



Intentional learning and change: diabetes related health changes by Type II diabetics
by Patricia Monahan Lundgren

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

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Abstract:

Diabetes education efforts have traditionally attempted to provide people with the knowledge and skills needed to comply with prescribed changes. This study holds that diabetics need to assume more responsibility for controlling their disease—not passively comply with instructions. The main purpose of this study was to examine selected dimensions of intentional learning and change in diabetes related health areas made by persons with Type II diabetes. The sample for the study was 46 self-selected Type II diabetics who were members of the American Diabetes Association residing in Southwestern Montana.

Volunteers were interviewed using a structured schedule which solicited quantitative and qualitative data. They were asked to identify the most significant intentional diabetes related health change that they had achieved in the previous five years. Other questions examined the processes, resources, and learning involved in those changes.

Eighty-five percent of the interviewees had made at least one intentional change. Major change categories included eating habits, blood glucose monitoring, curtailing the use of alcohol and tobacco, and exercising.

Crediting themselves with primary responsibility for their changes, individuals used health professionals as a major resource for their changes. Depending on the type of change, persons experienced more difficulty with different tasks of the change process. Diabetics express an unmet need for support from individuals with diabetes and from support groups. Triggers motivated persons' decisions to change.

Learning both motivated decisions to change and was deliberately pursued in order to accomplish a change. Learning projects were goal-oriented, took from 7 to 1000 hours to complete, and were planned primarily by learners. Reading was the major learning activity.

Health professionals need to consider taking a more person-centered approach to managing diabetes and to the diabetes teaching-learning interaction. Emphasis should be placed on helping diabetics choose to make changes, and on involving them in planning subsequent learning and actions. Health professionals should determine the degree of control which persons prefer, and attempt to use effective amounts of direction and control.

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Patricia Monahan Lundgren

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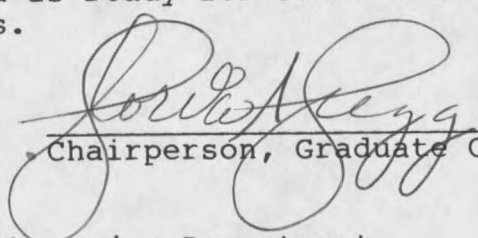
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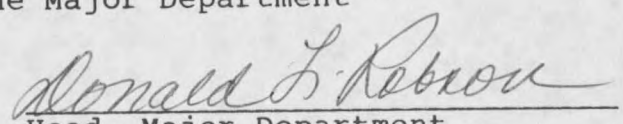
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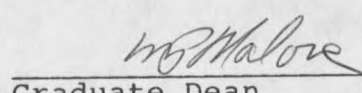
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TABLE OF CONTENTS

	Page
1. INTRODUCTION TO THE STUDY	1
Introduction	1
Statement of the Problem	4
Research Questions	5
Significance of the Study	6
General Procedures	13
Assumptions and Limitations	14
Definitions of Terms	15
2. REVIEW OF THE LITERATURE	17
Introduction	17
Intentional Learning	20
Reasons for Involvement in Learning Projects ..	30
Intentional Change	36
The Original Study	36
Replications of the Intentional Change	
Methodology	40
Critiques of Intentional Change Research	42
Diabetes	46
Diabetes Education	49
Approaches to Diabetes Education	50
Philosophical Perspective	50
Structural Perspective	53
Content Perspective	54
Diabetes Education Program Effectiveness	58
3. PROCEDURES	67
Introduction	67
Research Design	68
Description of Population and Sample	69
Method of Collecting Data	73
Interview Schedule	73
Consistency	77
Validity	82
Research Questions and Statistical Hypotheses	83
Methods of Organizing and Analyzing Data	89

