CHAPTER 4

FINDINGS AND DISCUSSION

A correlational descriptive study was conducted to describe self-concept, its subconcepts, and influencing factors of hospitalized Chinese school-age children with chronic illness. This chapter presents: (a) description of the sample, (b) findings relevant to the research questions and hypothesis, and (c) discussion of findings relevant to research questions and hypothesis.

Description of the Sample

The sample of this study composed of 122 hospitalized Chinese school-age children with chronic illness. Characteristics of the sample are described in Table 1.

Table 1 Characteristics of 122 Subjects

Variable	Frequency	Percentage(%)
Age (year-old)		
6.1 - 7	12	9.8
7.1 - 8	24	19.7
8.1 - 9	22	18.0
9.1 - 10	20	16.4
10.1- 11	14	11.5
11.1- 12	14	11.5
12.1- 13	16	13.1
Sex		
Boy	77	63.2
Girl	45	36.8
GPA 0-1	6	4.9
2	29	23.8
3	59	48.4
4	28	22.9
Type of Illness		
Nephrotic Syndrome	57	46.7
Leukemia	35	28.7
Congenital Heart Disease	30	24.6
Duration of Illness (month)		
1-6	72	59.0
7-12	15	12.3
13-18	4	3.3
19-24	3	2.5
25-30	1	0.8
31-36	13	10.7
37-42	1	0.8
43-48	5	4.1
49-54	1	0.8
55-60	7	5.7
Frequency of Hospitalization		
2	82	67.2
3	24	19.7
4	9	7.4
5	5	4.1
6	2	1.6

It can be seen from Table 1 that, the age of the 122 study subjects ranged from 6.1 to 12.11 years old and most of them were boys (63.2%). The majority of the subjects (71.3%) had three point GPA or higher. Among the subjects, nearly fifty percents (46.7%) were children with nephrotic syndrome, and 28.7% and 24.6% were those with leukemia and congenital heart disease respectively. The majority of the subjects (71.3%) had twelve months or shorter duration of illness. Also, more than three quarters of the subjects (86.9%) had admitted to hospital two to three times.

Findings Relevant to Research Questions and Hypothesis

Research question 1: What is the level of self-concept of hospitalized Chinese school-age children with chronic illness?

Self-concept scores of the subjects ranged from 28 to 75 with a mean of 56.13, and a standard deviation of 9.75. Table 2 presents the level of subjects' self-concept.

Table 2 Level of Self-concept

Self-concept Score		Frequency	Percentage(%)
Low	(<45)	17	13.9
Average	(45-60)	60	49.2
High	(>60)	45	36.9

It is shown in Table 2 that, nearly fifty percent of the sample (49.2%) had average level of self-concept and more than one-third (36.9%) reported having high level of self-concept, and only 13.9% of the subjects had low level of self-concept.

Research question 2: How much of the variability in self-concept and its subconcepts of hospitalized Chinese school-age children with chronic illness can be explained by factors as age, sex, academic achievement (GPA), type of chronic illness, duration of illness, and frequency of hospitalization?

The hypothesis: Self-concept and its subconcepts of hospitalized Chinese school-age children with chronic illness can be predicted by selected factors including age, sex, academic achievement (GPA), type of chronic illness, duration of illness, and frequency of hospitalization.

A stepwise multiple regression analysis was used to answer this research question and to test this hypothesis. In the multiple regression analysis, the dependent variables were overall self-concept and its six subconcepts (social behavior, academic competence, physical appearance and attribute, anxiety, popularity, and happiness and satisfactory). The independent variables were age, sex, GPA, type of illness, duration of illness, and frequency of hospitalization. The results are presented in Table 3 to Table 8.

Table 3 Stepwise Multiple Regression of Independent Variables on Overall Self-concept of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	Sig T
GPA	3.48	.30	.0007***
Age	.91	.18	.04 *
			R=.35*** R =.12
	Intercept=37.99		Adjusted R =.11

F=8.21 Sig F=.0005 ***p<.001 *p<.05

The results in stepwise multiple regression analysis of independent variables on overall self-concept are reported in Table 3. For this stepwise multiple regression analysis, two independent variables (GPA and age) entered equation. The multiple correlation for association of these two independent variables and overall self-concept was found to be significant ($R=0.35$, $p<.001$). GPA and age accounted for 12% in the variance in overall self-concept in hospitalized Chinese school-age children with chronic illness. Therefore, GPA and age were significant predictors of overall self-concept (GPA: Beta=0.30, $p<0.01$; age: Beta=0.18, $p<0.05$). In addition, the findings indicated that the children who were older and those who had high GPA reported higher level in self-concept.

