for help (extrinsic); (5) internal criteria for success and failure (intrinsic) versus external criteria to determine success or failure. These different classroom environments lead students to different motivational poles and in turn different performance in academic activities.

Deci, Nezlek and Sheinman (1981b) proposed that a teacher’s disposition (an orientation toward control or autonomy) was one important factor that could determine whether the classroom would be experienced as more controlling or more supportive of autonomy for the students.

Deci et al. (1981a) examined relationship between teachers’ orientations and students’ motivation within elementary classrooms. It was found that students in classrooms with autonomy supportive teachers displayed more intrinsic motivation, perceived competence, self-esteem, self-regulation than students in the classrooms with controlling teachers did. Other studies showed same results (Green & Foster, 1986).

When external directives are internalized, they are taken in and integrated into the individual’s sense of self, thus becoming a part of an individual’s value system. By encouraging internalization of external directives, the provision of autonomy in the classroom can increase student performance, especially when the schoolwork is uninteresting and thus not intrinsically motivating. These high-autonomy learning situations stimulate student motivation, engagement, self-esteem, and persistence, which in turn result in higher levels of achievement. Higher levels of autonomy in school are also related to lower dropout rates (Vallerand & Bissonnette, 1992).

Ryan and Grolnick (1986) found that perception of classroom control influenced how students discerned their competence, mastery motivation, internal control, and self-esteem. Apart from this, effective teachers create a sense of community in which teachers and students have shared goals, respect and support one another’s efforts, and believe that everyone makes an important contribution to classroom learning. A sense of community may be especially important for students who are at risk for academic failure.
However, a controlling approach in the classroom creates a reduced perception of autonomy, which can interfere with student learning, especially with regards to more complex tasks (Grolnick & Ryan, 1987). Controlling actions by teachers could include commanding language (i.e. “must”, “have to”, etc.) and little opportunity for student choice in meeting class requirements. In addition to student performance, lower levels of autonomy can also be detrimental to quality and creativity in artistic work.

According to Newman (1990): “Self-regulative strategies are important in facilitating the child’s intellectual growth. Planning, monitoring, and checking, for example allow children to regulate and manage their own learning in a wide variety of domains such as reading, comprehension, writing, oral communication, and mathematical problem solving” (p. 71).

Skinner, Wellborn and Connell (1990) provided indirect support for the importance of autonomy in the classroom. They tested a path model in which teacher contingency (i.e., teacher provides clear expectations and feedback) and involvement (i.e., teacher shows interest in the student) were hypothesized to influence perceived control, which then would influence student engagement. Engagement, in turn, was hypothesized to influence grades. The path analysis supported their model; contingent and involved teachers did have a mediated influence on children's academic performance. Although autonomy was not directly assessed, teacher variables implied the existence of an autonomy-supportive environment.

Participating in classroom discussion and asking for explanations and justifications for answers can promote self-regulated learning (Blumenfeld, Puro, & Mergendoller, 1992).

Eccles et al. (1993) examined a sample of middle school students, two thirds of whom were African American and one thirds of whom were European American. Results demonstrated that clear teacher expectations and student involvement in decision making were associated with students’ beliefs about their competence and their school motivation.

There are several ways in which teachers can foster self-regulation of students. For example, teachers can discuss the importance of metacognitive knowledge and regulation. Ideally, such a discussion helps students construct an explicit mental model of
the self-regulation process (Schraw & Moshman, 1995). Another way is modeling their own metacognition for their students. Too often teachers discuss and model their cognition (i.e., how to perform a task) without modeling metacognition (i.e., how they think about and monitor their performance). A third way is to provide time for group discussion and reflection, despite time demands. Peer modeling of both strategies and metacognition improves performance and self-efficacy (Schraw, 1998). These ways foster self-regulation and later academic achievement of students.

Williams and Deci (1996) used a longitudinal design to show internalization among medical students whose instructors were more autonomy and competence supportive. These are a few of the findings in this area that suggest how support for autonomy facilitates the integration of behavior regulation. Social contextual conditions that support one’s feelings of competence, autonomy and relatedness, are the basis for maintaining intrinsic motivation and becoming more self-determined with respect to extrinsic motivation.

Cherkes-Julkowski, Sharp and Stolzenberg (1997) suggested that a master-apprentice cooperative approach to learning could be helpful in training self-regulation skills. In this approach, the teacher initially, “has the executive function of organizing, regulating, and monitoring the process as a whole. It is through the joint efforts of repeated action and inter subjectivity that apprentices internalize the actions of the other” (Cherkes-Julkowski et al., 1997, p. 80).

Reeve, Bolt and Cai (1999) observed that teachers with a global disposition to support their students’ autonomy, when compared with controlling teachers, actually showed a distinctive autonomy supportive style as measured by their interpersonal behaviors and attempts to support students’ intrinsic motivation and autonomous self-regulation.

Autonomous regulation can be supported by also accepting the negative emotions of pupils, by using non-pressuring language, giving alternatives by respecting child as a person. The warm relationship enhances not only the intrinsic motivation – but also the willingness to accept external goals for learning in school. (Ryan & Deci, 2000). Autonomous regulation increases also students’ academic achievement.

Brody et al. (2002) investigated unique and protective contributions of parenting
and classroom processes to the adjustment of African American children. 277 single-parent African-American families participated in the research. Findings revealed that parenting and classroom processes contributed uniquely to children’s adjustment through the children’s development of self-regulation.

Jeon and Reeve (2004) investigated relationship between autonomous self-regulation and academic achievement in Korean adolescents. Results from structural equation modeling supported the proposed model indicating that (a) students who perceive their teachers as more autonomy-supportive and emphasizing mastery goals reported higher perceived autonomy and competence, (b) students’ autonomy and competence had positive effects on their autonomous self-regulation towards the class, (c) autonomous self-regulation increased students’ academic engagement in the class, and in turn, (d) high engagement improved students’ academic performance.

Considerable evidence suggests that elementary and secondary students show the most positive motivation and learning patterns when their classroom and school settings emphasize mastery, understanding, and improving skills and knowledge. While school environments that are focused on demonstrating high ability and competing for grades can increase the academic performance of some students, research suggests that many young people experience diminished motivation under these conditions (Meece, Anderman, & Anderman, 2006).

Therefore, on the basis of theoretical orientation, previous researches and logic, it is proposed that intelligence, parenting styles and classroom environment variables affect academic self-regulation, and these, in turn, affect academic achievement.