
小児がん患児(者)のResilience : サポートとの関連
(Resilience in adolescents with cancer: Relationships with support)

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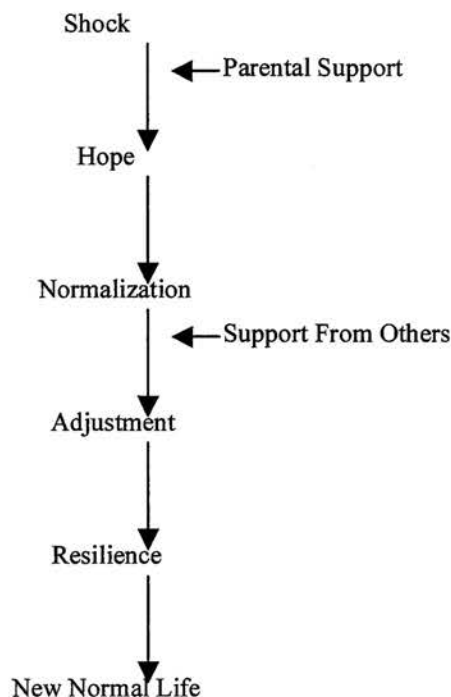
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Errata 正誤表

p. 14 Findings and Discussion

p. 43 Abbreviations : Ts; thought- stopping, Tr; thought-reflection, D; do something, I; it could always be worse, M; made it this far, L; looking forward to normalcy, C; cognitive clutter, K; knowledge of survivors, O; others have hope for me, F; forgetting, H; hopefulness, Ct; commitment to treatment, As; adaptation to symptoms, Tc; taking care of problems, Fa; family, Fr; friends, Hc; health care professionals, Te; teachers, Op; others person

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もに希望をあたえ、resilience を高めていた。3) 初発の子どもは退院時期に、再発の子どもは診断後しばらくして、復学への希望をもって入院生活を送っていた。4) 自分の病気を理解していない子どもは、resilience を高める可能性が見られた。5) 子どもの自己概念と社会支援は、正の相関関係があった。母親の自己概念・社会支援と小・中学生の子どもに、正の相関関係がみられた。

考察として、小児がんの子どもが、将来の希望や目的をもつことで、resilience を高めることができると考えられる。子どもが希望と目的をもつために、保護者が診断時に前向きになれるような、自己概念や社会的支援を高める環境が求められる。子どもの治療時期や、成長発達段階にあった個別的支援が、希望と目的をもって生活するために大切であると考えられる。医療専門職者、家族、先生、医療関係者、他の支援者が、小児がんの子どもに resilience を高める支援をおこなう必要性が示唆された。小児がんの子どもにの長期的支援を行うために、小児がん生存者へのさらなる研究が求められる。

大略

小児がんの子どもは、多くのストレスを経験しているが、resilience (前向きに生きることを)を高めている者もいるといわれている。彼らがどのようにして resilience を高めるのか、そのプロセスを知ることは意味深いことである。研究の目的は、1) 小児がんの子どもの resilience を日米で比較する、2) 日本の小児がんの子どもの resilience を高める要因と、そのプロセスを明確にする、3) resilience を高める支援を構築する、4) 調査を継続し研究の妥当性を高める、ことであった。

研究は、ケース・スタディー法と調査研究法で、平成 13 年から平成 17 年に行った。調査対象者は、退院間近から退院後 1 年以内の、11 歳から 18 歳の小児がんの子ども 16 人と、その保護者であった。面接は半構成的面接法で録音テープを使用した。面接データは、Hinds と Martin の自己を高めるプロセスのモデルを用いた、パターン適合法で解析した。調査用紙は、子どもと成人用の、日本式自己概念とソーシャル・ネットワーク・マップで、それぞれの調査用紙を子どもと保護者に使用した。

調査の結果は次の通りである。1) 自分の病気を理解していた日本の子どもは、米国の子どもと同様に resilience を高めていた。2) 母親の診断時の前向きな姿勢が、子どもに希望をあたえ、resilience を高めていた。3) 初発の子どもは退院時期に、再発の子どもは診断後しばらくして、復学への希望をもって入院生活を送っていた。4) 自分の病気を理解していない子どもは、resilience を高める可能性が見られた。5) 子どもの自己概念と社会支援は、正の相関関係があった。母親の自己概念・社会支援と小・中学生の子どもに、正の相関関係がみられた。

考察として、小児がんの子どもが、将来の希望や目的をもつことで、resilience を高めることができると考えられる。子どもが希望と目的をもつために、保護者が診断時に前向きになれるような、自己概念や社会的支援を高める環境が求められる。子どもの治療時期や、成長発達段階にあった個別的支援が、希望と目的をもって生活するために大切であると考えられる。医療専門職者、家族、先生、医療関係者、他の支援者が、小児がんの子どもに resilience を高める支援をおこなう必要性が示唆された。小児がんの子どもの長期的支援を行うために、小児がん生存者へのさらなる研究が求められる。

Profile

Children and adolescents with cancer experience multiple stressors, nevertheless some function well and / or are resilient. Focusing on resilience of cancer patients in childhood and understanding why and how resilience develops during the cancer experience are of great value. The purpose of this study is: 1) to compare resilience of Japanese adolescents with cancer and American ones, 2) to identify the processes of promoting resilience in the Japanese adolescents with cancer, 3) to explore protective processes in the Japanese adolescents with cancer, 4) to build support to promote resilience, and 5) to increase validity for the study.

A qualitative study, semi-structured individual interviews, and survey were conducted from 2001 to 2005. The participants were sixteen adolescents with cancer from 11 to 18 years of age and their mothers. The adolescents who were near the time of discharge to about one year after discharge were interviewed using audiotape. A pattern-matching logic with self-sustaining process of Hinds and Martin was used for analysis. The instruments of the simplified form of Japanese Version of Self-Perception Scale (SJS-PSA) and Social Network Map (SNM) were used to identify self-esteem and social support in the adolescents and their mothers.

The outcomes indicated that Japanese adolescents with cancer who were told the name of their disease were as resilient as American ones. Positive thoughts of their mothers supported children in having hope and promoting resilience. The adolescents' hope was related to which stage they were in. The newly diagnosed adolescents had hope for school life at near discharge and the relapse-experienced ones had it at the time of diagnosis. The adolescents who are not told the name of their disease show the potential for increasing their resilience. The survey indicates that there is an interaction between self-esteem and social support in adolescents with cancer. Also, the mothers' self-esteem and social support have an effect on their child.

The outcomes suggest some implications. Adolescents with cancer may develop resilience more effectively if they use certain strategies in a certain phase of therapy. Nurses, physicians, teachers, families, and other professionals should support the individual adolescents with such an approach. The adolescents with cancer would need support from family and society to have hope or purpose to receive therapy and live with cancer. Their parents' support at the time of diagnosis may be of value for children to be positive. Therefore, the health care professionals may encourage the parents and help construct supportive surroundings. The adolescents who have experience of relapse may also gain resilience through the communication with their peers. People surrounding

the adolescents may need to understand their developmental stages. The construction of intervention for adolescents and their family should be built based on understanding of these ideas. This finding indicates that further research is needed on resilience in adolescents who are not told the name of their disease. Also, it is needed to study how adolescents with cancer continue or develop hope for gaining resilience in life after surviving. This study would contribute in improving QOL in adolescents with affecting disease or illness.

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研究発表

(1) 学会誌

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RESILIENCE AND PROTECTIVE PROCESSES IN ADOLESCENTS WITH CANCER IN JAPAN

Introduction

With advances in modern cancer therapy over 70% of Japanese childhood cancer patients (Tsukimoto, 2002) and 80% of American patients (Ries et al, 2003) survive for 5 years after diagnosis. Adolescents with cancer are at risk for developing cognitive, emotional, and behavioral problems (Foley, Fochtman, Mooney, 1993), but others function well or are "resilient" (Luthar & Zigler, 1991; Eiser, 2003). Researchers have identified the need for studies on resilience of childhood cancer patients for improving their quality of life (Haase, 1997, 2004; Woodgate, 1999b). Such knowledge is extremely valuable to develop a conceptual framework for improving resilience. Little attention has been given to research for resilience in childhood cancer patients in Japan. The purpose of this study is: 1) to compare resilience in Japanese and American adolescents with cancer, 2) to identify key protective factors that help promote resilience, and 3) to explore protective processes for guiding adolescents with cancer to have meaningful lives

Literature Review

1. Theory of Resilience in Childhood Cancer Patients

Resilience was studied in childhood cancer patients in the 1990s (Haase, 1997; Woodgate, 1999b). Numerous studies have been conducted on coping, adjustment, and adaptation to childhood cancer and cancer survivors (Enskar et al., 1997; Novakovic et al., 1996; Nichols, 1995; Glasson, 1995; Hockenberry-Eaton & Minick, 1994; Hinds et al., 1999; Boy & Hunsbeger, 1998). Research on adolescents with cancer also demonstrated that revealing the name of the disease, giving information, and involving children in the planning, and decision-making about treatment gave realistic hope (Dunsmore & Quine, 1995). Moreover, children and adolescents with cancer were normal children who were forced to cope with extraordinary circumstances. This idea led to more attention to concepts such as "resilience" (Eiser, 1994). Rutter, fortunately, developed a model for resilience in children (Woodgate, 1999a). Resilience has been conceptualized as a dynamic process involving an interaction between both risk and protective processes that change the effects of an adverse life event (Rutter, 1987, 1990). Promoting factors of

resilience has also been discussed in childhood within three broad areas: individual youth, their families, and the societies in which they live (Gramezy, 1991; Olson et al., 2003).

According to Rutter (1993), resilience is suggested by five key concepts. First, potential turning points in people's lives are important in connection with the preceding and succeeding circumstances. People who seemed set on a maladaptive life are able to turn it to a more adaptive direction. Next, success in one area gives people positive feelings of self-esteem and self-efficacy to have the confidence to deal with life's challenges. Moreover, there are individual variations in vulnerability to adverse experiences that come from accepting or steeling experiences. When people have coped successfully with stressful experiences, steeling effects are more likely to occur. Fourth, individual differences in vulnerability may derive from personal characteristics that are influenced by environment and by the individual's response to particular stressors. Finally, how the individual assesses their circumstances is important. The same events are viewed quite differently from individual. Resilience is usually evident in a struggle with stressors and unpleasant events.

The concepts of vulnerability and protective processes have been more specific when discussed in terms of resilience. Rutter (1993) has indicated that protective processes may include three features. First, the protective processes reduce the chance of negative chain reactions through alteration or involvement in the risk. Second, self-esteem and self-efficacy are promoted through secure and supportive personal relationships or success in task achievement. Third, the protective processes come to be viewed as opportunities of a positive kind. The mechanisms as developmental processes need to be emphasized to cope effectively with stress in that connection. These include psychological operations related to mechanisms of turning points in people's lives when a risk may be redirected to a more adaptive direction. The protective process is helpful to use at certain turning points. There are four key points: (a) the risk factor itself can be altered through how a person understands the turning point, (b) an experience which can stop a negative a chain of events, (c) an experience which can promote self-esteem or self-efficacy; and (d) new opportunities can be found (Rutter, 1987, 1990). Rutter (1987; 1990) has not defined vulnerability processes clearly. Vulnerability processes, as opposed to protective processes, are reported to occur when a previously adaptive trajectory is turned into a negative outcome.

Based on a list of protective factors from studies, Rutter (1985) began to clarify factors that may be involved as possible mechanisms. The researcher identified seven key points. First, a person's response to any stressor will be influenced by the situation,

the capacity to adapt to stressors, and age. Second, people may not use a particular coping strategy, but they do act, and not simply react. Next, people's ability to act positively is related to their self-esteem, self-efficacy, and problem solving skills. Fourth, self-esteem and self-efficacy may be fostered by stable and affectional relationships, success, achievement, and positive experiences, as well as by temperamental attributes. Fifth, such personal qualities may operate through their interactions with other people. Moreover, successfully coping with stress and increasing social competence promotes resilience. Finally, all the evidence demonstrates the importance of developmental links. According to Rutter (1985), protection, the quality of resilience, lies in how people deal with changes in life and what they do about their stressful or disadvantageous circumstances. Protection is also influenced by experiences in early life and during later childhood and adolescence, and by circumstances in adult life.

Rutter (1993) emphasized the importance of studying resilience. Avoiding thought of some single answer to problems of life, researchers should use several different sources of measurement and indications over time. Also, people may suffer in different ways. Therefore, it is necessary to take a much longer time span to view resilience within a developmental framework. Moreover, how the processes increase resilience should be the focus of research because there is little understanding of protective processes.

2. Coping Strategies in Children and Adolescents with Cancer

Coping is another construction that is especially equated with resilience. When people become stronger by successfully coping with stress, steeling comes in to effect in protective processes and promotes resilience (Rutter, 1993, 1985). Resilience refers to the ability to cope successfully with stress (Stewart, Reid, & Mangham, 1997; Haase, 1997; Woodgate, 1999b). Also, coping with stress and achieving hopefulness and competence change the views of adolescents with cancer and they become resilient (Hinds and Martin, 1988). With this background the research concerning coping strategies and the hopefulness will be reviewed.

Having cancer may have psychological effects such as loss of self-identity, self-esteem, and academic achievement in the patients (Foley et al.1993; Hanna &Jacobs, 1993; Hockenberry-Eaton & Minick, 1994; Weekes & Kagan, 1994). Uncertainty is the greatest source of psychosocial stress for adolescent cancer patients as well as childhood cancer patients (Koocher, 1985). In dealing with cancer, adolescents with cancer use a variety of coping strategies. Some studies found that adolescents with cancer felt helpless

and sought spiritual support at the time of initial diagnoses. Therefore, help from prayer and church was important in order to find relief, comfort, and meaning in life (Fowler-Kerry, 1990; Hinds & Martin, 1988; Nichols, 1995). Adolescents also use coping strategies with physical pain during treatment such as thinking about good things, having an optimistic view, making jokes, and holding a parent's or others hand (Fowler-Kerry, 1990; Weekes & Kagan, 1994; Weekes et al., 1993). Results of other studies have demonstrated that coping strategies such as being positive and having hope for the future help adolescents with cancer deal with psychological stresses (Enskar et al., 1997; Hinds & Martin, 1988; Novakovic et al., 1996; Rechner, 1990; Weekes & Kagan, 1994).

Using a grounded theory approach, Bull and Drotar (1991) described the differences in the use of coping strategies in school-age children and adolescents with cancer. The study found that adolescents used emotional-management coping strategies, but younger children used problem-solving strategies. The authors believe that children with cancer cannot stop their hair from falling out. However, adolescents with a higher level of cognitive maturity may understand the ineffectiveness of problem-solving strategies for stressors. The findings of a qualitative study of 13 adolescents aged 11 to 18 years (Weekes & Kagan, 1994) indicated that participants used different coping strategies before and after completing treatment. Before completing therapy most of the adolescent cancer patients described themselves as different from their peers and their lives as being abnormal. However, they tried to lead a normal life using five coping strategies such as thinking positively, avoiding treatment, keeping busy, reducing risky behavior, and meeting specific time-limited goals. After completion of cancer therapy the adolescents used three coping strategies such as negotiation, cognitive relief, and selective forgetting to focus on getting back to a normal life. Similar to this study, Glasson (1995) found that adolescents with cancer in outpatient clinics became intent on catching up with schoolwork before reentering school. Moreover, adolescents with cancer believed that they were not changed psychologically, were still the same person, and accepted cancer through their social support networks (Rechner, 1990; Overbaugh & Sawin, 1992).