TABLE OF CONTENTS--Continued

	Page
4. ANALYSIS OF DATA	91
Introduction	91
Descriptive Information	92
Demographic Information	92
Most Significant Intentional Change in Diabetes Related Health Areas	96
Eating and Weight Loss	97
Self Blood Glucose Monitoring	100
Exercise	102
Curtail Drug Use	103
Miscellaneous	104
Characteristics of Intentional Change	
Processes	106
Success in Achieving the Desired Change ...	106
Size and Importance of the Change	107
Contribution of the Change to Personal Wellbeing	108
Amount of Benefit from the Change to Others	109
Most Difficult Step of the Change Process .	111
Resources Utilized in the Change Process	112
Percentage to Which Resources Were Used ...	113
Degree of Use of Each Type of Resource ...	116
Specific Resources Used in the Change Process	118
Activities Involved in Choosing, Planning and Implementing the Change	119
Activities Involved in Choosing the Change	119
Feedback from Health Professionals ...	121
Perception of Threat	121
Assistance from Support Systems	122
Acting on Learned Information	123
Spiritual Strength	123
Personal Reflection	123
Perception of Benefit	124
Product Evaluation	124
Protect Others	124
Activities Performed in Planning the Change	124
Identification of Activities Which Would Support the Change	125
Learning Activities	126
Receiving Support/Assistance	126
Evaluating/Purchasing a Product	126
No Definitive Plan	126

TABLE OF CONTENTS--Continued

	Page
Activities Involved in Implementing the Change	127
Learning Undertaken in the Context of the Intentional Change Process	128
Characteristics of Learning Efforts	132
Number of Hours Spent in Each Learning Effort	132
Activities Performed to Accomplish the Learning	133
Primary Planner of Learning Projects	135
Number of Learning Projects Undertaken	136
Assistance Which Would Have Been Helpful to the Change Process	136
Nonhuman Resources	136
Human Resources	138
Benefits Anticipated as a Result of the Change	139
Unintentional Changes Made in Diabetes Related Areas of Health	141
Unrealized Changes	143
What Were These Changes	144
Ideas Regarding Why This Change Was Not Achieved	144
Losing Weight	144
Alter Eating Habits	145
Exercise More	146
Miscellaneous	147
Resources Which Might Have Helped Achieve The Change	147
Testing of Statistical Hypotheses	148
Additional Results of the Study	154
Description of Nonchangers	154
Most Significant Change in Relation to the Most Difficult Step of the Change Process	155
Reasons Behind Persons' Decision to Change	156
 5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	 162
Introduction	162
Summary	162
Overview of Related Literature	162
Population and Sample	164
Methodology	165
Conclusions	167
Recommendations	183
Recommendations for Practice	183
Recommendations for Research	192

TABLE OF CONTENTS--Continued

	Page
REFERENCES CITED	197
APPENDICES.....	207
Appendix A--Communications	208
Letter to Director, American Diabetes Association	209
Letter to Members of the American Diabetes Association	210
Format of Return Postcards from Members of the American Diabetes Association	211
Appendix B--Interview Materials.....	212
Interview Schedule.....	213
Data Sheet.....	220
Sheet #1: Diagram of the Intentional Change Process	222
Sheet#2: Memory Jogging Sheet	223
Sheet#3: Questions 3 through 5	224
Sheet#4: Three Tasks of the Intentional Change Process	225
Sheet#5: Demographic Information	226
Consent to Participate in Research Project ..	227
Appendix C--Study Data	228
Resources Used in Intentional Change Efforts .	229
Activities Performed in Planning the Change ..	231
Activities Performed in Achieving the Change .	233
Resources Which Might Have Been Helpful to Achieve the Unrealized Change	235
Appendix D--Contingency Tables	236