Table 4 Stepwise Multiple Regression of Independent Variables on Social Behavior of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	SigT
Age	.28	.23	.009 **
GPA	.54	.19	.028 *
Sex	1.05	.21	.015 *
			R=.39*** R =.15
	Intercept=6.97		Adjusted R =.13

F=6.97 Sig F=.0002 ***p<.001 **p<.01 *p<.05

Table 4 describes the results of stepwise multiple regression in independent variables on social behavior. There were three independent variables entered equation (age, GPA and sex). The multiple correlation was found to be significant (R=0.39, p<.001). Age, GPA, and sex accounted for 15% of the variance in social behavior of hospitalized Chinese school-age children with chronic illness. Therefore, age, GPA, and sex were significant predictors of social behavior (age:Beta=0.23, p<0.01; GPA: Beta=0.19, p<0.05; sex: Beta=0.21, p<0.05). In addition, the labeled value of girls were one and those of boys were zero, therefore the findings indicated that the older girls who had higher GPA had better social behavior.

Table 5 Stepwise Multiple Regression of Independent Variables on Academic Competence of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	Sig T	
GPA	1.27	.34	.0001 ***	
			R=.34***	R =.11
	Intercept=8.00		Adjusted	R =.11

F=15.50 Sig F=.0001 ***p<.001

The results of stepwise multiple regression of the independent variables on academic competence are shown in Table 5. Only GPA entered equation. The multiple correlation for association GPA with academic competence was found to be significant(R=0.34, p<.001). As reported in Table 5, GPA accounted for 11% in the variance in academic competence in hospitalized Chinese school-age children with chronic illness, and GPA was significant predictor in academic competence (Beta=1.27, p<0.01). The finding indicated that the children with higher GPA had higher academic competence.

Table 6 Stepwise Multiple Regression of Independent Variables on Physical Appearance and Attribute of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	Sig T
Duration	-.04	-.26	.003 **
GPA	.66	.20	.027 *
			R=.31** R =.10
	Intercept=6.22		Adjusted R =.09

F=6.21 Sig F=.0021 **p<.01 *p<.05

Table 6 presents the results of stepwise multiple regression of independent variable on physical appearance and attribute. For stepwise method in multiple regression analysis of self-concept and six independent variables, two independent variables entered equation (duration of illness and GPA). The multiple correlation for association of these two independent variables and physical appearance and attribute was significant (R=0.31, p<.01). Also as 10% in the variability in physical appearance and attribute in hospitalized Chinese school-age children with chronic illness could be predicted by duration of illness and GPA. Therefore, duration of illness and GPA were significant predictors in self-concept (duration of illness: Beta=-0.04, p<0.01; GPA: Beta=0.66, p<0.05). In addition, the finding showed that, the children with higher GPA and shorter duration of illness had more positive perception of physical appearance and attribute.

Table 7 Stepwise Multiple Regression of Independent Variables on Anxiety of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	Sig T
Sex	1.13	.21	.02 *
	Intercept=8.24		R=.21* R =.04 Adjusted R =.04

F=5.59 Sig F=.019 *p<.05

The results of stepwise multiple regression of independent variable on anxiety are present in Table 7. Among the six independent variables, only sex entered equation. The multiple correlation for association of sex and anxiety subconcept was found to be significant (R=0.21, p<.01). As reported in table 7, sex accounted for only 4% of the variance in anxiety of hospitalized Chinese school-age children with chronic illness, and it was a significant predictor of anxiety (Beta=0.21, p<0.05). Additionally, due to the higher labeled value of girls than boys as previously mentioned, the findings indicated that, girls had higher anxiety level than boys.

Table 8 Stepwise Multiple Regression in Independent Variables on Popularity of Hospitalized Chinese Chronically Ill School-age Children

IDVs	B	Beta	Sig T
Age	.23	.23	.009 **
Sex	.84	.21	.017 *
Type in illness	-.42	-.18	.04 *
		R=.36***	R =.13
	Intercept=4.65		Adjusted R =.11

F=5.84 Sig F=.0009 ***p<.001 **p<.01 *p<.05

Table 8 describes the result of stepwise multiple regression of independent variables on popularity. It can be seen that three independent variables (age, sex and type of illness) entered equation and the multiple correlation was found to be significant (R=0.36, p<.001). Age, sex. and type of illness accounted for thirteen percent of the variability of social behavior of hospitalized Chinese school-age children with chronic illness. Therefore, age, sex, and type of illness were significant predictors of popularity (age: Beta=0.23, p<0.01; sex: Beta=0.21, p<0.05; type of illness: Beta=-0.18, p<0.05). In addition, the labeled value of girls was higher than those of boys, and the labeled was zero for nephrotic syndrome children, one for leukemia children, and two for congenital heart disease children, therefore the findings suggested that, the older girls were more popular

than younger boys, and the children with nephrotic syndrome were more popular than those with either leukemia or congenital heart disease.