Hinds and Martin (1988) have conceptualized the self-sustaining process that helps adolescents with cancer develop hopefulness during their cancer experience (Figure 1). The self-sustaining processes include four phases in which each phase has specific strategies. The first phase, cognitive discomfort, occurs immediately after the adolescents became aware of negative or disrupting thoughts about their illness. It includes two strategies: thought stopping and thought reflection.

The second phase is distraction in which is a purposeful effort to do away with threatening conditions. The adolescents learn cognitive and behavioral activities to promote positive thoughts and conditions. Nine strategies are constructed in this phase: do something; I could always be worse; looking forward to normalcy; cognitive clutter; God will take care of me; looking back; knowledge of survivors; and others have hope for me.

The third phase is cognitive comfort in which refers to periods of comfort and lifting of spirits during the course of their illness. This phase includes two strategies: forgetting cancer and hopefulness.

The fourth phase is personal competence in which changes the adolescents' view to resilient, resourceful, and adaptable in the face of serious health problems. Personal competence includes three strategies: commitment to treatment, adaptation to symptoms, and taking care of problems. Hinds and Martin have concluded that the self-sustaining process is changeable and can occur in minutes or weeks. Also, some phases take longer than others or may be skipped. Moreover, the improvement of the adolescent through the process can be influenced by the behavior and attitudes of others. Positive relationships also exist among the four core concepts.

3. Summary

The self-sustaining process is useful for understanding how adolescents with cancer develop resilience. The reason for this is that the self-sustaining process has implications for studying the meaning of the protective processes that Rutter has mentioned. Rutter's protective process mechanisms include turning points such as (1) involving in a risk factor, (2) stopping a negative chain of thoughts of risk, (3) increasing self-esteem or self-efficacy, and (4) opening up to new opportunities. Similarly, the self-sustaining processes have four phases: (1) cognitive discomfort, in which adolescents are aware of stopping negative thoughts; (2) distraction, which focuses on positive thoughts or activities; (3) cognitive comfort, in which adolescents forget cancer and concentrate on hopefulness; (4) personal competence, in which adolescents face serious problems.

There are some important concepts in the model. First, an expanded framework of resilience might include protective processes that are present within the individual, within the family and peer network, and within the school environment and the community (Olsson et al., 2003). Therefore, research needs to focus on people who support the

adolescents in order to promote resilience. Second, this model should also be aimed at adolescents who are in different developmental stages and phases of cancer therapy. According to Weekes and Kagan (1994), adolescents who have experienced cancer have also used different coping strategies in different developmental stages before and after cancer therapy. In addition, as Rutter pointed out, building a knowledge base for expanding on cultural differences should be investigated. One is whether or not to reveal the diagnosis of cancer. Research reviewed in this study may have been conducted on adolescents who were told their diagnosis. However, this is not always the norm in other cultures. Another concern is that the length of hospitalization also appears to be different in different countries (US Bureau of the Census, 1991; Statistics and Information Department Minister's Secretarial, 1999). This approach will improve the understanding of resilience in certain patients in certain cultures and help adolescents to promote resilience.

Promoting factors of resilience in childhood has been discussed within three broad areas: individual youth, their families, and societies (Gramezy, 1991; Olson et al., 2003). Self-esteem promotes protective processes through secure and supportive personal relationships or success in task achievement (Rutter, 1987, 1990). For this reason, self-esteem was measured with the simplified Japanese self-perception scales for adolescents (Ueda, 1992) and for adults (Ueda & Takahashi, 1992). The social support of adolescents and their parents was also measured with the Social Network Map (Kamatani et al, 1988).

Methods

Qualitative research seeks to gain insight through discovering the meanings of a phenomenon (Seale et al., 2004). A case study research method was used for this study to understand about resilience of Japanese adolescents with cancer. Quantitative study was also conducted to exam related to resilience such as self-esteem and social support.

Case studies typically focus on "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a concurrent phenomenon within some real-life circumstance (Yin, 1994). One approach to link data for case studies is a pattern-matching described relating several pieces of information from the same case to the same theoretical proposition (Yin, 1994). Using a pattern-matching logic is one of the most desirable strategies for case study analysis to support internal validity. Such an analysis compares an empirically based pattern with a predicted one. Each case study and unit of analysis should be similar to those previously studied by others or should differ in clearly defined ways (Yin, 1994). In a case study internal validity is supported if all the patterns fit with the proposition (internal replication). However, if the patterns do not fit, even if one variable does not fit, the propositions would not be accepted. A theory must be tested through replications of the findings by second or third cases (theoretical replication) (Yin, 1994). Once such replication has been made, the results might be accepted for a much larger number of similar cases. The empirical results may be more effective if two or more cases support the same theory, but do not support a rival theory (Yin, 1994). The goal of reliability is to minimize the errors and biases in a study such as using case study protocol and developing a case study database (Yin, 1994).

1. Procedure

The proposal was approved by a university based ethical review committee. Permission to work with the adolescents and their parents was obtained from the administrators and chief oncologists of four agencies. Physicians from each of agencies selected the families. After the child and parent(s) expressed interest, the first author and the physician arranged date, time, and the place for data collection. Because of the physical condition of the adolescents, the author called the physician to confirm the interview a couple of days before meeting the participants. The author contacted the adolescents and parents and explained about the study to them and obtained their informed consent before participating in this study.

2. Participants

Participants were recruited from four agencies in the west of Japan (Table 1). Adolescents with cancer aged 11 to 18 years and from inpatients who had just completed therapy and to outpatients who were within two years of being discharged were invited in this study. Their mothers were also asked for interviewed. Sixteen adolescents and their mothers participated. Demographic data and medical information from the patient's medical record were collected. The seven participants (8 females and 8 male) ranged in age from 11~18 at the time of the interviews (Table 2). They had been diagnosed with 8 acute lymphocytic leukemia and 5 acute myelogenous leukemia, and 3 non-Hodgkin's lymphoma. The time since diagnosis ranged from 0 to 8 years. Eight respondents had experienced relapse and eight respondents were newly diagnosed. Of the 16 adolescents, 14 were told their diagnosis and 2 were not. Moreover, the adolescents were able to speak and read Japanese and those who could participate physically and mentally. Three participants were lost during this study because of death.

3. Data Collection

Data was collected through semi-structured individual interviews, medical and demographic information with the adolescents, and surveys with them and their mothers. The interviews were managed face-to-face and audiotape. Based on the Weekes and Kagan's (1994) semi-structured interview guide, the interview's questions were developed and studied for a pilot study (Ueda & Ishibashi, 2002) (Figure 2). The adolescent interviews included coping strategies in three specific phases such as inpatient, near discharge, and outpatient phases. Coping strategies related to dealing with cancer treatments and a normal life including relationships with family, friends, or others, study, life purpose, hope, and social support were identified. The interview was started by asking, "Will you tell me why you are hospitalized?" It was also very important to know which participants were told their diagnosis and which ones were not told. Therefore, the author had to be careful when asking questions not only during interviews, but also before and after interview. The words, "cancer" and "death", were not used by the author during interviews, but these terms were used when the adolescents who were told their diagnosis started to use the terms by themselves. Also, the guidelines for collecting data were used during the interviews (Figure 3, 4)

The first author conducted interviews. Five interviews were conducted in the hospital, 9 was at an outpatient, and 2 were done in the adolescents' homes, in which cases they lived in other cities. The interviews ranged in length from 30 to 50 minutes. Once the interviews were completed, the author wrote field notes containing the adolescents' behavior, attitude, and perception. The tapes were then transcribed verbatim.

A Simplified form of Japanese Version of Self-Perception Scale for Adolescents (SJS-PSA I) and for adults (SJS-PSAII) and a Social Network Map translated into Japanese (SNM) were used. The SJS-PSA I, II are a 13-item instrument and are rated on a 4-point scale from 1 to 4 that assesses self-esteem. The scale has been shown to have adequate internal consistency (Cronbach's alpha = .809 for mother having child at risk (Ueda, 1993). The one of the SJS-PSA II is .794 (Takahashi & Ueda, 1992). The SNM is an investigator that how children perceive their social world. The scale has 4 circles and 6 pieces of them. The center represents the child itself. The most important persons should be placed in the inner circle, and the least important in the third circle. The outer ring should be located negative contacts' person. Satisfaction and dissatisfaction are marked in a box at each sector. A measure was obtained by in the nearest circle segment by 8, the next circle segment by 4, 2, and 1. The essential aspects of the map showed good stability over time.

4. Data Analysis

In the analysis, a pattern-matching logic that compares a pattern with a proposition was used. For this reason, the self-sustaining process (Hinds & Martin, 1988) was applied as a guide to define the case and unit of analysis that include four sequential core concepts: cognitive discomfort, distraction, cognitive comfort, and personal competence (see Figure 1 for the self-sustaining process). Rigorous application of the coding techniques by two analysts helped to maintain the reliability and validity of the analysis (Pope & Mays, 2000; Burns & Grove, 1987). The first author and a cooperator conducted content analysis. The author independently identified coding categories through a careful and restrictive review of the data. We then compared major code categories strictly and found that the categories most closely matched the self-sustaining process. First, data were divided into phases including the inpatient, the near discharge, and the outpatient phases. Second, the data identified four concepts such as distraction, cognitive discomfort, cognitive comfort, and personal competence. Third, the data in each concept identified five areas related to social support: friends, family, health care professionals, teachers, and others. The coding categories were checked strictly using the same coding process by the cooperator. The

author then compared the coding categories between an interview and the self-sustaining process to discover differences or similarities to one another.

These coding processes were replicated in all cases. The replication approach is illustrated in Figure 5. (This figure is derived from research on the case study method; see Yin, 1994). We have made a literal replication in 4 cases (cases 1, 2, 3, and 4). Then we made a theoretical replication among 3 cases (cases 5, 6, and 7).

The SJS-PSA I, II and the SMN were analyzed by statistically using the SPSS. 3. The relation between the mothers' of the SJS-PSA and the SMN and those of their children was evaluated. Also, the correlations between the SJS-PSA and the SNM of the adolescents were analyzed.

Findings

We begin with a description of the adolescents' reports of positive changes and later discuss the factors of promoting their resilience. Sixteen cases were replicated from the self-sustaining process such as cognitive discomfort, distraction, cognitive comfort, and personal competence. This case study report is divided into three parts. First part concerns adolescents who were told and those who were not told that they had cancer. Second part shows the relationship concerning hope of newly diagnosed and relapse-experienced adolescents who were told that they had cancer. Last one discusses about self-esteem and social support.

1. Adolescents Who were Told and Those Who were Not Told That They Had Cancer

We will describe the relationship between the adolescents who were not told and those who were told that they had cancer, and then analyze the cases crossly. We analyzed the description of each adolescents report by a variety of positive changes including awareness, positive thinking, interaction with others, future possibilities, thought of regulation, and adaptation. These six categories are related to the self-sustaining processes (Hind & Martin, 1988). According to the processes, in the cognitive discomfort phase adolescents with cancer become aware of negative or disruptive thoughts about their disease. These experiences move on to the distraction phase which promotes their positive thoughts and interaction with healthy others. In the cognitive comfort phase they experience lifted spirits and consider future possibilities. The adolescents become to think about regular staff. In the final phase, personal competence, the adolescents perceive themselves to be resilient and adaptable in the face of cancer.

1) Adolescents Who were Not Told They Had Cancer

Two participants were not told the name of their disease. Figure 5 shows the replication of cases 1 and 4.

(1) Individual Case Studies

Case 1

The adolescent was a 12-year-old female who experienced relapse and was not told the name of her disease. She was first diagnosed as having cancer at 5 years old. When she was 5 years old, she had a bitter experience of being teased about her loss of hair

by her classmates. At the time of the interview she was expected to go home within one week. She wore a bandana and a mask. She lost her right arm due to an accident at 5 years old. She had neat hand writing as she was ambidextrous. She had practiced writing. She looked a little anxious at the beginning, but could express her feelings little by little. She worried about dying (Table 2 & Figure 6).

There was no information about the cognitive discomfort phase. She was told that her blood was affected with a virus at the time of her diagnosis. In the distraction phase, despite difficult therapy, she sometimes could have good times and participates events in the hospital with support. She wrote letters to her friends. Her teacher sometimes visited. In the cognitive comfort phase her hope was recovery, the health of her family, and a school event. Near the time of discharge she was worried about reentering school. She said that her classmates might ask her why she could not drink cold milk. She did not want to participate in sport events in school because she run too slow too. She was also worried about being an outpatient because she had to get painful punctual. In the personal competence phase, however, she wanted to participate in school activities in the coming summer. She positively said, "I may be able to swim. I cannot crawl, but I can swim 5 meters." Figure 7 represents this description.

Case 4

The adolescent was an 11-year-old male who had experienced a relapse, but not told the name of his disease. His mother told the author that her son had not been told the name of his disease. He was expected to go home in the afternoon. At 7 years old he had an experience of being teased about his loss of hair by his classmates. He wore a hat and a mask and looked shy. During the interview he talked in a very quiet voice and sometimes the interviewer could not hear him. He kept his face down and did not talk very much about his disease or his time in the hospital. When asked about being discharged, he held his face up and began to answer questions about going home (Table 2 & Figure 6).

Despite no information concerning the cognitive discomfort phase he tried to cope with painful procedures in the second phase. He explained that while he was receiving difficult therapy, he thought of quickly recovering from his disease. He had hope in the next phase. His hope was a complete recovery from his disease and that his family was healthy because he was lonely. In the personal competence phase he was excited about being discharged and wanted to attend a school study trip in the summer. Although studying was his weak point, he liked to study homemaking class very much.

Also, he was very glad to be in complete remission because his transplant was success. He would also try to be optimistic if he needed to be hospitalized again. He forgot about his disease while took walks and thought "it is ok whichever way it goes" (Figure 7).

(2) Cross-Case Analysis

In a comparison between case 1 and case 4 in the six categories there were some similarities between them (Figure 8). (1) The adolescents were not told the name of their disease. It was not clear to them how to respond to or understand their diagnosis or how to develop positive thinking after diagnosis. However, they seemed to practice positive thinking and interact with others during hospitalization. (2) Being discharged and school life seemed to be important for them to look forward to normalcy. Near discharge they could think of future possibilities such as hope related to recovery and the health of their family. They could think of regular staff. (3) Having favorite things to do helped them gain confidence. Despite having some problems at school they wanted to be there, because they could discover things they love to do.

There was no information as to their reaction to their illness. However, they may have known about their diagnosis due to experiences of relapse and development of media. One study points out that the childhood cancer patients who are not told their diagnosis recognize its seriousness by gathering information from adult's conversation and behavior and from their peers who have cancer. Then, the adolescents realized the taboos of speaking about their disease at first relapse (Bluebond-Langer, 1978) and significantly interfered with their coping (Bearison, 1991).

It is not clear whether the adolescents believed that they could cope. They might learn cognitive and behavioral activities to promote positive thoughts. Follow up studies are needed. Hind and Martin (1988) noted that younger adolescents did not have a projection themselves in the future.

Adolescents expressed directly that they wanted to completely recover from their disease. Adolescents may be influenced by developmental differences. Based on Piaget (1969)' theory (cited in Pillitteri, 1999, p. 191), school-aged children seem to solve everyday problems in a concrete manner such as cause-and-effect relationships. Also, the adolescents had hope that their family members would live a long life, so they would not be alone. Perhaps, adolescents feel lonely and anxious during hospitalization. Moreover, even though their classmates had teased them about their baldness, adolescents may want to have a relationship with their schoolmates and maintain their adolescent life.

Erikson (1968) stated that school-age children learn the rules in their social relationships with others and develop a sense of industry for establishing a stable identity (cited in Wong et al., 1999, p. 133).