LIST OF TABLES

Table	Page
1 Frequencies and Percentages for Demographic Characteristics of 46 Type II Diabetics	93
2 Frequencies and Percentages for Additional Characteristics of 46 Type II Diabetics	94
3 Frequencies and Percentages for Diabetes Related Demographic Characteristics of 46 Type II Diabetics.	95
4 Number and Percentage of Persons Whose Largest Change Was in Each Area	97
5 Success in Achieving the Desired Change: Number and Percentage of Responses	107
6 Size and Importance of Change: Number and Percentage of Responses in Each Category	108
7 Amount of Benefit from the Change to Self: Number and Percentage of Responses in Each Category	109
8 Amount of Benefit from the Change to Others: Number and Percentage of Responses in Each Category	110
9 Most Difficult Step in the Change Process: Number and Percentage of Responses	112
10 Extent to Which Various Resources Contributed to Choosing, Planning and Implementing the Changes ...	114
11 Number and Mean Percentage to Which Persons Credit Using Each Resource Category for Choosing, Planning, and Implementing the Change	116
12 Activities Performed in Choosing the Change: Number of Persons Citing Each Category	120
13 Activities Performed in Planning the Change: Number and Percentage of Persons Citing Each Category	125
14 Themes of Learning Projects: Number and Percentage of Persons in Each Category	129

LIST OF TABLES--Continued

Table	Page
15 Timing of Learning in Relation to the Decision to Change: Number and Percentage of Persons in Each Category	132
16 Hours Spent in Learning Efforts: Number and Percentage of Persons in Each Category	133
17 Categorization of the Number of Persons Citing Various Activities in Pursuit of Learning	134
18 Primary Planners of Learning Projects: Number and Percentage of Categories	136
19 Number and Percentage of Persons Desiring Additional Nonhuman Resources by Category	138
20 Number and Percentage of Persons Desiring Additional Human Resources by Category	139
21 Benefits Anticipated as a Result of the Change: Number and Percentage of Persons Citing Various Categories	140
22 Persons Who Made Unintentional Diabetes Related Changes: Number and Percentage by Category	142
23 Unrealized Diabetes Related Health Changes: Number and Percentage of Persons Citing Various Categories	144
24 Reasons Why Weight Was Not Lost: Number and Percentage of Persons Citing Various Categories ...	145
25 Reasons Why Eating Habits Were Not Altered: Number and Percentage of Persons Citing Various Categories	146
26 Reasons Why Persons Did Not Exercise More: Number and Percentage of Persons Citing Various Categories	146
27 Resources Which Might Have Been Helpful to Achieve the Unrealized Change: Number and Percentage of Persons Citing Various Categories	148
28 Chi Square Values of Relationships Between Areas of Intentional Diabetes Related Health Changes and Demographic Variables	153

LIST OF TABLES--Continued

Table	Page
29 Chi Square Values of Relationships Between Topics of Learning Projects and Demographic Variables	154
30 Relationship Between Most Difficult Step of the Change Process and Areas of Intentional Change	156
31 Contingency Table Showing Relationship Between Areas of Change and Age	237
32 Contingency Table Showing Relationship Between Areas of Change and Gender	238
33 Contingency Table Showing Relationship Between Areas of Change and Years with Known Diabetes	238
34 Contingency Table Showing Relationship Between Areas of Change and Type of Diabetes Control	239
35 Contingency Table Showing Relationship Between Areas of Change and Marital Status	239
36 Contingency Table Showing Relationship Between Areas of Change and Formal Education	240
37 Contingency Table Showing Relationship Between Areas of Change and Highest Diploma or Degree	240
38 Contingency Table Showing Relationship Between Areas of Change and Employment Status	241
39 Contingency Table Showing Relationship Between Areas of Change and Occupation	242
40 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Age	242
41 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Gender	243
42 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Years with Known Diabetes	243

LIST OF TABLES--Continued

Table	Page
43 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Type of Diabetes Control	244
44 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Marital Status	244
45 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Years with Formal Education	245
46 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Highest Diploma/Degree Obtained	245
47 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Employment Status	246
48 Contingency Table Showing Relationship Between Subject Areas of Learning Projects and Occupation ..	246
49 Contingency Table Showing Relationship Between Areas of Most Significant Health Change and Topics of Learning Projects	247