For stepwise multiple regression analysis of happiness and satisfaction subconcept and the six independent variables, no independent variable was selected to enter the equation, thus none of the six independent variables accounted for a significant proportion of the variance in happiness and satisfaction subconcept. Therefore, none of the six independent variables was significant predictor of happiness and satisfaction.

Discussion

The discussion of this study is present in two sections: discussion of the finding related to the first research questions, and discussion of the finding related to the second research question and hypothesis.

Relation of the Findings to Research Question 1: What is the level of self-concept of subjects?

The majority of the study subjects had at least average level of self-concept. This finding is inconsistent with those of Riffee (1981)'s study that self-esteem of hospitalized school-age children was lower than that of nonhospitalized children. However the finding is congruent

with the study of Burns & Zweig (1980) and Molla (1981) that no significant difference on total self-concept score between chronically ill children and healthy children. There are two possible explanations for this finding, one is that chronically ill children might respond to items of questionnaire in terms of their ideal-ego rather than their realistic present self-concept (Burns & Zweig, 1980 & Molla, 1981). The self-concept development of these hospitalized chronically ill children might be affected by multiple factors, including different physical appearance due to disease and treatment, separation from family and peers, and absence of school. Therefore, these ill child's attempt to be similar to other children, and to behave and respond as he sees other children doing may be a bit unrealistic, but it is one way of coping with his chronic illness.

Another possible explanation for this finding might be the use of denial for school-age children to defend oneself against facing the full meaning of impaired functioning, difference in appearance, or disability (Burns & Zweig, 1980 & Molla 1981). These chronically ill children might worry about their difference and the interference of their illness with their peer group relationship. Thus they might use denial to allay anxiety, to help them deal with their awareness of the seriousness of illness and the possibilities for their fate, and to keep them functioning in a world that have been

shaped to fit the needs of them (Perrin & Gerrity, 1984).

Relation of the Findings to Research Question 2 and the Hypothesis

Research question 2: How much of the variability in self-concept of hospitalized Chinese school-age children with chronic illness can be predicted by factors as age, sex, academic achievement(GPA), type of chronic illness, duration of illness, and frequency of hospitalization?

The hypothesis: Self-concept of hospitalized Chinese school-age children with chronic illness can be predicted by selected factors including age,sex, academic achievement(GPA), type of chronic illness, duration of illness, and frequency of hospitalization

The findings that ill children's overall self-concept and most of its subconcepts (social behavior, academic competence, and physical appearance and attribute) can be predicted by academic achievement (GPA) is consistent with those of Youssef's study (1988) of which self-esteem in congenital heart disease children was positively correlated with IQ, scholastic achievement and scholastic grade average. Children who had higher level of academic achievement also had the higher the level of self-esteem and self-concept. Similar findings had been reported by Riffee (1981) and Mullis et al

(1992). The finding highlights the importance of understanding the impact of the educational system on children's self-concept development. Children's perception of his own academic achievement(GPA) is a reflection of the social and cognitive self (Youssef, 1988). When an illness and hospitalization impose limits on children's physical or cognitive abilities, absence of school, separation from peer group, and treated differently by sympathetic teachers might account for the difficulties of their academic competence, they are at risk of becoming underachievers and failures of eyes in themselves and of their peers, as a result, they might miss out on the experiences leading to the normal development of self-concept and the sense of industry and control over their academic environment that is very critical for normal development at this age (Erikson, 1963). Therefore, the lower the GPA, the lower overall self-concept, the poor self-evaluation of social behavior and academic competence, and the poor perception of physical appearance and attribute these chronically ill children have.