Adolescents might use some strategies to overcome problems and develop psychologically. These adolescents had bitter experiences at school before. However, they tried to take care of their problems by finding things they enjoyed. Also, they attempted to focus on what they could do. Based on Erikson's theory, school age children will experience success if they set more realistic goals (cited in Wong et al., 1999, p. 133).

2) Adolescents Who were Told Cancer That They Had Cancer

Three adolescents, cases 2, 3, and 5 were replicated (Figure 5). They were told the name of their disease and were newly diagnosed and relapse-experienced.

(1) Individual Case Studies

Case 2

An adolescent, a 13-year-old female, was told the name of her disease and experienced a relapse. She had been discharged with a good prognosis through the use of a new medicine. The interview was done at her home. She wore a pretty hat and a mask. She and her mother welcomed me with a smile to the interview (Table 2 & Figure 6).

The adolescent showed signs of the processes (Figure 7). In the cognitive discomfort phase she immediately responded when she heard about her cancer at the time of diagnosis. She did not use the word "shock", but wanted to go home soon. However, in the distraction phase she could be positive about her cancer. During hospitalization she had a purpose and dreams of becoming a musician. Therefore, she willingly studied in the hospital. She also made a lot of friends and had a fun time talking with them, listening to music, and watching videos. She said that losing her hair would grow in again and that very short hair was the latest fashion. In the cognitive comfort phase her hope was to become a musician and to go to school. After discharge she negotiated with physicians to go to school as soon as possible. She wanted to go to school and did not miss any classes in order to visit her outpatient clinic. However, she did not express her feelings related to recovering from cancer. In the personal competent phase the adolescent had support from her friends. She told her friends the name of her disease so

her friends understood about her disease and the side effects and supported her emotionally. However, she would not talk with her friends about her disease or her experience in the hospital. The mother took her child to school by car. Finally, the adolescent thought that she could cope with any hard risk and become strong psychologically because of her experience of having cancer.

Case 3

The patient was an 18-year-old female, newly diagnosed and was told the name of her disease. She was an outpatient. She was discharged 10 months ago and had the interview at home. She wore a wig because she had lost her hair when having a permanent. She regretted what she had done. There was no possibility of reentry to the previous school because of her side effects so she attended a school for the disabled (Table 2 & Figure 6).

The third case showed sign of similar the processes (Figure 7). In the first phase she immediately responded when she heard she had cancer at the time of diagnosis. She was in shock and thought that the disease was very serious and fatal. However, her parents supported her and relieved her fears by describing positive outcomes. Therefore, she could think of recovery through parental support. When she was told she would lose her hair, she accepted it with parental support. In the second phase she could cope with the stress of hospitalization because of hope for a full recovery. She tried not to study, but to relax reading books and writing letters to focus on therapy. Near to being discharged she thought of regular staff in the third phase. She hoped to fully recover from her illness and side effects after being discharged. She hoped not to have a relapse or have side effects such as not being able to have babies. In the fourth phase, she dealt with her problems through social support. At the time she was discharged, her parents advised her to transfer to a school for handicapped children because of the side effects of therapy. After being discharged she accepted her side effects and transferred to a school for handicapped children. The adolescent had emotional support from her friends and a teacher because she told them she had cancer and her physical condition. When she explained her side effects, the teacher said that she did not need to study hard now. Her friends never made her go outside, but instead came to her house. Also, she was aware that some people had harder lives than hers and developed a philosophy based on her experiences of having had cancer:

I know students who know how many years they will be able to live.
I could not play (with my peers) before attending this school. But, I
changed my mind and that living life was the most important thing.
I am not afraid (of death) because I will recover from my illness.

Case 5

The adolescent, a 15-year-old female, was newly diagnosed and had been an outpatient for four months. She guessed the name of her disease, cancer, because she had overheard conversation between her mother and her doctor. Her teacher knew about her disease and reported her condition to his class. Her hair had grown back. She attended all of her class and had a plan to go to university with her friend. She had to protect her skin from sunlight (Table 2 & Figure 6).

The adolescent showed signs of the processes (Figure 7). She was not shocked at the time of diagnosis, but was when she was told that her blood type had changed to that of her sister's through stem cell transplantation (SCT) in the first phase. During therapy she was relieved when the doctor told her that most SCT patients recovered. She could cope with cancer by thinking of her favorite things and had a good time with games in the second phase. During her therapy she accepted losing her hair and the stressful treatment through parental support. In the cognitive comfort phase she had hope such as a full recovery from the disease, her family's health, and future plans at the time of her discharge approached. In the personal competence phase she was aware of and began to prepare for reentry to school near the time of being discharged. She only thought about cancer and its side effects during therapy. She asked the teacher about study guidebooks and studied as hard as possible. She did not want to get behind in her classes. After being discharged she negotiated with the teacher to write a report to get a grade instead of participating in sports. She also had support from friends and got some notes taken in class by her friends. She told her close friends the name of her disease. Some classmates were envious of her hair because her hair was beautiful. She was very pleased to hear that. However, she expressed that she did not talk with friends about her disease and experiences in the hospital. In addition, she learned how to live with cancer. When she went to school with a bandanna, people looked at her as if she were strange. But, she was getting used to it. She also developed psychologically based on her cancer experiences:

After having cancer just existing is the most important thing for me. I don't care if I do something slower than others do. It is ok. I can do it in my own way.

(2) Cross-Case Analysis

Adolescents who are newly diagnosed and those who have experienced relapse may feel resilient. In comparing the seven categories case 2 who was relapse-experienced and cases 3 and 5 who were newly diagnosed showed similarities in the self-sustaining processes (Figure 8). (1) The adolescents immediately responded when they heard they had cancer at the time of diagnosis such as going home and feeling shock. This experience led them to think positively along with their parents or led to thoughts of purpose. They could try to think about normal things such as going to school, growing hair, and having friendships. The adolescents who were newly diagnosed wanted to recover from cancer with parental support, but those who were relapse-experienced did not. (2) Hope seemed to be very important for the adolescents. They seemed to commit to their therapy with hope concerning such things as adolescent life, future plans, and school. The adolescents who were relapse-experienced already had hope related to school and studied hard during early hospitalization. However, the other adolescents did only as discharge approached. Also, near discharge they were ready for normalization. They negotiated with physicians to reentry school as soon as possible. (3) The adolescents lived with cancer and developed psychologically through having had cancer. After discharge the adolescents took care of their problems using support from their family, friends, and teachers.

The adolescents who were newly diagnosed felt very shocked by hearing the diagnosis. However, they were relieved of their distress by their parents' explanation that they would recover from the disease. Parental belief that cancer is not a fatal disease seemed to be very important for newly diagnosed adolescents to deal with their disease. Mothers are the most significant source of spiritual support for adolescents with cancer (Haluska, Jessee, & Nagy, 2002; Enskar et al., 1997; Hockenberry-Eaton & Minick, 1994).

Also, the adolescents who had experienced relapse did not say that they wanted to recover, but they were eager to go to school. They seemed to avoid focusing on their disease and its treatment and used the hope of going to school as a way of leaving treatment. Adolescents with cancer practice protective denial that focuses less on the seriousness of the illness and more on gaining health and life goals (Hinds et al., 1999).

On the other hand, Foley, Fochtman, and Mooney (1993) explained that a relapse of the disease caused great anxiety concerning aggressive treatments because of negative memories.

The adolescents in this study express the feeling that "I have hope." The newly diagnosed adolescents had hope related to leisure and day-to-day activities while they were the inpatients. These findings suggest that since treatment outcomes remain uncertain, adolescents with cancer did not allow themselves to think far beyond the present (Weekes & Kagan, 1994). Hinds, et al. (1999) also suggested that the presence of hopefulness was not necessary for newly diagnosed adolescents after diagnosis. The reason for this is that protective denial helped them to have normal hope to balance the negative illness with positive hope. At the time of approaching discharge they began to study and had hope of returning to school. One report explains that levels of hopefulness were lowest at the time of admission and highest near the time of discharge. The highest hope was to recover from their illness and to be completely normal (Hinds et al., 1999).

On the contrary, the adolescents who had experienced relapse had great hope of going to school from an early phase of hospitalization and attempted to study by themselves. They may know how to spend time in the hospital because of their past experience. That may partly explain it, but further studies are still needed. Also, these adolescents did not say anything about their recovery at the time of the discharge. Perhaps, the adolescents feel uncertainty concerning their health. One study takes a similar view that pediatric cancer patients were aware of the serious possibility of recurrence and the number of stressors about their future increase (Hockenberry-Eaton, Dilorio, & Kemp, 1994). Hopefulness was important for maintaining health and achieving goals, but it was not enough to strengthen the adolescents with cancer (Hinds & Martin, 1988).

Adolescents with cancer believed that they were unchanged by cancer (Hinds & Martin, 1988; Rechner, 1990; Weekes & Kagan, 1994). The adolescents in this study attempted to maintain a normal appearance. According to Erikson, the development of identity in adolescence is characterized by rapid and marked physical changes (cited in Wong et al., 1999, p. 133). Similarly, hair loss affects friendships among the adolescents with cancer because of visible differences from their peers. One study may partly explained this. Adolescents with cancer expressed a personal philosophy, "Cancer is not fatal." This positive attitude helped them to deal with hair loss and other people's reactions to cancer (Rechner, 1990). Adolescents who have experienced relapse seem to be optimistic and cope with losing hair. Their optimistic attitude may come from past

experience that hair grows back and their goal of going back to school. As Rutter (1993) pointed out, the adolescents who have relapsed have coped with cancer successfully and have steeling experiences that build strength. In short, with support from parents, friends, and others, and with a positive attitude toward cancer, the adolescents coped with cancer and are able to have hope. They were strong in concern to their hair loss.

Also, the adolescents wanted to go to school and caught up on their studies. Especially the newly diagnosed adolescents studied hard when approaching discharge. As Foley, Fochtman, and Mooney (1993) propose, the adolescents might be concerned about their grades and ability to compete with peers in school. At the time of reentry to school the newly diagnosed and relapsed adolescents negotiated with a doctor to attend class as much as possible. Weekes and Kagan (1994) pointed out that the negotiation might occur from having a normal adolescence life such as keeping their independence.

The adolescents, moreover, attempted to establish relationships with friends. The adolescents who told their friends the name of their disease got spiritual support from the friends. However, some of the adolescents did not talk with their friends about their experiences with cancer treatment because they did not want to be troublesome. Perhaps, these adolescents keep acceptance and friendships by reducing attention from classmates. According to Erikson's theory, adolescents struggle to fit the roles adopted by their peers and to integrate their concepts and values with those of the adolescent society (cited in Wong et al., 1999, p. 133). Some studies also indicated that adolescents with cancer felt themselves isolated and powerless (Enskar et al., 1997; Kameny & Bearison, 2002).

3) Analysis of Adolescents Who were Not Told and were Told They Had Cancer

Japanese adolescents with cancer seem to gain their resilience with similar to the self-sustaining through the four processes such as cognitive discomfort, distraction, cognitive comfort, and personal competence. I found the factors and processes present which promote their resilience. The factors, honesty and hope, seem to be variable concepts for the adolescents with cancer. (1) The adolescents feel shock from being told the name of their disease. This experience may be very hard for them and their parents. (2) However, the parents become positive and give their children hope. The parents give emotional support by honest information about cancer. The adolescents' hope seems to be powerful in coping with cancer. Their hope is recovery from cancer and future purpose. (3) This hope led to normalization. The adolescents face some problems in

leading a normal adolescents life. However, their cancer experience helps them to develop psychologically. (4) They learn to deal with their problems with confidence. They also can face their problems through support from their parents, health care professionals, friends, and teachers. (5) The adolescents seem to gain resilience and have a new normal life (Figure 10).

Some issues exist in the adolescents who were not told. These adolescents may have the potential for resilience. However, their strategies may not be enough to resolve problems concerning their studies and friendships after being discharged. Their worries concerning teasing or criticism from classmates are still problems. If the adolescents receive information about their disease, they will inform friends the name of their disease and get understanding. Then, the adolescents may have more social support and promote resilience efficiently. The two cases in this study are not enough to make a theoretical replication. Further studies are needed to clarify how the adolescents develop their friendships and adolescent life after being discharge.

The adolescents who were told the name of their disease experienced similarities to the processes and showed a literal replication. However, there are some differences between the adolescents who were newly diagnosed and those who experienced relapse. The latter adolescents did not talk about recovery from their cancer. Also, these adolescents seemed to have hope earlier than the others. These issues need to study in more cases. Figure 9 summarizes an analysis of adolescents who were not told and those who were told cancer.

2. Hope of Newly Diagnosed and Relapse-Experienced Adolescents Who were Told Cancer

We showed differences related to hope between the newly diagnosed and the relapse-experienced adolescents in part I. These issues lead to be replicated by more cases. To find differences related to hope among the adolescents who are newly diagnosed and relapse-experienced we replicated 14 cases. The replication method is showed in Figure 5. I represent five cases and showed nine cases in tables and figures.

1) Newly Diagnosed Adolescents

The adolescents, cases 3, 5, and 7, were newly diagnosed. Cases 3 and 5 have already been discussed in earlier parts of this paper. I show a summary related to cases 3 and 5. I replicate case 7 to the self-sustaining processes to look closely for positive attitude.

(1) Individual Case Study

Cases 3 and 5

The adolescents in cases 3 and 5 were aware they had cancer in the cognitive discomfort phase. They were shocked at their diagnosis, but could think of recovery from cancer with parental support. In the distraction phase these experiences helped the adolescents to have a positive attitude about therapy and interact with others in the hospital. In the cognitive comfort phase they had hope of future possibilities such as recovery during hospitalization. They continued to hope for recovery after discharge. Then, regulation for studies came to hope near the time of discharge. After being discharge their hope became more realistic than when in the hospital such as studying, having purpose for the near future, and making friendships. Then, in the fourth phase adaptation was occur. They tried to cope and live with cancer. They could make efforts and be assertive to return to school and normal adolescent life (Figure 11).

Case 7

The adolescent was an 11-year-old female. She was newly diagnosed 8 months ago and expected to go home about one month later and seemed to be fine. She was in a clean room with a mask. There were some pictures, one thousand paper cranes, and a video tape sent by classmates (Figure 6 , Table 2). In the first phase the adolescent was in shock at the time of diagnosis because she would be hospitalized. She was able to release her fear with her parents comfort and support. This awareness led to positive thinking. In the next phase she wanted to be a healthy girl during hospitalization. She also interacted with others. It was a shock to lose her hair, but other patients encouraged her spiritually. She received support from her classmates because her younger brother accidentally used the word cancer with them. 1 She had hope related to future possibilities and thoughts of regulation in the third phase. Her hopes were a full recovery from cancer, leisure activities, and interaction with her friends outside. In the last phase she

adapted to living with cancer and committed to continue receiving the treatment as being discharged approached in the last phase. She began to think about purpose such as reentry to school and her studies more while being in the hospital (Figure 7, 8, 11).

(2) Cross-Case Analysis Among Cases 3, 5, and 7

The adolescents who were newly diagnosed hoped to recover from their disease after being diagnosed and felt shock. The adolescents who were newly diagnosed felt shock, but hoped to recover from their disease from parental support after being diagnosed. Therefore they seemed to cope well with stressful therapy. They began to study hard for reentry to school that was their strong hope nearing discharge. After being discharged all of the adolescents became realistic and concerned about school life and future purpose. They sometimes faced some difficulties related to their studies due to adaptation to their cancer. However, they negotiated with their physicians or teachers to study or got support from others to resolve them. Their hope of recovery continued after discharge.

2) Relapse-Experienced Adolescents

The adolescents in cases 2 and 6 had experienced relapse. I show a summary of case 2 (based on Figure 11). C6 was replicated for positive attitude.