LIST OF FIGURES

Figure	Page
1 Differences in the Percentage to Which Self and Nonsself Resources are Credited with Responsibility for the Three Tasks of the Change Process	115

ABSTRACT

Diabetes education efforts have traditionally attempted to provide people with the knowledge and skills needed to comply with prescribed changes. This study holds that diabetics need to assume more responsibility for controlling their disease--not passively comply with instructions. The main purpose of this study was to examine selected dimensions of intentional learning and change in diabetes related health areas made by persons with Type II diabetes. The sample for the study was 46 self-selected Type II diabetics who were members of the American Diabetes Association residing in Southwestern Montana.

Volunteers were interviewed using a structured schedule which solicited quantitative and qualitative data. They were asked to identify the most significant intentional diabetes related health change that they had achieved in the previous five years. Other questions examined the processes, resources, and learning involved in those changes.

Eighty-five percent of the interviewees had made at least one intentional change. Major change categories included eating habits, blood glucose monitoring, curtailing the use of alcohol and tobacco, and exercising.

Crediting themselves with primary responsibility for their changes, individuals used health professionals as a major resource for their changes. Depending on the type of change, persons experienced more difficulty with different tasks of the change process. Diabetics express an unmet need for support from individuals with diabetes and from support groups. Triggers motivated persons' decisions to change.

Learning both motivated decisions to change and was deliberately pursued in order to accomplish a change. Learning projects were goal-oriented, took from 7 to 1000 hours to complete, and were planned primarily by learners. Reading was the major learning activity.

Health professionals need to consider taking a more person-centered approach to managing diabetes and to the diabetes teaching-learning interaction. Emphasis should be placed on helping diabetics choose to make changes, and on involving them in planning subsequent learning and actions. Health professionals should determine the degree of control which persons prefer, and attempt to use effective amounts of direction and control.

CHAPTER 1

INTRODUCTION TO THE STUDY

Introduction

Diabetes mellitus affects approximately 5% of the persons in the United States. Seven million people are known diabetics, and an estimated 3 to 4 million others have the disease but are not aware of it. In addition, the incidence of this chronic disorder is increasing at a rate of approximately 6% per year. The American Diabetes Association has predicted that by 1999 there will be nearly 20 million people with diabetes in the United States. Major factors behind this increasing incidence of diabetes include an aging population, sedentary lifestyles and poor dietary habits (Elliott, 1984).

Diabetes is the third leading cause of death by disease in the United States (National Diabetic Commission Report, 1981). Diabetics have twice the incidence of cardiovascular disease as nondiabetics. Diabetes is the leading cause of blindness; the second leading cause of foot amputation; and causes 25% of all end stage renal disease (Elliott, 1984).

In order to control this disease, the person with diabetes must make several significant lifestyle changes. Ultimately, success in controlling diabetes depends on how

well informed and prepared the diabetic is to deal with the problems which will arise and on the daily choices he or she makes.

Traditionally, diabetes educational efforts have attempted to provide people with the knowledge and skills needed to control the disease. The focus was on persuading the individual to follow the regime prescribed by the physician. Patients were viewed as passive recipients of care whose role was to follow the doctor's orders. Certainly this approach to care is still being widely used. However, it is now recognized by many health professionals that it is the patient who must implement the treatment on a daily basis, and therefore the patient who is ultimately responsible for control of the diabetes. Health professionals need to focus their attention on the patient, on communicating with him or her, and on supporting his or her learning or lifestyle efforts. An example of this approach is Strowig's (1982) model of diabetes self-management, which suggests that diabetes education efforts need to focus on providing the individual with choices and assistance in taking health actions.