Age appeared to be another predictor of children's overall self-concept and social behavior and popularity subconcepts. The older the children, the higher level of self-concept and subconcepts as social behavior and popularity they have. These findings are in agreement with the study findings of Piers & Harris (1964), Burns & Zweig (1980), and

Mullis (1992) that age was a correlates of children's self-concept. The possible theoretical explanation is as those described by Erikson (1963) that, at early school-age child firstly begin to explore his/her own body and environment, but at later school-age, his/her sense of industry vs inferiority has been developed. Meeting internal and external demands and criteria for performance is essential for them to negotiate successfully the choice between industry and inferiority, and to acquire a sense of themselves as adequate and competent. Therefore, possibly the older children felt themselves of great value and worth, and tried to be part of social activities. This finding paralleled expected growth patterns of the development in attitudes, and awareness of self on school-age children (Li, 1993). For younger school-age children with chronic illness, the factors that influence self-concept most are components of their daily events, but for older school-age children, their self-concept is influenced to a great extent by events extraneous to their daily routine. For hospitalized school-age children with chronic illness, situations such as limited physical activities, absence of school, separation from family, and discriminated by peers, which threat the maintaining of age-appropriate tasks, social relationships, and behavior, may contribute to the impediment of self-concept and appropriate social behavior and popularity. When the child realizes the

needs of involving himself/herself in socialization, a sense of behavior properly and popularity develops consequently.

It is not surprising to find that sex was the significant predictor of three self-concept 's subconcepts as social behavior, anxiety, and popularity. Girls appeared to have higher level of self-concept than boys, especially in better social behaviors and popularity aspects, nevertheless, girls had higher anxiety than boys. These findings are consistent with findings of Piers and Harris (1964), Burns & Zweig (1980), Riffee (1981), and Kimm et al (1991) that girls reported to be more anxiety and more sensitive about their behaviors. Especially for Chinese school-age girls, because of the traditional culture influence, they were educated to behave in a appropriate manner, caring others and keep quiet at public situations. Therefore, accordance with Kohlberg's issue, school-age girls are more sensitive, more tender-minded, and more mature in socialization and moral development than boys at the same age (Li, 1987, pp489-490), thus they have more positive perception of social behavior and popularity. However, sex was not predictor of physical appearance and attribute subconcept is unexpected, because normally girls concern more about their figure. The reason for this finding may related to the ideal-ego approach while those girls completing questionaires, and the weakness of the study design as smaller sample size of girls than boys.

Duration of illness was the negative predictor of physical appearance and attribute, the children with short duration of illness had more positive perception of physical appearance and attribute. This finding is supported by those of Zeltzer (1980) and Issuce & McElroy (1986)'s studies that children who perceived their chronic illness as having a significant impact on themselves have low body-image, the longer the duration of illness, and the more physical psychosocial adjustment problems he meets. These finding can be explained by the changes of physical features caused by disease which lasting for long duration (such as the Cushinggoid face of a nephrotic syndrome child, loss of hair of a leukemia child, and clubbing finger, cyanosis, and small and thin figure of a congenital heart disease child), side-effects of medicine, or other treatments during hospitalization. During the school-age years, children begin to understand the process of body function and of illness causality at a more sophisticated level, nevertheless, they perceive body as passive, they are still very concrete and rely on phenomena and relationships they have experienced (Perrin & Gerrity, 1984). Thus, the children's perceived change in physical appearance and attribute was influenced by their duration of illness.

The last finding is that type of illness was the predictor of children's popularity subconcept. Children with

leukemia and congenital heart disease were less popular than those with nephrotic syndrome. The explanation of this result may related to the severity of disease children perceived and degree of activities restriction they required. Normally, those children with leukemia and congenital heart disease are considered to be at high life risk. Therefore, they have less opportunity to be involved in peer's activities, and they perceived themselves as less popular.

However, results of this study indicated that not all of the six independent variables were significant predictors of self-concept and its subconcepts. For example, frequency of hospitalization was not predictor of either self-concept or its subconcepts. In addition, for happiness and satisfaction subconcept, none of the six independent variables was a significant predictor of it. There are two possible reasons for explaining of these findings. One explanation may relate to the use of denial when children responding to questions, as indicated by Burs and Zweig (1980), they might try to avoid expressing feelings which they were really perceived, and they might pretend to be happy and satisfy because they considered their illness as a secret, and they were ashamed of their illness (Perrin & Gerrity, 1984). Therefore, possibly the results is inflated by denial of poor self-concept.

Another possible explanation of these findings may relate to the methodological issues of the study as follow:

the sample size might be small, the illness type might be limited, and the settings selected by this study might be restricted.

Therefore, the hypothesis that self-concept and its subconcepts of hospitalized Chinese chronically ill school-age children can be predicted by age, sex, GPA, type of illness, duration of illness, and frequency of hospitalization, was partly supported. The findings of the study highlights the importance of GPA and age in predicting these children's self-concept. The older the children with the higher GPA level, the higher the level of self-concept they have. The results also suggest that younger boys are more poor in social behavior adjustment and popularity, chronically ill girls are more anxious than boys, children with shorter duration of illness seem to have more positive perception of physical appearance and attribute, type of illness appears to influence children's popularity, especially for those with leukemia and congenital heart disease.