(1) Individual Case Studies

Case 2

Without expressing shock she was aware of that she had cancer at diagnosis and seemed to look forward to normalcy. In the distraction phase her purpose made her to be a very positive attitude about therapy and hospitalization. She made a lot of friends in the hospital. Also, she tried to study for the purpose.) In the cognitive discomfort phase she thought of her purpose in life and interacted with friends. In the distraction phase her goal of becoming a musician helped her to have a very positive attitude concerning therapy and hospitalization. She made a lot of friends in the hospital. She also tried to study for her goals. In the cognitive comfort phase this hope or purpose became more realistic after being discharged. She thought of future possibilities and thoughts of regulation. She made efforts and was assertive concerning returning to school and leading a normal adolescent life. In the personal competence phase adaptation occurred. She negotiated

with her physician as to going to school as soon as possible. She also wished to go to school every day without to visiting the outpatient clinic. The patients may develop psychologically through their experience of having had cancer (Figure 11).

Case 6

The female adolescent was a 13 year old in relapse and had spent 8 months in the hospital. She first diagnosed cancer at the age of 5. She had a small amount of fine hair and wore a mask. She was still losing hair. She was interested in my sunglasses. During interview she was fine and laughed a lot. When I left her room she said, "See you again" (Figure 6, Table 2).

In the first phase she did not report any experience of "shock". She heard everything when she was told diagnosed from a doctor. At that time she was aware of the seriousness of her disease. In the second phase she thought positively about friendships and school. She exchanged information with her friends about her daily life in the hospital and school. She was positive and had an optimistic attitude concerning her hair loss. In the third phase she thought of future possibilities and regulation. She hoped to study at a higher level than she had in the hospital classes. There was a high school that she wanted to go. Her hope was related to school and school activities after being discharged, but not associated with recovery from cancer. In the fourth phase she transferred to a regular school from the hospital class. Then, she studied hard by herself in the hospital. She did not want to get behind in her classes.(, so she studied hard by herself in the hospital.)She adapted to having cancer. Also, she spent her timer in the hospital alone because of her willingness to be independent of her parents through the influenced of other patients (Figure 7, 8, 11).

(2) Cross-Case Analysis

The adolescents who experienced relapse did not talk about recovery from cancer at the time of diagnosis. They also seemed to cope with stressful hospitalization using positive strategies. They also seemed to cope with stressful hospitalization using positive strategies because they had already had cancer. Therefore, they knew how to cope with the stressful situation. They studied and thought of school at an earlier stage than the others did. They thought about going back to school and participating in school activities while being in the hospital. Therefore, they studied very hard to reach their goals. They negotiated with people to catch up with their studies. Because they told

their friends the name of their disease they received support and could have a normal life. These processes helped them to promote resilience and grow psychologically (Figure 11).

3) Analysis of Newly Diagnosed and Relapse-Experienced Adolescents Who were Told they had Cancer

Differences in coping behavior between newly diagnosed adolescents and relapse-experienced ones who were told they had cancer are clear based on figure 11. (1) The former adolescents openly express their feeling of shock, but the latter do not. (2) Relapse-experienced adolescents think about future plans and have hope related to school earlier than the newly diagnosed patients.

The adolescents were stronger through having had cancer. The adolescents may experience a sense of uncertainty. Uncertainty had a negative influence on hope, social support, psychological well-being, and resilience (Neville, 1998; Zebrack & Chesler, 2002). On the other hand, uncertainty could be an important element in psychological growth (Parry, 2003). Parry explained that cancer leads to questions about the meaning and purpose of life and development of strength, optimism, and a deeper appreciation of life. Some researchers mentioned that psycho spiritual development is transformed by uncertainty (Parry, 2003) and by the cancer experience (Novakovic et al., 1996). At the time of discharge some of the adolescents became autonomous and independent in managing the illness and its treatment. Also, the adolescents appreciated life. The newly diagnosed adolescents expressed that existence was the most important thing for people. The adolescents in relapse concluded that he/she could get through anything in the future because of the difficult experiences of past treatment.

The relapsed adolescents coped with their diagnosis, began hoping, and attempted to do their tasks at an earlier period of the inpatient phase than the newly diagnosed (Figure 4). The newly diagnosed adolescents tried to cope with their first experience of having cancer in the inpatient phase. They gradually began hoping. At the time of admission, they had little hope but they had greater hope near the time of discharge. On the other hand, the relapsed adolescents seem to cope with cancer successfully at the time of admission. They also seem to have a high level of hope in the early stage of hospitalization because of steeling experiences or their experience in building strength. In the outpatient phase successful social competence may increase and lead the newly diagnosed and relapsed adolescents to resilience. In addition, social support is an important resource to promote resilience. It may be possible to hypothesize.

As a result, the mothers who were at a high level of the SJS-PSA had more junior high school children with cancer (JHSCC) (57.1 %) and those at the low level of it had more elementary school children with cancer (ESCC) (83.3 %) than that of the others. The mothers at a high level of the SNM had more the ESCC (57.1 %) and at a low level had more JHSCC (55.6 %) than that of the others. These results mean that mother with a low self-esteem seem to have the ESCC. Also, the ESCC and the JHSCC were influenced by the level of social support of their mothers. The adolescents who were at a high level of the SJS-PSA showed a high level of the SNM (mean 41,2, SD 2,28) and at a low level of the SJS-PSA were a low level of the SNM (mean 31,1, SD 6.72). No significant differences were found between the SJS-PSA and the SNM of the adolescent. This indicates that there is the interaction between self-esteem and social support in adolescents with cancer. In summary mothers' self-esteem and social support are related to those of their children. Therefore, it is an important thing to promote self-esteem and socialization of mothers.

Conclusion

Japanese adolescents with cancer seem to have resilience. The adolescents with cancer who are not told the name of their disease have difficulties in building resilience. They may need support from a person who is honest with them to get information about cancer and to overcome difficulties. Understanding the issue of adolescents with cancer and various parental supports are important. Therefore, health professionals need to be aware of these issues and construct a support system for patients to have quality of life. Further research is needed to examine how adolescents with cancer continue or develop hope in surviving. This study would contribute in improving QOL in adolescents with affecting disease or illness.

There are several limitations to this study. Limited interview techniques might affect the information received from the participants, especially those who were not told their diagnosis. Also, when outpatient participants answered questions information about inpatient experiences might be a cause of inaccuracy due to poor recall. Moreover, teenagers are often shy when it comes to disclosing intimate information. Although limited in its number of samples, it provides insight regarding the quantitative study. However, this study provides insight regarding the importance of promoting resilience for adolescents with cancer.

References

- Bearison, D.J. (1991). *They never want to tell you*. Cambridge: Harvard University Press.
- Blotcky, A.D., & Cohen, D.G. (1985). Psychological assessment of the adolescent with cancer. *Journal of Pediatric Oncology Nursing*, 2(1), 8-14.
- Bluebond-Langner, M. (1978). *The Private Worlds of Dying Children*. New Jersey: Princeton University Press.
- Boyd, J.R., & Hunsberger, M. (1998). Chronically ill children coping with repeated hospitalizations: Their perceptions and suggested interventions. *Journal of Pediatric Oncology Nursing*, 13(6), 330-342.
- Bull, B.A., & Drotar, D. (1991). Coping with cancer in remission: Stressors and strategies reported by children and adolescents. *Journal of Pediatric Psychology*, 16(6), 767-782.
- Burns, N., & Grove, S.K. (1987). *The practice of nursing research: Conduct, critique and utilization*. Philadelphia: W.B. Saunders.
- Dunsmore, J., & Quine, S. (1995). Information, support, and decision-making needs and preferences of adolescents with cancer: Implications for health professionals. *Journal of Psychosocial Oncology*, 13(4), 39-56.
- Eiser, C. (1994). Making sense of chronic disease. The eleventh Jack Tizard Memorial Lecture. *Journal of Child Psychology and Psychiatry*, 35(8), 1373-1389.
- Eiser C. (2003). What can we learn from other illnesses? *Journal of Cystic Fibrosis*, 2(1), 58-60.
- Enskar, K., Carlsson, M., Golsater M., & Hamrin, E. (1997). Symptom distress and life situation in adolescents with cancer. *Cancer Nursing*, 20(1), 23-33.
- Foley, G.V., Fochtman, D., & Mooney, K.H. (1993). *Nursing care of the child with cancer*. Philadelphia: W.B. Saunders.
- Fowler-Kerry, S. (1990). Adolescent oncology survivor recollection of pain, In: D. Tyler & E. Krane (eds.), *Advances in pain research therapy* (pp. 365-371). New York: Raven.
- Garnezy, N. (1991). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annals*, 20(9), 459-466.
- Glasson, J.E. (1995). A descriptive and exploratory pilot study into school re-entrance for adolescents who have received treatment for cancer. *Journal of Advance Nursing*, 22, 753-758.

- Haase, J.E. (2004). The adolescent resilience model as a guide to interventions. *Journal of Pediatric Oncology Nursing*, 21(5), 289-299.
- Haase, J.E., Heiney, S.P., Ruccione, K.S., & Stutzer, C. (1999). Research triangulation to derive meaning-based quality-of-life theory: Adolescent resilience model and instrument development. *International Journal of Cancer. Supplement*, 12, 125-131.
- Haase, J.E. (1997). Hopeful teenagers with cancer: Living courage. *Reflections*, 23, 20.
- Haluska, H.B., Jessee, P.O., & Nagy, M.C. (2002). Sources of social support: Adolescents with cancer. *Oncology Nursing Forum*, 29(9), 1317-1324
- Hanna, K.M., & Jacobs, P. (1993). The use of photography to explore the meaning of health among adolescents with cancer. *Issues in Comprehensive Pediatric Nursing*, 16, 155-164.
- Hinds, P.S., & Martin, J. (1988). Hopefulness and the self-sustaining process in adolescents with cancer. *Nursing Research*, 37(6), 336-340.
- Hinds, P.S., Quargenti, A., Fairclough, D., Bush, A.J., Betcher, D., Rissmiller, G., Pratt, C.B., & Gilchrist, G.S. (1999). Hopefulness and it's characteristics in adolescents with cancer. *Westan Journal of Nursing Research*, 21(5), 600-620.
- Hockenberry-Eaton, M., Kemp, V., & Dilorio, C.(1994). Cancer stressors and protective factors: Predictors of stress experienced during treatment for childhood cancer. *Research Nursing Health*, 17, 351-361.
- Hockenberry-Eaton, M., & Minick, P. (1994). Living with cancer: Children with extraordinary courage. *Oncology Nursing Forum*, 21(6), 1025-1031.
- Kamatani, M., Ueda, R., Sasaki, E., & Hiramatu, M. (1998). *Japanese Journal of Pediateics*, 51, 2249-2254.
- Kameny, R.R., & Bearison D.J. (2002). Cancer narratives of adolescents and young adults: A quantitative and qualitative analysis. *Children's Health Care*, 31(2), 143-173.
- Koocher, G.P. (1985). Psychosocial care of the child cured of cancer. *Pediatric Nursing*, 11, 91-93.
- Luthar, S.S., & Zigler, E. (1991). Vulnerability and competence: A review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 61(1), 6-22.
- Marvasti, A.B. (2004). *Qualitative Reserach in Sociology: An introduction*. London: Sage.
- Neville, K. (1998). The relationships among uncertainty, social support, and psychological distress in adolescents recently diagnosed with cancer. *Journal of Pediatric Oncology Nursing*, 15(1), 37-46.

- Nichols, M.L. (1995). Social support and coping in young adolescents with cancer. *Pediatric Nursing, 21*(3), 235-240.
- Novakovic, B., Fears, T.R., Wexler, L.H., McClure, L.L., Wilson, D.L., McCalla, J.L., & Tucker, M.A. (1996). Experiences of cancer in children and adolescents. *Cancer Nursing, 19*(1), 54-59.
- Olsson, C.A., Bond, L., Burns, J.M., Vella-Brodriick, D.A., Sawyer, S.M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence, 26*, 1-11
- Overbaugh, K.A., & Sawin, K. (1992). Future life expectations and self-esteem of the adolescent survivor of childhood cancer. *Journal of Pediatric Oncology Nursing, 9*(1), 8-16.
- Parry, C. (2003). Embracing uncertainty: An exploration of the experiences of childhood cancer survivors. *Qualitative Health Research, 13*(2), 227-246.
- Pillitteri, A. (1999). *Child Health Nursing: Care of the child and family*. Philadelphia: Lipponcot.
- Pope, C., & Mays, N. (2000). *Qualitative Research in Health Care*. London: BMJ.
- Rechner, M. (1990). Adolescents with cancer: Getting on with life. *Journal of Pediatric Oncology Nursing, 7*(4), 139-144.
- Ries, L.A.G., Einser, M.P., Kosary, C.L., Hankey, B.F., Miller, B.A., Clegg, L., et al. (2003). SEER Cancer Statistics Review, 1975-2000. Bethesda, MD: National Cancer Institute.
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry, 147*, 598-611.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *Ameriacn Journal of Orthopsychiatry, 57*(3), 316-331
- Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In: D. Cicchetti, K. Nuechterlien, & S. Weintvaub (eds.), *Risk and protective factors in the development of psychopathology* (pp. 181-214). New York: Cambridge University Press.
- Rutter, M. (1993). Resilience: Some conceptual considerations. *Journal of Adolescent Health, 14*, 626-631.
- Seale, C., Gobo, G., Gubrium, F.J., & Silverman, D. (2004). *Qualitative Research Practice*. London: Sage.
- Statistics and Information Department Minister's Secretarial. (1999). Health, Labor and Welfare. Japan: Health and Welfare Statistics Association.

- Stewart, M., Reid, G., & Mangham, C. (1997). Fostering children's resilience. *Journal of Pediatric Nursing, 12*(1), 21-31.
- Tsukimoto, I. (2002). Hematological malignancies in children. *Japanese Journal of Cancer Clinic, 48*(11), 637-653.
- Ueda, R., & Takahashi, M. (1992). Reliability and validity of the simplified form of Japanese version of self-Perception scale for adults. Japan Society of Maternal Health, Hamamatu, Oct. 15-16.
- Ueda, R. (1993). Self-perception and related variables in relation to identifying adolescents at risk. *Japanese Journal of Health and Human Ecology, 59*(5), 215-224.
- Ueda, R., & Ishibashi, A. (2002) Study of measurement tool for resilience in adolescents with chronicle disease - Adolescents with congenital hear disease-. *Japanese Journal of Pediatrics, 55*(10), 135-141.
- US Bureau of the Census. (1991). Statistical abstract of the United States. Washington, DC: Government Printing Office.
- Weekes, D. P., Kagan, S.H., James, K., & Seboni, N. (1993). The phenomenon of hand holding as a coping strategy in adolescents experiencing treatment-related pain. *Journal of Pediatric Oncology Nursing, 10*(1), 19-25.
- Weekes, D.P., & Kagan, S.H. (1994). Adolescents completing cancer therapy: Meaning, perception, and coping. *Oncology Nursing Forum, 21*(4), 663-670.
- Wong, D.L., Hockenberry-Eaton, M., Wilson, D., Winkelstein, M.L., Ahmann, E., & Divito-Thomas, P.A. (1999). *Whaley & wong's Nursing care of infants and children*. St. Louis: Mosby.
- Woodgate, R.L. (1999a). Conceptual understanding of resilience in the adolescent with cancer. Part I. *Journal of Pediatric Oncology Nursing, 16*(1), 35-43.
- Woodgate, R.L. (1999b). A review of the literature on resilience in the adolescent with cancer: Part II. *Journal of Pediatric Oncology Nursing, 16*(2), 78-89.
- Yin, R.K. (1994). *Case study research: Design and methods*. London: Sage Publications.
- Zebrack, B. J., & Chesler, M. A. (2002). Quality of life in childhood cancer survivors, *Psycho-oncology, 16*(1), 35-43.