Relevant to understanding the changes which diabetics make in an effort to control their illness are the findings of recent studies on adults' intentional change. In 1982, Allen Tough reported on a series of interviews during which 150 adults were asked to describe the most important

intentional change they had recently implemented. The two main areas of change were: (1) career, job, and training; and (2) human relationships, emotions, and self-perception. These areas comprised 54% of all reported changes. In addition, physical health was the focus of 7% of the changes. The critical importance of the person in his or her own change process became evident in this study. Tough stated:

People usually serve as the manager or navigator of their own intentional changes. They may receive advice, encouragement and information from other people and books, but they fit this help into their own ongoing self-managed process (1982, p. 55).

Several findings came out of Tough's work and other studies on intentional change. Adults are highly active in their personal change efforts; these changes are largely the result of the individual's ability and effort; and their intentional changes are large, successful, and beneficial to themselves and others (Tough, 1982). Sixty-seven percent of all changes are intentional, while 33% are unintentional (Neehall, 1983). Although changes are largely self-directed, adults feel they could use help with their change processes from persons with specialized knowledge and experience (Blackwell, 1981). Friends and family members are significant resources for persons making life changes; however professionals are credited with 5% of the responsibility for accomplishing change (Tough, 1982). Most adults are reasonably successful in achieving changes that

they choose (Tough, 1982).

An understanding by health professionals of successful intentional change efforts by diabetics could radically alter their perspectives of these individuals' abilities to change and could dramatically alter their philosophies and approaches to diabetes education. Having this information could provide health professionals with insight into the processes and resources persons use in change efforts, and where additional assistance would be helpful. In addition, because learning is one means through which personal change is accomplished, gaining an understanding of the learning involved in achieving personal change will enhance caregivers' ability to support diabetics' learning efforts.

Statement of the Problem

The problem of this study is to examine selected dimensions of intentional learning and change in diabetes related health areas made by persons with Type II diabetes. Dimensions examined include:

- most significant intentional change;
- percentage of change which was actually accomplished;
- importance of the change;
- benefits of the change to self and others;
- most difficult part of the change;
- resources used in choosing, planning, and implementing the change;

- activities involved in choosing, planning, and implementing the change;
- learning undertaken in order to achieve the change;
- number of hours spent in these learning efforts;
- learning activities pursued;
- primary planner of each learning project;
- number of learning projects;
- additional resources which would have been helpful to the change process;
- benefits expected as a result of the change;
- unintentional changes in diabetes related health areas; and
- desired health change which was not achieved.

A second purpose of the study is twofold: first, to determine the extent to which relationships exist between selected demographic variables and both the identified areas of intentional change and the topics of learning projects; and second, to determine the relationship between their most important diabetes related health change and topics of learning projects.

Research Questions

The questions addressed in this study are:

1. What are the areas of intentional diabetes related health change undertaken by Type II diabetics?
2. What are the characteristics of intentional change

efforts?

3. What learning is undertaken in the context of the intentional change process?
4. What are the characteristics of these learning efforts?
5. What types of additional assistance would have been helpful to the change process?
6. What benefits were anticipated as a result of the change?
7. Were there unintentional changes made in diabetes related areas of health?
9. Were there desired changes which were not achieved?
10. To what extent do relationships exist between demographic variables and areas of intentional learning and change?
11. What is the relationship between areas of most significant health change and topics of learning projects?

Significance of the Study

The past five or six years have seen a change of focus begin to emerge in diabetes education. Previously, education for Type II diabetics focused solely on learners' acquisition of knowledge and skills. There was an assumption that if persons understood diabetes and its treatment, they would subsequently change their health

behavior. The result of education efforts which took this approach were, and continue to be, very poor: some knowledge gain, but little evidence of behavior change, or improvement in clinical diabetes control (Graber, Christman, Alogna, & Davidson, 1977; Mazzuca, 1982; Scott, Beaven, & Stafford, 1984; Watkins, Williams, & Martin, 1967; Williams, Martin, & Hogan, 1967).