Table 1.
Number and Characteristics of Pediatric Patients in Institutes (in a day)

	Hospital 1	Hospital 2	Hospital 3	Hospital 4	Hospital 5	Total
Inpatient	49	22	13	32	60	176
Cancer Patients	18	20	6	2	17	63
Adolescent cancer patients	3	3	1	1	3	11
Outpatient	45	6	17	50	40	158
Cancer Patients	4	5	2	2	6	19
Adolescent cancer patients	3	3	2	2	2	12

Abbreviations: H1, Kyusyu University Hospital; H2, National Kyushu Cancer Center; H3, Hamanomachi Hospital;
H4: Okinawa Chubu Hospital; H5, Narita Red Cross Hospital

Table 2.
Characteristics of the Adolescents

Age (Yr)	Gender	Age at Diagnosis (Y)	Time since diagnosis (Y)	Type of Cancer	Treatment	Prognosis	Phase of Interview	Number of Admissions	Told Diagnosis
12	Female	5	7	ALL	CT, SCT	2CR	Near discharge	2	no
14	Female	11	1	AML	CT, SCT	2CR	Outpatient	2	yes
18	Female	17	1	ALL	CT	CR	Outpatient	10	yes
11	Male	6	7	NHL	CT, SCT	2CR	Near discharge	3	no
15	Female	14	1	AML	CT, SCT	CR	Outpatient	2	yes
13	Female	5	8	ALL	CT, SCT	2CR	Inpatient	2	yes
11	Female	11	0	AML	CT	CR	Inpatient	1	yes
17	Male	15	2	AML	SCT	Relapse	Outpatient	4	yes
14	Male	12	2	NHL	CT	CR	Outpatient	1	yes
11	Female	9	2	ALL	CT	CR	Outpatient	1	yes
12	Male	7	5	ALL	SCT	2CR	Outpatient	2	yes
15	Male	14	1	ALL	CT, SCT	CR	Outpatient	1	yes
12	Female	11	1	AML	CT	CR	Outpatient	1	yes
14	Male	14	0	ALL	CT	CR	Inpatient	1	yes
13	Male	10	3	ALL	CT	2CR	Outpatient	2	yes
16	Male	13	3	NHL	CT	CR	Outpatient	1	yes

Abbreviations: ALL; acute lymphocytic leukemia, AML; acute myelogenous leukemia, NHL; non-Hodgkin's lymphoma, CT; Chemo-therapy,

SCT; stem cell transplantation, CR; complete remission, In; inpatient, Out; outpatient, Near; near discharge

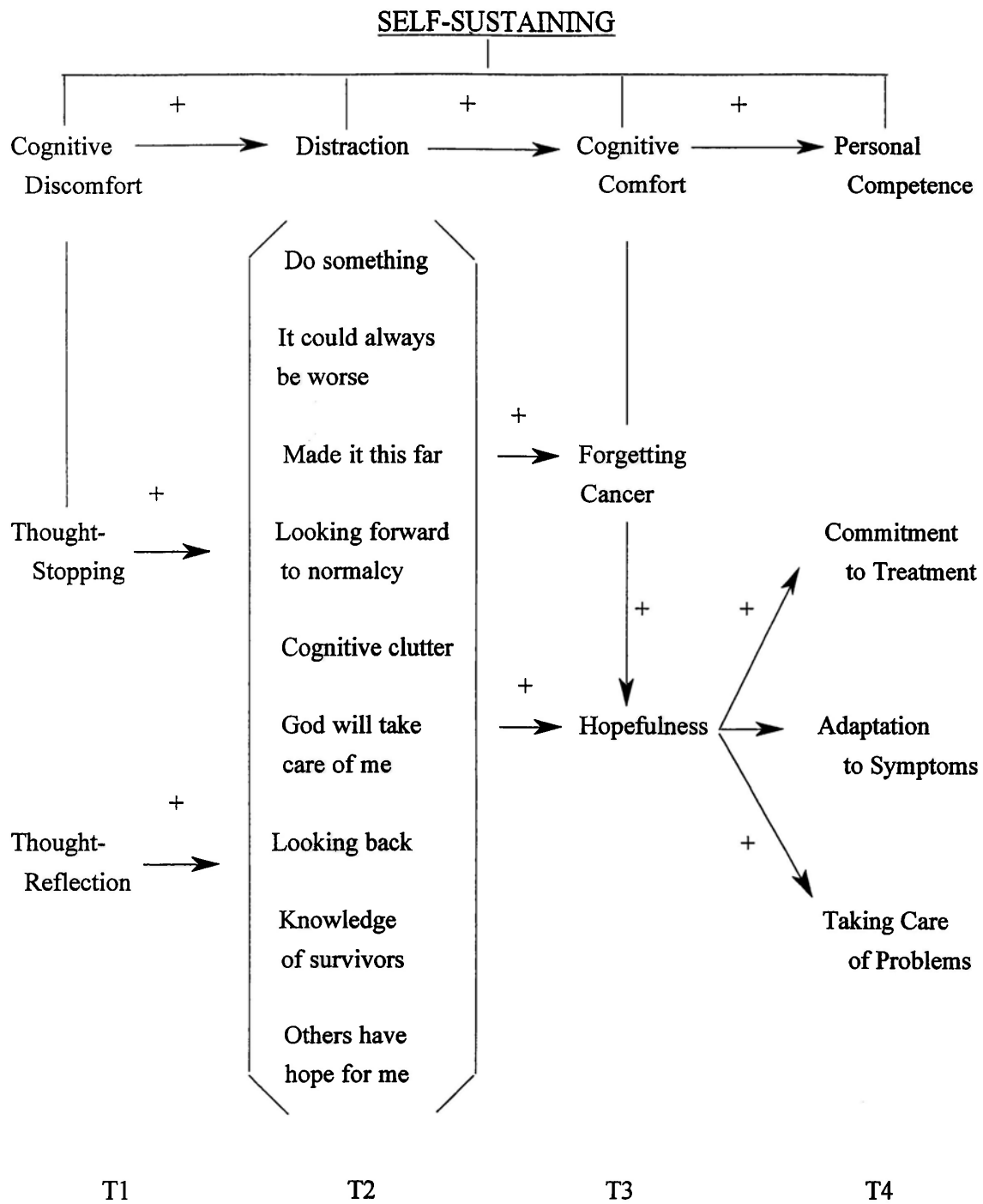


Figure 1. The Substantive Theory: Categories, core concepts, and the central organized construct (T1 - T4 indicate time frames) (Adapted with permission from Hinds and Martin, 1988)

Date (), Case No ()

Place ()

1. Will you tell me why you are hospitalized?
(Will you tell me why you visited the hospital?)
2. Will you tell me how you feel and think when you hard about your disease?
3. Is (Was) there the hardest or most difficult part in the hospital?
No ()
Yes ()
4. If yes, tell me about it.
5. Do (Did) you think or act something about it?
6. Does (Did) someone think or act something about it?
7. Is (Was) there something to be pleased in the hospital?
No ()
Yes ()
8. If yes, tell me about it.
9. Do (Did) you think or act something about it?
10. Does (Did) someone think or act something about it?
11. When your treatment are finished, how you feel or what you think?
12. Is (Was) there the hardest or most difficult part after discharge?
No ()
Yes ()
13. If yes, tell me about it.
14. Do (Did) you think or act something about it?
15. Does (Did) someone think or act something about it?
16. Is (Was) there something to be pleased in the hospital?
No ()
Yes ()
17. If yes, tell me about it.
18. Do (Did) you think or act something about it?
19. Does (Did) someone think or act something about it?
20. Will you tell me what your three wishes are?

Figure 2 . Adolescent Coping Strategy Interview Guide

Inpatient Phase:

- Q 1. To know adolescents' understanding of their disease
- Q 2. To know adolescents' feelings in having their disease.
- Q 3. To know adolescents' experience in receiving their treatment.
- Q 4. To know the way of the adolescent's coping strategy.
- Q 5. To know the adolescent social support
- Q 6. To know adolescents' hope or purpose in the future.

Near Discharge Phase:

- Q 1. To know adolescents' experience in returning into normal soon.
 To know the way of the adolescent's coping strategy.
- Q 2. To know of adolescents' hope or purpose in future.

Outpatient Phase:

- Q 1. To know the way of the adolescent's coping strategy.
 To know of social support for the adolescents
- Q 2. To know adolescent's experience of returning to the normal life.
- Q 3. To know adolescent' hope or purpose in future.
- Q 4. To know the way of adolescent's coping strategy.

Figure 3. Guideline for Keeping in Mind in Collecting Data 1

Case Study Question

How to develop resilience in adolescents with cancer?

Sources of Data Collection

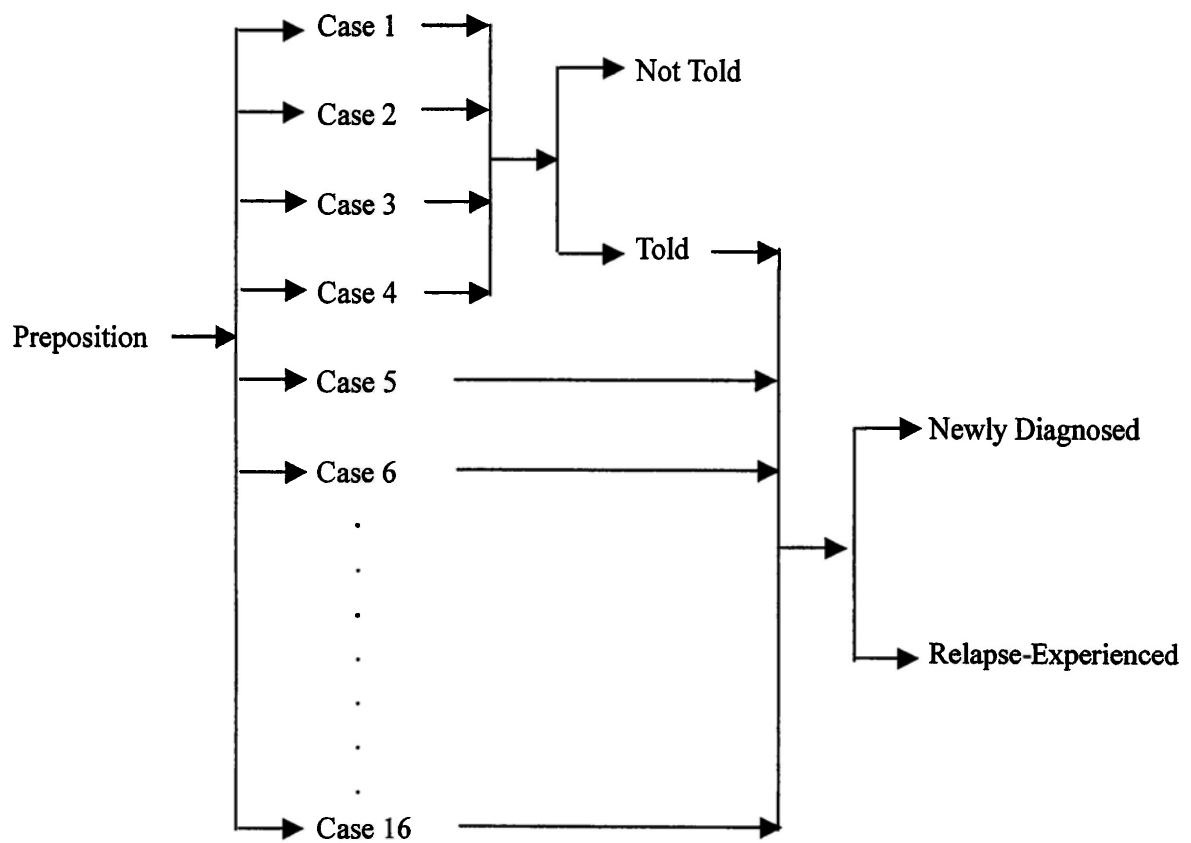
1. Individual interview

Field note (behavior, attitude, perception)

2. Medical record

3. Demographic data (adolescent and mother)

Figure 4. Guideline for Keeping in Mind in Collecting Data 2



Not Told: not told diagnosis, Told: told diagnosis

Figure 5. Replication Methods

-
- Case 1 Interview: 5/30/01, afternoon, in the hospital, Hamanomachi Hospital. Female, 11ys, experienced relapse, was not told she had cancer. 7 months as an inpatient. The first diagnosis of cancer was at 5 years old. At the time of the interview she was expected to go home within one week. She wore a bandana and a mask. Her right arm was lost because of an accident when she was 5 years old. She had neat handwriting with no stronger hand. She said she had practiced writing. At the age of 7 years she had a bitter experience of being teased about loss of hair by classmates. She looked a little anxious at beginning, but could express her feelings little by little. She worried about dying.
- Case 2 Interview: 7/8/01, afternoon, at home, National Kyushu Cancer Center, Female, 14ys, experienced relapse, 4 months after discharge was told she had cancer. She had transferred to another hospital out of the city to receive therapy. At the time of discharge she had a good prognosis through using a new medicine. She wore a pretty hat and a mask. She and her mother welcomed me with a smile during the interview.
- Case 3 Interview: 11/4/01, afternoon, at home, National Kyushu Cancer Center, Female, 18ys, newly diagnosed, 10 months after discharge was told she had cancer. She was an outpatient. She wore a wig because she had lost her hair after having a permanent. She regretted what she had done. She attended a school for the disabled.
- Case 4 Interview: 1/22/02, afternoon, in the hospital, Hamanomachi Hospital, Male, 11ys, experienced relapse was not told he had cancer. 15 months as an inpatient. His mother told the author that her son was not told that he had cancer. He was expected to go home in the afternoon. At 7 years old he had an experience of being teased about loss of hair by classmates. He played with his neighbor when he was home. He wore a hat and a mask and looked shy. During interview he talked in a very quiet voice and sometimes the interviewer could not hear him. He kept his face down and did not talk very much about his disease or his time in the hospital life. However, he held his face up and began to answer questions about going home. He had experienced three times of the bone marrow transplantation and was very glad to be in complete condition because of the transplant from his sister.
- Case 5 Interview: 3/7/02, afternoon, at an outpatient clinic, Kyushu University Hospital, Female, 15ys, newly diagnosed was told she had cancer, 4 months of outpatient treatment. She guessed that she had cancer because she overheard a conversation between her mother and her doctor. Her hair had grown back. She attended all of her classes except physical education and had a plan to go to university with her friend.
- Case 6 Interview: 7/16/02, afternoon in the hospital, Okinawa Chubu Hospital, Female, 12ys, experienced relapse, 8 months as an inpatient was told she had cancer. Her physician introduced me (the author) to her and her mother. At the entrance door there was a bottle of antiseptic solution. Before the interview her mother left the room. She had very little and fine hair and wore a mask. She was losing hair. She was interested in my sunglasses. During the interview she was fine and laughed a lot. When I left her room she said, "See you again."
- Case 7 Interview: 8/22/02, afternoon, in the hospital, Hamanomachi Hospital, female, 11ys, newly diagnosed, 8 months as an inpatient was told she had cancer. The name of her disease was told to her close friends accidentally by her brother. Then, her disease was told to her classmates by teachers and family members while she was in the hospital. She was expected to go home about one month later and seemed to be fine. She studies with a private teacher to reenter school. She was in a clean room and wore a mask. I went into her room wearing a gown and a mask. Her room was decorated with pictures, a thousand paper cranes, and a video tape which were sent by her classmates. The interview was done in her room.
-

Figure 6. Memo of 16 Cases

- Case 8 Interview: Oct 14, 2004, 17 ys, male, at outpatient clinic in the N.N hospital. He was relapsed-experienced and told his diagnosis. He looked tired to sit in the chair, but he didn't want to lie on the bed. His voice was sometimes too small to hear him. His credit in a hospital class was accepted by a junior high school. His mother said "I trust my son's decision whether he would get BMT again or would not". (at 14 ys, Aug. - hospitalization, at 15 ys, Dec - discharge and retest, Jan -hospitalization, at 16 ys, May - BMT, Set - discharge, Oct - interview)
- Case 9 Interview: Oct 14, 2004, 14ys, male. at outclinic in NS hospital. After he had been in the hospital room for several days he was told that he had bacterias in his blood from his physician. His mother was very angry at the physician who told her son about the disease. He tried his best to receive therapy because of encouragement from his mother.
- Case 10 Interview: Oct 14, 2004, 11 ys, female, at outclinic in NS hospital. She did not talk much about her disease. She was told about her disease(not cancer) at the time of discharge, but she wasn't sure if or how long she would have to stay in the hospital. She was told about the type of her disease, no aftereffects, and not contagious. At the time of discharge she was worried about separating from her close friends when she became a fifth grader. "There were two people who she was very close to but she was separated from one of them. But they are all in the same club at school. There was a boy in her class who was sometimes violent. When she corrected him he would sometimes hit her.
- Case 11 Interview: Nov 10, 2004, 12 ys, male, the first diagnosed at 7 ys. at outclinic in NS hospital. He did not remember very well except very hard experience. He was told about his cancer when he was in third grade and was admitted to the hospital for the second time. He did not tell his friends the name of his disease. His mother said that all the students knew about his diagnosis and supported her son. Right now he has a cold so for now he will have to keep coming to the hospital once a month.
- Case 12 Interview: Nov 10, 2004, 15 ys, male, at outclinic in NS hospital. The SCT was not good prognosis. He said "I had a blood disease ...that's about all I was told." His mother said that telling diagnosis was done when he received SCT. His response to it was like "I see." The mother said that it would take a long time to face his cancer.
- Case 13 Interview: Dec 9, 2004, 12 ys, female, outclinic at NS hospital. She was told about her disease from her mother in a simple way such as the way of a blood test. She didn't know anything about her cancer.
- Case 14 Interview: Dec 9, 2004, 14 ys, male, inpatient at NS hospital. He went home for a night after this interview. Told the name of the his disease, happening in his blood, and the type of treatment he would receive. He did not tell much about his disease, but he did about his daily life in the hospital. He know about his diagnosis and treatment schedule.
- Case 15 Interview: Aug 29, 2005, 13 ys, male, out clinic at NS hospital. 2CR. He said that he did not know about hid disease before. His family runs together in the morning. His mother said that they know he has hope. He loves to play baseball, so we decided to run together to make his wish come true.
- Case 16 Interview: Oct 10, 2005, 16 ys, male, outclinic at NS hospital. He was given credit for his schoolwork in the hospital. He did not tell schoolmates the true name of his disease. When he was discharged from the hospital he wanted to become a physician, but he may change his mind because of the advamced math he would need.

Figure 6. Continued

Core Concepts			
Cases / Stages	Discomfort	Distraction	Personal Competence
Cognitive			
Case 1 Inpatient	(Memo: I was told that my blood was affected by bad bacteria.)	I sometimes wrote letters to my friends. (D,Fr) My teacher visited me. (C,Te) My mother gave me a birthday present. (C,Fa) We had Christmas and birthday parties here. (C,Hc)	I can't crawl, but I can swim 5 meters (because one arm was amputated). (As, Tc) (Memo: I can't drink cold milk, so my classmates may ask mw why you can't. I don't want to receive injection. I don't want to participate in the school sport because I run slow.)
Near discharge		I want to recover from my disease. (H) I want my family to stay well. (H,Fa) I can hardly wait to go on a school trip. (H,Fr) I don't want to have the disease and an accident. (H)	

Abbreviations :

Ts; thought-stopping, Tr;

Figure 7. Self-Sustaining Processes in Adolescents With Cancer

		Core Concepts		
Cases / Stages	Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 2				
Inpatient	I want to leave the hospital as soon as possible.(Tr)	I thought about my purpose and the activities I want to do after discharge. I listened to music when I had a hard time (during a hard time). (M) It (falling hair) is ok because it will grow again. (L) I spend free time talking to friends and nurses, watching films, and reading cartoons. (D,Fr,H) I study by myself as I was alone (in a single room and getting therapy). (L)	I have a dream in the future to be a music talent.(H) There is a school I want to go to. (H)	I had painful procedures, but I could be patient because I could do nothing about it. (Ct) I took care of myself as much as I could... I went to the bathroom by myself during BMT (exhaustive phase in the therapy). My mother and aunt stayed with me during the therapy. (As, Tc,Fr) I use hats and artificial hair when I loosing my hair. (Tc,Fa) I told about my disease to my friends. (Tc,Fr) I studied because I want to do it (He/she hoped of go to school). (Tc)
Near discharge				
			I felt that my condition would be better physically and psychologically at home (F,Fa)	(Mother said) a doctor ordered my child to go back to school 6 months later, but my child negotiated with a physician to go to school early. (Tc,Hc)
Outpatient			I want to go to school every day.(H) I want to play a lot with my friends in the amusement park. (H,Fr) I want to take a private dance lesson. (H)	I go to school with my wig.(Tc) I don't mind if I go to the outpatient clinic, but I wish I could go there on Saturday (He/she did not want to miss classes). (Ct) My mother takes me to school by car everyday. (As,Fa) I use the health office in school when I feel tired.(As,Tc,Hc) I don't need to participate in physical activities in school. (Tc,Te) I don't talk with my friends about cancer experiences in the hospital. (Tc,Fr) Mother said, "you can cope with any hard situation in future, can't you" (her child nodded). (Tc) I take dance lessons after school.(Tc)

Abbreviations : Ts; thought- stopping, Tr; thought-reflection, D; do something, I; it could always be worse, M; made it this far, L; looking forward to normalcy, C; cognitive clutter, K; knowledge of survivors, O; others have hope for me, F; forgetting, H; hopefulness, Ct; commitment to treatment, As; adaptation to symptoms, Tc; taking care of problems, Fa; family, Fr; friends, Hc; health care professionals, Te; teachers, Op; others person

Figure 7. Continued

Core Concepts

Cognitive		Personal Competence	
Cases / Stages	Discomfort	Distraction	Cognitive Comfort
Case 3			
Inpatient	<p>I was shocked because I thought that I would die of cancer. (Ts)</p> <p>I was not worry because my parents told me I would recover. (Tr,Fa)</p>	<p>Parents advised, so I did not study (during a hard time). I read books, ate my favourite food, and wrote letter in the hospital. (C, Fa, Fr)</p> <p>It was very hard when my hair fell out, but I was relieved when it grew again. (L)</p>	<p>I didn't think my disease would be fatal. (H)</p> <p>I could concentrate on the treatment because I could go home sometimes during hospitalization. (Ct)</p> <p>My parents advised me to absent from school for 1 year in order to focus on the treatment. (Tc,Fa)</p>
Near discharge			
			<p>I transferred to school for handicapped children due to my physical condition. (Tc, Fa)</p> <p>I could be dependent on my family at home. (F,Fa)</p> <p>I could be free from intravenous drips. (F,Fa)</p> <p>I hope I will not relapse. If I was in relapse and had BMT, I might have a trouble for sterility. (H)</p> <p>I want to work with mother at a parents' shop in the future. (H,Fa)</p> <p>My wish is being slim. (H)</p>
Outpatient			
			<p>My classmates might know my disease. I didn't care because I was fine. (Tc)</p> <p>My friend never let me go outside, but came to my house...I am glad. (Tc,Fr)</p> <p>I told freings about cancer. I was glad that they understood me. (Tc,Fr)</p> <p>After healing my problem, a teacher said I did not study now. Being health was the most important thing. After that I was relieved. (Tc, Te)</p> <p>I was bothered by side effect of medicine and could not study enough. I can live with my disease now because of support from the teacher. (Ct,Tc,Te)</p> <p>It is possible to die. I take care of myself, so I will live longer. (Tc)</p> <p>I am not afraid of death because I will recover from my disease. (Tc)</p> <p>I like to talk to other survivors. They may understand me. (K,Fr)</p> <p>I study as much as possible depending on my condition. (As, Tc)</p> <p>When I knew a student who know how many years he will live I changed my mind. Living is the most important. (TC,Op)</p>

Core Concepts				
Cases / Stages	Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 4				
Inpatient	I coped with a painful procedure because I looked forward to making recovery. (L)	I forgot about the disease while I walked about. (F)		When I had a hard time, I thought about my hope that I would recover from disease soon. (Ct)
Near discharge		<p>I want to eat tasty food (at home). (H,Fa)</p> <p>I want to cook by myself. (H,Fa)</p> <p>I relax by the trees around (my house).(F,Fa)</p> <p>I want to go camping (of school activities) this year. (H,Fr)</p> <p>I want to recover from my illness completely. (H)</p> <p>I want my family to live longer. (H,Fa)</p> <p>I surely want to attend a school study trip this summer. (H,Fr)</p> <p>I want to take a lot of trips. (H)</p>	<p>I received BMT from my sister. I am very glad because the BMT treatment succeeded this time. This is three times of the born marrow transplantation. (Ct,Fa)</p> <p>(He/she does not like study)... but I like homemaking class. (Tc)</p> <p>I stopped thinking about my disease and think, "it is ok whichever way I will go." (Tc)</p>	

Abbreviations : Ts; thought- stopping, Tr; thought-reflection, D; do something, I; it could always be worse, M; made it this far, L; looking forward to normalcy, C; cognitive clutter, K; knowledge of survivors, O; others have hope for me, F; forgetting, H; hopefulness, Ct; commitment to treatment, As; adaptation to symptoms, Tc; taking care of problems, Fa; family, Fr; friends, Hc; health care professionals, Te; teachers, Op; others person

Figure 7. Continued

		Core Concepts		
Cases / Stages	Cognitive Discomfort		Cognitive Comfort	Personal Competence
	Discomfort	Distraction		
Case 5				
Inpatient	<p>I felt nothing about cancer. (Tr)</p> <p>A change in my blood type shocked me. (Tr)</p> <p>I worry about BMT, but I released as I hard about good prognosis with it from a doctor. (Tr, Hc)</p>	<p>I coped with therapy by thinking of a movie I wanted.(C)</p> <p>I played games with a nursing student.(C,Op)</p> <p>When I was told about falling my hair, I cried and didn't want to get my therapy. Mother said that she would buy a pretty hat for me.(L,Fa)</p> <p>I was relieved when my hair grew again.(L)</p>	<p>I have studies I hour in a hospital class every day. (F,Te)</p> <p>I thought that I should not die because of the death of a student who I knew. (H,Op)</p>	<p>A teacher had reported on my condition in the class, so I think my classmates already knew my diagnosis. (Tc,Te)</p> <p>I should not die for my disease. (Ct)</p>
Near discharge				
			<p>I began to think about in re-entry to school when I get well (H)</p>	<p>My parents told me I should not go to a design school because of the difficult programs, so I decided to go to a regular high school. (Tc,Fa)</p> <p>I asked a teacher what kind of study guidebooks were useful. (Tc,Te)</p> <p>I studied English as hard as possible by myself. I don't want to be behind in my class. (Tc)</p>
Outpatient				
			<p>I want my family to be healthy. (H, Fa)</p> <p>I hope that I will not relapse. (H)</p> <p>I will go to an art university next year. (Tc)</p>	<p>When I went to school without the bandana, my classmates said that my hair was beautiful. (Tc,Fr)</p> <p>I asked a phys-ed teacher if there was something I could do. He said that I could write a report. (Tc,Te)</p> <p>People looked at my bandanna as if I were strange, but I was getting used to it. (Tc)</p> <p>I never talked with my friends about my disease and experiences in the hospital because it would trouble them. I was glad that they didn't ask me about my disease. (Tc,Fr)</p> <p>I worry about going to school with very little hair, but I am getting use to it. (Tc,As)</p> <p>After having my cancer, just existing is the most important thing for me. I don't care if I do something slower than others do. It is ok. I can do it in my way. (Tc)</p> <p>When I heard about a student who died in this hospital, I thought I must not die from my disease. (As,Fa)</p> <p>I decided to go to an university which had not hard programs. (Tc)</p>

Figure 7. Continued

Core Concepts

		Cognitive		
Cases / Stages	Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 6				
Inpatient	I hard everything (about my disease from a doctor. (Tr,Hc) I thought that my disease was serious. (Ts)	I have some friends to talk about a daily life in the hospital and school activates. (C,Fr) I was sad when my hair fell out, but I enjoyed wearing hats.(L)	There is a high school I want to go to. (H) I want to love someone (laughing). (F) I hope to go to school and participate in school activities after discharge. (H,Fr) I want to have my boyfriend. (H) I attended a hospital class, but the class was like a doing game. I wanted study more. (H)	I prefer being alone (without parents) in the hospital. One patient who was 15 years old was hospitalized by him/herself, so I wanted to do the same.(Tc,Fa) A wig make me hot, so I wear it loosely in the car.(As,Tc) I know everything about my disease. (Ct) My old friends know about my disease. (Tc,Fr) I study hard because I don't want to be behind in my class when I would go to school. (Tc) I transferred to a regular school to receive a higher level of education. (Tc) I don't talk with my freinds about my disease. I don't want to trouble them.(Tc,Fr)

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Figure 7. Continued

Core Concepts

Cognitive		Core Concepts		
Cases / Stages	Discomfort	Distraction	Personal Competence	
Case 7				
Inpatient	<p>I was a little shock...it was my first experience of hospitalization. (Ts)</p> <p>My mother comforted me...I felt all right because I would recover. (Tr, Fa)</p>	<p>I was very shocked when my hair fell out, but a young child with no hair always smiled at me. (K,O,Op)</p> <p>My friend encouraged me during vomiting, having pain, and feeling tired. (O, Fr)</p> <p>I didn't think about illness when I was doing what I like. (C)</p> <p>I talk to nurses when I am lonely. (C,Hcp)</p> <p>I play with other ill children. (C,Op)</p> <p>My classmates sent a video tape and one thousand paper cranes they made. (C,Fr)</p> <p>My mother stays with me every day (L,Fa)</p>	<p>I want to recover soon, so I don't need to have my birthday here. (H)</p> <p>I want to be a healthy girl. (H)</p> <p>I want to exchange notes with a friend after discharge. (H,Fr)</p>	<p>I have hats, bandannas, and wigs (presented by my parents. (Tc, Fa)</p> <p>I should go (to school) without any worry. (Tc)</p> <p>I should be patient (with being in the hospital) because I will recover. (Ct)</p> <p>I study in a hospital class with a private teacher. (Tc,Te)</p>
Near Discharge		<p>I want to play with my friends after discharge. (H,Fr)</p> <p>I have a plan for going to Disneyland with my family this summer (H,Fa)</p>	<p>I should not depress. I will perhaps be discharged in October. (Tc, Hc)</p> <p>I need to catch up with my studies. (Tc)</p> <p>I should study more, but..My private teacher come and teach me studies. (Tc,Te)</p> <p>I should not be depressed. I will perhaps be discharged in October. (Tc)</p> <p>There are at least two months (before discharge) and there is one treatment left. (Ct,Hc)</p>	

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Figure 7. Continued

Case 8

Inpatient

It didn't come to me right away (when hard diagnosis). (Ts)
I didn't feel that I was in danger. If I needed a transplant I would do it. out.(L) (Tr)