Some success is currently being accomplished. Behavior change and improvement in metabolic control are occurring in some persons. The concurrent change which is occurring in the education process is an integration of behavioral and attitudinal components into the learning program (Kurtz, 1986; Leichter, 1986; Mazucca, 1982; Rettig, Shrauger, Becker, Gallagher, & Wiltse, 1986; Schlenk & Hart, 1984). Whether success continues to be demonstrated over the long term process of a person's chronic disease remains to be demonstrated.

Despite this apparent improvement in the effectiveness of diabetes educational efforts, the predominant approach taken in the teaching-learning interaction remains one which is based on the medical model approach to care. This medical approach views caregivers as experts and patients as uninformed, passive recipients of care. Caregivers treat the disease while patients follow orders; patients are expected to adhere to their prescribed regimen. Those who do not are considered "noncompliant". The wide use of this

traditional medical approach to patient education is demonstrated by the major attention patient compliance receives in the literature (i.e., Becker & Maiman, 1980; Eraker & Becker, 1984; Mushlin & Appel, 1977; Kinnaird, Yoham, & Kieval, 1982; and Rainwater & Giordano, 1985).

Anderson (1985) makes an excellent argument for the fact that using this traditional medical approach in the care of diabetics is inadequate. He states that in diabetes, it is the person with the disease and not the caregiver who must implement the treatment on a daily basis. Therefore, caregivers should focus their attention on the patient rather than on the treatment of the disease. Anderson recommends what he calls an "educational approach" to diabetes care. This approach requires very different expectations in the caregiver/patient relationship. It focuses on communication between the caregiver and patient. Problems of noncompliance need to be viewed through the patient's perspective. Caregivers need to:

...understand and work through the patient's frame of reference Patients are seen as basically capable and responsible for managing their own lives. The practitioner is an ally who facilitates the growth of patients by helping them discover and develop the capacity to solve their own problems (Anderson, p.32).

Anderson's "educational approach" reflects many of the assumptions and conditions of adult learning delineated by Knowles (1970), and, as such, is a legitimate approach to take in the diabetes education process. Five relevant

assumptions about the characteristics of adult learners which are noted by Knowles include:

1. self-concept moves from being dependent toward being self-directing;
2. a growing reservoir of experience becomes an increasing resource for learning;
3. readiness to learn becomes oriented increasingly to developmental tasks of social roles;
4. time perspective changes from one of postponed application of knowledge to immediacy of application; and
5. orientation toward learning moves from subject-centeredness to problem-centeredness. (1970, p.39)

In reviewing the related literature, this investigator found very little evidence of an approach such as Anderson's being taken in diabetes education efforts. In an exception to this lack of evidence, Strowig (1982) presents a model of patient education in which diabetics make choices and take deliberate action toward the goal of controlling their diabetes.

According to Strowig, it is critical for the patient to see him or herself as being in charge of his or her diabetes and the educator as someone who is available to help the person deal with the diabetes. The educator's role is to understand and enhance the individual's capabilities and to strengthen his or her ability to make choices and take

deliberate action.

Strowig stresses the need to protect individuals' rights to choose their management plan, to prepare them for decision making regarding the day-to-day management of the plan, and to thereby support them in taking actions directed toward controlling their own disease. This is reflected in the following statement:

The therapeutic regimen for a diabetic individual requires the coordination of medications, diet and exercise into a daily routine of work, school and recreation such that extremes in blood glucose levels are avoided. Careful thought, decision-making and, ultimately, action on the part of the patient are required to implement such a regimen. Action is impossible, however, if an individual is unaware of his options or incapable of making a choice. The patient, not the doctor or educator, is the determiner. The denial of choice eliminates the possibility of action (1982, p.1295).

Strowig suggests the need to study human capabilities, how these capabilities are used in self-care, and ways capabilities can be enhanced by health professionals.

Strowig's concepts of capabilities, decision-making, and action are very similar to the natural change processes described by Tough (1982). A difference lies in the fact that Tough views the individual as needing "an optimal range of control" (p.106) of his or her own change efforts (the range depending on the person and the situation), whereas Strowig simply encourages health professionals to allow persons to be more in charge of their change.