I realized at that time that I had never fallen down from my illness. (M)
I wanted to go into the hospital, receive treatment and get out.(L)
I wanted to go into the hospital, from me would come twice a week to visit me. They may have thought that I had leukemia but no one ever spoke of it.(F,Fr)
When I was in T.U. Hospital I began to panic about my weight and my studies.
While I was in the hospital I was able to do my schoolwork. There was a counselor who taught me in the research room. (F,Op)

It was difficult but now that I think back on it. It wasn't that difficult. (Ct)
I transferred to a school for patients after entered high school. (Tc,Fa)
Starting last year my friends began giving me a lot of support. When I was put in isolation I was not able to meet with people, but I was able to talk with them through a glass window. (Ct,Fr)

Near discharge

Outpatient

Now, after a long, slow climb I have slowly began to think, "I'm recovering". (H)

It is easier to talk to people. I am able to talk about so many things with my friends from junior high school. It is difficult for me to go outside so my friends come to my house to visit. (Ct, Tc,Fr)
These days my stomach hurts and the muscles in my legs are weak so I have been practicing walking. (As, Tc)
I am thinking of receiving BMT again. (As)

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Figure 7. Continued

Core Concepts					
Cases / Stages	Cognitive		Distraction	Cognitive Comfort	Personal Competence
	Discomfort	Discomfort			
Case 9					
Inpatient	<p>Disappointed. I thought that I don't want this. (Ts)</p> <p>I thought nothing in particular. (Ts)</p>	<p>It must be very hard. (M)</p> <p>If I didn't fight I wouldn't get better. I thought I would try my best. Mother said that everything would be all right. (M,Fa)</p> <p>My teacher came to see me and brought letters from my friends. (L,Fr,Te)</p> <p>On the day I was hospitalized my class-mates were gathered together and told about my disease. (L,Fr)</p>	<p>I don't have a relapse. (H)</p>	<p>About my studies and school a doctor from pediatrics would come to my room and teach me, but I could not study at all. For some reason I would begin to feel sick and would have to stop. (Tc,As,Te)</p> <p>Not really (I did not talk to my friends about my disease). (As)</p>	
Near discharge				<p>I wanted to play with my friends. (H)</p>	<p>Extremely. I thought that I did it (finishing treatment). (Cr,confidence)</p>
Outpatient				<p>Going to school and playing with my friends. (H)</p> <p>My grades at school will improve. (H)</p>	<p>I wore a hat and a older students would pull it off. I would go home crying. Later the kids apologized and things are okay now. Now, I don't wear a hat at school and my friends are understanding. (Tc,Fr)</p> <p>I don't think about it.(about disease anymore)" (Tc, positive thought)</p>

Abbreviations : Ts; thought- stopping, Tr; thought-reflection, D; do something, I; it could always be worse, M; made it this far, L; looking forward to normalcy, C; cognitive clutter, K; knowledge of survivors, O; others have hope for me, F; forgetting, H; hopefulness, Ct; commitment to treatment, As; adaptation to symptoms, Tc; taking care of problems, Fa; family, Fr; friends, Hc; health care professionals, Te; teachers, Op; other people

Figure 7. Continued

Core Concepts

Cognitive		Distraction	Cognitive Comfort	Personal Competence
Cases / Stages	Discomfort			
Case 10				
Inpatient	At that time I wasn't told how long I would be in the hospital so I really didn't think much at all." (Ts)	When I wasn't able to go home I would get depressed. My mother encouraged me to receive treatment. (M,Fa) It was fun talking with the nurses and nursing students and I made friends in the ward." (D,Fr) I was far from them (friends) so they didn't. Once I got a letter from everyone in my class.(D,Fr)		
Near discharge			I thought about going to school (H)	
Outpatient			I want to be a writer." (H) I am not used to animals so I would like to play with the neighbour's cat." (H)	I hated it when they took blood samples. Now I don't mind it so much. They did it today but it was okay" (Ct) Playing with everyone at school is fun. I am friends with almost all the girls in my class." (Tc,Fr)

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Figure 7. Continued

Core Concepts				
Cognitive				
Cases / Stages	Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 11				
Inpatient	I was in first grade and I was out of the hospital after seven months so I thought that it was not so serious of an illness. (Tr) (Mother told me that my child said about relapse) Why me. (Tr)	We made a purpose for receiving therapy. (M,Fa)		I was able to bear radiation. There was a boy named Y.N. who was one year older than me and in the same room with me. After I had my radiation treatment I decided to play with him. (Ct,Fr) I wondered why it (hair) fell out. I was told that it was a side-effect of the medicine so I really didn't mind. (Ct,Hc) We made a purpose that we would fight until the result of a blood test became good. (Ct,Fa)
Near discharge			I was very happy because I could go to my own house. (H) I was happy that I would be able to go back to school. (H)	
Outpatient			Being able to go home, playing with everyone at school, being able to study.(H)	I wanted to go back (to school) soon so I started to go in the morning only and rest in the afternoon. (Tc) I play with my friends. I ask about things I don't understand in my homework and things like that. (Tc,Tr)

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Figure 7. Continued

Core Concepts				
Cases / Stages	Cognitive			
	Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 12				
Inpatient	I was a bit shocked. (Ts) Well, I had to have a lot of painful tests that was the most difficult thing. (Tr)	I could play games that I usually didn't get a chance to play. (D,Fr)	When things were hard I just kept going. I just tried to think that it wasn't that bad. (Ct) Recently, my mother hasn't been here and I felt lonely, but as time goes by I have gotten used to it and it's not so bad. (Tc) I studied in my room or in the hospital library. (Tc)	
Near discharge				
Outpatient			I like to play TV video games. I didn't feel anything about it (my head). I guess I didn't really like the strange way my head looked. (As) I hope that I don't have a relapse. (H) When my friends asked me why I was wearing a hat and I said "Isn't it okay?" (Ct) I was told that the result of BMT was not good prognosis. But I have hope to recover. I knew a survivor with the same situation (mother said). (Tc,Op)	

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Figure 7. Continued

Core Concepts

Cases / Stages	Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 13				
Inpatient	<p>I would say that I felt confused. Or maybe sad.(Ts,Fa)</p> <p>Mother was always by my side when I felt shock. (Tr, Fa)</p> <p>My classmates made a thousand origami cranes for me and I received letters. (L,Fr)</p>	<p>I did things to help myself feel better like played video games and watched TV. (D)</p>	<p>I didn't cry in front of my mother. I was also able to talk with a nurse. Not about my problems but just everyday conversation. (F,Fr,Hc,Fa)</p>	<p>It was a shock (about hair loss) and I cried often. I'm not sure why but I didn't cry in front of my mother or other people. I cried at night. (As, Fa)</p>
Near discharge			<p>My food was limited so I wanted to eat. (H)</p> <p>I want to be a nurse. (H)</p>	
Outpatient				<p>A special lesson plan was made for me (summer vacation). (Tc,Te)</p> <p>Friends would come and visit me. (TC,Fr)</p> <p>When I was discharged I was placed in a group. I wasn't sure if I would be able to fit in. But I was able to make my closest friends there. (Tc,Fr)</p> <p>People were kind to me.I think my teacher did tell them (about my hair). (Tc,Fr)</p> <p>If I miss English class I can't keep up so I left after that. (to visit outpatient clinic). (Tc)</p> <p>I don't want to talk about it so I just told them I have a blood disorder. (Tc,Fr)</p> <p>I did not feel bad when I was discharged (about told diagnoses). (Tc)</p>

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Figure 7. Continued

Core Concepts				
Cases / Stages	Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 14	I was a little shocked. (Ts)	The nurses encouraged me. They told me that my stay in the hospital would be long but to keep my chin up. (D,Hc) I've received letters and I've been given colored paper for origami. Things like that. (L,Fr)	One time some friends visited me when I was home. (F,Fr) I hope that I never have this disease again.(H)	My classmates encouraged me and it helped (to deal with hospitalization. (Tc,Fr) When I was feeling sick my mother would stay all night with me. She would rub my belly. (Ct,Fa)
Near discharge			(My hope is) talking with my schoolmates and playing and stuff. (H, Fr) I hope to finish them (high school entrance exams) while I'm still in the hospital. (H)	I think that my spirit would have become very weak (without support). (Tc,Hc,Fr,Fa)
Outpatient				

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Figure 7. Continued

Core Concepts

Cognitive		Personal Competence	
Cases / Stages	Discomfort	Distraction	Cognitive Comfort
Case 15			
Inpatient	I was shocked that I wouldn't be able to go to school. (Tc)	I was happy that my mother came every day. (D,Fa) I was happy to get letters from my friends. (L,Fr) We (I and other patients) played together (in the hospital).(D,Fr) My teacher brought me letters and photos. (L,Fr,Tc)	It was fun (time to study while in the hospital). (F) I was 10 years old when they told me so I didn't think anything about it (losing hair). (Tc) (Good about being in the hospital was) That if I could go through this (cancer experience) I can go through anything. (Tc) I thought that I could stand it (stress) until I was able to go home for a night. (Tc,Fa)
Near discharge		I would be able to play (baseball) with my friends. (H)	
Outpatient		(My wish is)To play baseball...I am practicing the same as my team-mates. (H)	My friend helped me. When my friends would ask why I was wearing a hat, my best friend would tell them not to ask me that. (Tc,H) I made new friends...They came and talked to me. (Tc,Fr) When they asked me questions I would answer them truthfully...I felt brave. I needed to be more brave. I didn't like to lie. (Tc) They worry about me (after I told about disease). (Tc,Fr) During the summer my whole family would run together. so that I could play baseball. (Tc,Fr,Fa)

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Figure 7. Continued

Core Concepts

Cases / Stages	Cognitive		Personal Competence
	Discomfort	Distraction	
Case 16			
Inpatient	I basically understood, I talked about every day conversation with my mother ...not much about illness. (Tr)	(Sometimes the mothers of the babies and young children would have to leave and I would look after them. (F,Fr,Op)	It (study in the hospital) was limited. ..(I tried to keep up,) but there were times when I felt too sick to study. (As) At first I was in a private room. My parents didn't come because they had to work. I felt that I wouldn't be able to recuperate alone so I asked one male nurse who I was friends with to please help me. (Tc,Hc) I felt too sick to even think (that the hard times would soon pass). Even during those times I was able to bear it. There was a nurse. (Ct,Hc)
Near discharge		I thought that I am able to go home. The hospital food was the worst part. (H) I wanted to become a physician. (H)	
Outpatient			I thought if I were healthy then going back to school, if I'd be able to make friends, whether or not I'd be able to study...I'm far from them so no one has ever come...At first I was scared, maybe nervous (at school)... When I studied in the nurses office, they (my friends) would come to see me. (Tc,Fr) The biggest one (cancer experience) is spending a lot of time with and talking with adults. I was't able to talk that much, (Tc,Op) I started (volleyball) in April and have been going for about 2 or 3 weeks. At first I was concerned that if I did rough exercise I may break a bone or something. (Tc) I chose English as my main subject and I would have to study things like biology (for medical). If I don't take higher levels of math I wouldn't be accepted. I would have to study at higher level. (Tc)

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Figure 7. Continued

		Core Concepts			
Cases	Stages	Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 1	Inpatient	(no information)	Do something writing letters to her friends (3) Cognitive clutter presents from mother (3) attending parties in the hospital (3) having visitors (3)		
not told					
2nd CR					
12ys					
	Near discharge			Hopefulness recovering from disease (4) healthy family (4) school trips (5)	Taking care of problems thinking of swimming 5 meters (7) Adaptation to symptoms receiving painful therapy (6)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Self-Sustaining Processes Including Seven Categories in Adolescents With Cancer

Cases	Stages	Core Concepts			
		Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 2	Inpatient	Thought stopping going home (1)	Looking forward to normalcy thinking about purpose (2) thinking about activities (2) hair growing (2) study (5) Do something talking with friends (3) listening to music (2) watching videos (2) reading cartoons (2)	Hopefulness becoming a musician (4) going to school (4)	Commitment to treatment receiving painful procedures (6) taking care of self (6) Adaptation to symptoms wearing wigs (6) Taking care of problems telling friends about diagnosis (7) study for school (7)
told					
2nd CR		(no feeling shock)			
14ys					
	Near discharge				Taking care of problems negotiating for going to school quickly (7)
	Outpatient			Hopefulness going school every day (5) playing with friends (5) taking dance lessons (5) Forgetting about cancer feeling better at home (5)	Adaptation to symptoms riding in mother's car to school (6) using nurse's office in school (6) Commitment to treatment going to an outpatient clinic (6) Taking care of problems not talking about cancer experiences (7) coping with very hard things (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts			
		Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 3	Inpatient	Thought-stopping feeling a shock (1) Thought-reflection think of recover (2)	Cognitive clutter not study due to therapy (2) Do something reading books (2) eating favorite foods (2) writing friends letters (3) Looking forward hair growing back (2)	Hopefulness recovering from disease (4)	Commitment to treatment concentrating on therapy (6) Taking care of problems missing some school (6)
told diag. 1st CR 18ys					
	Near discharge discharge			Forgetting going home (5)	Taking care of problems transferring to another school (6)
	Outpatient			Hopefulness no relapse (4) work at mother's shop (4) nice figure (5)	Commitment to treatment living with her cancer (6) Adaptation to symptoms studying in her condition (6) Taking care of problems ignoring gossip (7) telling friends diagnosis (6) support from a teacher (7) living is the most important thing (7) (knowing others with fatal disease) looking for survivors (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts		
		Cognitive Discomfort	Distraction	Cognitive Comfort
Case 4 not told	Inpatient	(no information)	Do something walking to forget problem (2)	Personal Competence Commitment of treatment thinking of recovery (7)
3rd CR 11ys	Near discharge			Hopefulness eating food (5) cooking by self (5) summer camp and trips (5) recovering from disease (4) healthy family (4) Forgetting nature (5)
Case 5 told 1st CR 15ys	Inpatient	Thought-reflection feeling a shock (1) thinking of recovery (2)	Cognitive clutter think of a favorite movie (2) having a good time with others(3) Looking forward to normalcy hair growing back (2)	Taking care of problems reported her condition in class (7) Commitment to treatment will not death from my disease (7)
	Near discharge			Hopefulness reentry to school (5) studying art (5)
	Outpatient			Taking care of problems making decision about school (6) study by self (7)
				Hopefulness healthy family (4) no relapse (4) going to university (4)
				Taking care of problems negotiation with a teacher to study (7) getting used to people's reaction (7) not talking with friends about cancer (7) selecting an university (6)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts			
		Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 6	Inpatient	Thought reflection	Cognitive clutter	Hopefulness	Taking care of problems
told diag.		getting to know (1)	talking about daily life (3)	going to high school (4)	being alone in the hospital (7)l
2nd CR		Thought stopping	Looking forward to normalcy	doing school activities (4)	studying hard (7)
1.5ys		a serious disease (1)	wearing hats and wigs (2)	Forgetting	transferring to school (6)
		(did not say shock)	wish for going to regular school (5)	having a boyfriend (5)	not talking with friends about my cancer (7)
			(no recovery)		Adaptation to symptoms
					enjoying wearing her wig (6)
					Commitment to treatment
					everything know about my disease (6)
Case 7	Inpatient	Thought stopping	Knowledge of survivors	Hopefulness	Taking care of problems
told diag.		shock	encouraging by a patient (2)	recovery (4)	using hats, bandannas, and wigs (6)
1st CR		(hospitalization) (1)	Others have hope for me	exchanging note to friends (5)	Commitment to treatment
1lys		Thought reflection	encouraging by a friend (2)	Forgetting	being patient with hospitalization
		thinking of recovery (2)	Cognitive clutter	mother's staying with me (5)	(I will recover. I will discharge near soon)
			mailing to friends (3)		
			watching things by classmates (3)		
	Near			Hopefulness	Taking care of problems
	discharge			going to Disneyland (4)	not being depressed (7)
				playing with friends (5)	need for catching up on study (7)
					need for study (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Core Concepts					
Cases	Stages	Cognitive Discomfort	Distraction	Personal Competence	
Case 8 told diag. relapse 17ys	Inpatient	Thought stopping not coming to him	Looking forward to normalcy encouragement by friends (3) Made it this far	Hopefulness recovery (4) Forgetting study for school (5)	Taking care of problems transferring to another school (6) Commitment to treatment adapting to cancer treatment (6) not talking about her cancer (7)
		Thought reflection thinking of recovery(2)	trusting recovery (2)	Hopefulness feeling of recovery (4)	Adaptation to symptoms trying to walking (6) Taking care of problems talking with friends at home (6) thinking of getting SCT again (6,7)
Outpatient					
Case 9	Inpatient	Thought stopping disappointing (1)	Looking forward to normalcy encouragement by class-mates (3) Made it this far	Hopefulness no relapse (4) Forgetting trying to study (5)	Adaptation to symptoms giving up studying due to feeling bad (7) not talking about cancer (7)
			encouragement by mother (2)	Hopefulness playing with friends (5) improving his grades (5)	Taking care of problems confidence in finishing treatment (7)
Near discharge					
Outpatient					
			playing with friends (5) support from friends about his hair (6) not thinking of cancer (7)	Taking care of problems support from friends about his hair (6) not thinking of cancer (7)	

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts			
		Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 10	Inpatient	Thought stopping not thinking much (1)	Do something talking with people (3) Made it this far receiving therapy with support (2)		
	Near discharge Outpatient			Hopefulness going to school (5) Hopefulness being writer (4) playing with a cat (4)	Commitment to treatment adapting to pain (6) Taking care of problems making friends (7)
Case 11	Inpatient	Thought reflection serious disease (1) why me (1)	Made it this far receiving therapy to recover (2)		Commitment to treatment bearing radiation for play (6) Adaptation to symptoms not minding losing hair (6)
	Near discharge Outpatient			Hopefulness going home (5) going to school (5) Hopefulness play with friends (5) studies (5)	Taking care of problems going to school in the morning only (6) asking friends for support for homework (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts		
		Cognitive Discomfort	Distraction	Cognitive Comfort
Case 12	Inpatient	Thought stopping	Do something	Personal Competence Commitment to treatment just keeping going during hard therapy (7) Taking care of problems getting used to being alone (7) studying (7)
		feeling shock (1) Thought reflection lot of painful tests (1)	playing games (2, 3)	
	Near discharge			
	Outpatient		Hopefulness playing games (5) no relapse (5)	Adaptation to symptoms not worrying about hair (6) Taking care of problems expressing his feelings to friends (7)
Case 13	Inpatient	Thought stopping	Do something	Taking care of problems crying alone (6)
		feeling confused (1)	playing games and watching TV (3) Looking forward to normalcy receiving letters from friends (5)	
	Near discharge		Forgetting conversation with a nurse (4) Hopefulness want of becoming a nurse (5) Hopefulness want of eating at home (5)	
	Outpatient		Hopefulness want of becoming a nurse (5)	Taking care of problems attending a special lesson (7) making the closest friends (7) receiving kindness from others (6) keeping up studies (7) not feeling bad about cancer (6) straightened hair for graduation (6)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts			
		Cognitive Discomfort	Distraction	Cognitive Comfort	Personal Competence
Case 14	Inpatient	Thought stopping	Do something	Forgetting	Taking care of problems
		feeling shock (1)	having fun time with nurses (3) Looking forward to normalcy getting present from classmates (3)	having visit friends (5) Hopefulness no relapse (4)	encouragement from classmates (6) Commitment to treatment support from mother during therapy (6)
	Near discharge			Hopefulness talking with friends (5) playing with stuff (5) finishing exams (5)	Taking care of problems gaining a strong spirit with support (7)
Case 15	Inpatient	Thought stopping	Doing something	Forgetting	Taking care of problems
		feeling a shock (1)	being with mother (3) Playing with other patients (3) Looking forward to normalcy getting letters from friends (3) getting present from classmates (3)	enjoying studying (5)	not worry about losing hair (6) standing stress through having purpose (7) being able to do anything (7)
	Near discharge			Hopefulness playing baseball (5)	
	Outpatient			Hopefulness continuing playing baseball (5)	Taking care of problems support from friends about hair (6) having visit friends (6) honestly told diagnosis to friends (7) running for exercise with family (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Cases	Stages	Core Concepts			Personal Competence
		Cognitive Discomfort	Distraction	Cognitive Comfort	
Case 16	Inpatient	Thought stopping not understanding (1) Thought reflection hospitalization (1)	Do something conversation with mother (3)	Forgetting baby-sitting (4)	Taking care of problems limiting study in bad condition (6) asking other people to help (7)
	Near discharge			Hopefulness going home (4)	
	Outpatient				Adaptation to symptoms not doing hard exercise first (6) Taking care of problems being able to talk with others (7) studying for my purpose (7)

Seven Categories: (1); Awareness, (2); Positive thinking, (3); Interaction with others, (4); Future possibility, (5); Thought of regulation, (6); Adaptation to cancer (7); Adjustment

Figure 8. Continued

Phases	Stages	Categories	Cases				
			Case 1	Case 4	Case 2	Case 3	Case 5
Cognitive Discomfort	At diagnosis	Awareness (Recovery)			+	+	+
	Inpatient	Positive thinking Interaction with others		+	+	+	+
Cognitive Comfort	Inpatient	Future possibilities				+	+
	Near discharge	Thought of regulation Future possibilities	+	+	+	+	+
	Outpatient	Thought of regulation Future possibilities	+	+	+	+	+
		Thought of regulation			+	+	+
Personal Competence	Inpatient	Adaptation		+	+	+	+
	Near discharge	Competence			+	+	+
		Adaptation		+	+	+	+
		Competence		+	+	+	+
		Adaptation			+	+	+
	Outpatient	Competence			+	+	+

Figure 9. Summary of Self-sustaining Processes in Adolescents Who were Not Told and Those Who were Told They Had Cancer
(+ : Indicate same categories)

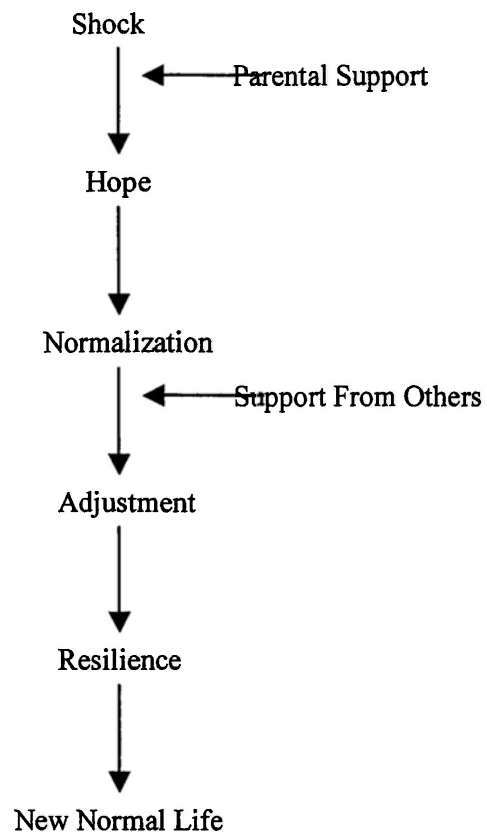


Figure 10. Factors and Processes Promoting Resilience in Japanese Adolescents With Cancer Who were Not Told and were Told They Had Cancer

Phases	Stages	Categories	Sub-Categories	Newly diagnosed											Relapse-experienced						
				Case 3	Case 5	Case 7	Case 9	Case 10	Case 11	Case 12	Case 13	Case 14	Case 16	Case 2	Case 6	Case 8	Case 15				
Cognitive Discomfort	Diagnosis	Awareness	Shock	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
			Other response																		
			Recovery	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Distraction	Inpatient	Positives Interaction	Positive thinking	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Friendships	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			School Studies																		
Cognitive Comfort (Hope)	Inpatient	Future possibilities	Recovery	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			School Studies																		
			Thought of Purpose																		
Near Discharge	Outpatient	Future possibilities	Friendships																		
			Recovery	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			School Studies																		
Outpatient	Inpatient	Thought of regulation	Purpose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Friendships																		
			Recovery	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Personal-Competence	Inpatient	Adaptation	Healthy families																		
			Studies																		
			Telling diagnosis	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	
Near Discharge	Outpatient	Adaptation	Cope with therapy	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Lifting spirits																		
			Studies	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Discharge	Outpatient	Adaptation	School	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Telling diagnosis																		
			Negotiation																		
Near Discharge	Outpatient	Adaptation	Lifting spirits																		
			Studies	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Telling diagnosis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Discharge	Outpatient	Adaptation	Negotiation	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			Living with cancer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			Lifting spirits	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

Figure 11. Summary of Self-Sustaining Processes in Adolescents Who were Newly Diagnosed and Relapse-Experienced (+: Indicate same categories)

Table 3. SJS-PSA Score of the Interviewed Adolescents

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	Total	Level
	Self-Worth	Scholastic Competence	Social Acceptance	Appearance	Relationship to Father	Relationship to Mother	Close Friend	Intellectual Ability	Morality	Romantic Relationship	Humor	Creativity	Athletic Competence		
1	2	3	3	3	3	4	4	4	3	3	1	4	2	39	H
2	3	3	4	3	4	4	4	3	3	2	2	4	2	41	H
3	3	2	3	2	4	4	4	3	3	3	3	2	3	39	H
4	2	2	3	2	3	4	3	3	3	2	2	3	2	34	L
5	3	1	2	2	3	3	4	2	2	3	3	4	2	34	L
6	4	4	4	3	4	4	4	4	3	4	1	4	1	44	H
7	3	3	4	3	4	4	4	3	3	2	3	4	3	43	H
8	3	3	1	3	3	3	3	3	2	3	3	3	2	35	H
9	2	3	3	1	4	4	3	1	3	1	4	1	2	32	L
10	2	2	3	1	2	4	4	1	3	3	4	3	2	34	L
11	2	2	3	3	1	4	4	3	3	2	2	1	2	32	L
12	1	1	2	1	1	1	1	1	2	1	2	1	1	16	L
13	4	3	2	2	4	4	4	3	2	2	1	1	2	34	L
14	2	2	2	2	4	4	4	3	3	3	3	3	2	37	H
15	3	1	2	2	3	3	4	2	3	2	3	3	3	34	L
16	2	4	3	2	3	3	3	3	2	2	3	2	2	34	L

Table 4. SJS-PSA Score of the Mothers

Sample	SJS-PSA Score of the Mothers													Total	Level
	1	2	3	4	5	6	7	8	9	10	11	12	13		
	Self-Worth	Sociability	Job Competence	Nurturance	Athletic Ability	Physical Appearance	Adequacy as a Provider	Morality	Household Management	Intimate Relationships	Relationship with Children	Intelligence	Sense of Humor		
1	3	3	3	2	2	3	4	4	3	3	2	3	3	38	H
2	2	3	2	2	2	3	3	3	2	3	3	3	3	34	H
3	2	3	3	2	2	3	3	3	3	2	3	3	3	35	H
4	2	2	2	3	2	2	2	3	2	2	2	2	3	29	L
5	2	1	4	3	2	2	1	3	2	1	1	3	2	27	L
6	3	3	2	4	1	3	3	3	3	3	3	3	3	37	H
7	2	3	2	3	2	2	2	3	3	2	2	3	2	31	L
8	3	3	3	3	2	2	2	3	3	2	3	2	2	33	H
9	3	3	2	3	2	3	3	3	3	2	3	3	3	36	H
10	2	2	1	2	3	3	3	3	3	1	1	2	2	28	L
11	3		3			2	3	4	3	2	1	3	3	27	L
12	2	2	1	1	1	1	3	3	3	2	2	2	2	25	L
13	3	3	2	2	1	3	2	3	3	2	2	3	3	32	L
14	2	2	2	3	1	2	3	3	3	3	2	3	3	32	L
15	2	2	3	3	3	3	3	3	4	3	3	3	3	38	H
16	3	3	3	3	2	3	3	4	4	3	3	3	3	40	H

Table 6. Score of Social Network Map of the Interviewed Adolescents with Cancer

Number	Area						Total	Level
	Family	Relative	School	Neighbours	Friend	Public		
1	24	20	50	4	48	20	166	H
2	12 S	48 S	36 S	0	6 S	12 D	114	H
3	40 S	12 S	12 S	8 S	16 S	12 S	100	H
4	20	0	8	0	10	8	46	L
5	32 S	12 D	16 D	0 D	33 S	16 S	109	H
6	16 S	24 S	8 D	0 D	28 S	16 S	92	H
7	24 S	12 S	10 S	0	20 S	12 S	78	H
8	0	0	0	0	0	0	0	L
9	24 S	24 S	4 S	0	24 S	8 S	84	H
10	10 S	8 D	13 S	8 D	14 S	14 D	67	L
11	12	12	12	0	14	12	62	L
12	12 S	16 S	2 S	0	4 D	24 S	58	L
13	20 S	4 S	4 S	0	16 S	8 S	52	L
14	24 S	14 S	1 D	1 D	22 S	0	62	L
15	16 S	0	8 D	0	32+ S	0	56	L
16	20 S	8 S	2 D	18 S	20 S	0 S	68	L
Total	306	214	186	39	275	162	1214	

Table 7. Score of Social Network Map of the Mothers

Number	Area						Total	Level
	Family	Relative	Office	Neighbours	Friend	Public		
1	25 D	30 D	0 S	12 S	8 S	14 S	89	H
2	16 S	12 S	12 S	0	16 S	8 D	64	L
3	24 S	8 D	10 S	8 S	16 S	8 S	74	L
4	34 S	24 S	14 S	14 S	14 D	14 S	114	H
5	20 S	14 S	0	5 D	2 S	4 D	45	L
6	12 S	10 D	12 S	6 D	12 S	12 S	64	L
7	24 S	34 S	0 S	4	40 S	8 S	110	H
8	16 S	44 S	8	4 S	18 S	22 S	112	H
9	32 S	28 S	5 D	8 S	12 S	8 S	93	H
10	24 S	14 D	0 S	14 S	36 S	8 S	96	H
11	16	4 S	16 S	4 D	16 S	0 S	56	L
12	0 D	1 D	0	8 S	4 S	0 S	13	L
13	24 S	26 S	8 D	4 D	6 D	0 D	68	L
14	25 D	13 D	4 S	4 S	16 S	4 S	66	L
15	36 S	32 S	16 S	4 S	16 S	8 S	112	H
16	14 S	14 S	14 S	14 S	14 S	6 S	76	L
Total	342	308	119	113	246	124	1252	

Table 5. Comparison of the Adolescents' Ages and High and Low Risk Mothers (SJS-PSA)

Mothers	Adolescents					
	Ages					
	10~12	%	13~15	%	16~18	%
High (8)	1	16.66	4	57.14	2	25
Low (8)	5	83.33	3	42.86	1	12.5

p = .230

Table 8. Comparison of the Adolescents' Ages and High and Low Risk Mothers (SNM)

Mothers	Adolescents					
	Age					
	10~12	%	13~15	%	16~18	%
High (7)	4	57.1	2	28.6	1	14.3
Low (9)	2	22.2	5	55.6	2	22.2

p = .614

Table 9. Correlation between SJS-PSA and SNM of the Adolescents

Mothers	Adolescents					
	SJS-PSA	SNM				
		No	High Mean	SD	No	Low Mean
High (7)	5	41.2	2.28	2	33	1.414
Low (9)	2	36	1.414	7	31.14	6.719

p = .126