Tough's research, reported in Intentional Changes, describes the most significant changes recently made by persons and the processes and resources they used to accomplish these changes. He argues that understanding these natural change processes will enhance the ability of professionals to promote beneficial and effective changes. In fact, more recently, Tough (1985) suggested that a study such as the one presented here would contribute insight and bring about important implications for the diabetes education profession.

Tough suggests seven practical implications of having a better understanding of natural change processes. These include:

1. improve individual competence in managing change;
2. develop better help with goals and planning;
3. increase information about opportunities and resources;
4. reduce undue restrictions on freedom of choice;
5. widen the range of opportunities and resources;
6. improve ongoing support from nonprofessionals; and
7. improve the effectiveness of professional help (1982, p.77).

Gaining an understanding of the types of intentional health changes that diabetics make and the processes and resources they use in these efforts could enhance diabetes educators' abilities to facilitate learning and change by

diabetics. Emphasizing the person's capacity to be in charge of controlling his/her own diabetes is a much needed perspective. Taking this type of approach could dramatically improve the effectiveness of diabetes education efforts and ultimately improve the quality of life for persons with diabetes.

In addition to its implications for the practice of diabetes education, this study has implications for diabetes education research and for adult learning research. From an adult learning perspective, it enlarges the body of intentional changes research; it provides data on the learning projects of a population which was previously unexamined; and it examines the relationship between learning and change by persons who are living with a chronic illness. From a diabetes education research perspective, this study examines diabetes education from a vantage point which was previously unexamined--the diabetic's. If Type II diabetics do, in fact, make successful, intentional diabetes related health changes for which they see themselves as being primarily responsible, then health professionals' role as facilitator rather than director of persons' change is validated. Given the validation of this role, health professionals would be free to explore the effectiveness of using less control over diabetes teaching-learning situations. In addition, there would be a need to develop strategies for integrating learner-centered approaches into

the teaching-learning interaction and to evaluate whether using learner-centered modes of instruction are effective in influencing diabetes related health changes.

General Procedures

The population for this study was all persons in the Bozeman and Billings, Montana areas with known Type II diabetes who are members of the American Diabetes Association. From this group, a sample was drawn from which the data were collected using an interview technique. An adaptation of the interview schedule developed by Tough (1982) was used to guide these interviews. Tough's schedule was originally developed and refined over the course of interviewing 180 persons.

Information sought through the interviews included:

(a) most significant intentional change in diabetes related health areas; (b) intentional learning undertaken in support of the change process; (c) characteristics of intentional learning and change; and (d) various demographic information.

Data regarding persons' learning and change processes were discussed narratively and were analyzed using basic descriptive statistics. Hypotheses regarding the relationship between areas of intentional change and topics of learning projects with demographic variables were tested using the chi square test of independence.

Assumptions and Limitations

Assumptions of this study are:

1. Many persons with Type II diabetes make intentional changes in diabetes-related health areas.
2. Intentional learning is a component of the process of intentional change.

Limitations of this study were:

1. Data were collected from a small sample of persons (N = 49) with Type II diabetes living in the Bozeman and Billings, Montana areas.
2. Since data were collected from persons who are members of the American Diabetes Association, the generalizability of the results to the general population of Type II diabetics is limited as members of this organization may not be representative of the general population of these persons.
3. Interviewer inconsistency and bias should have been controlled by consistently following the interview schedule. However, inconsistency and bias remain possibilities.
4. The researcher/interviewer interpreted the data collected. It is possible, given the qualitative nature of some of the data, that someone else could interpret it differently.

Definitions of Terms

Diabetes Mellitus--A chronic disorder characterized by abnormalities in the metabolism of carbohydrates, protein and fat. It encompasses many disorders which affect insulin secretion or action. Glucose intolerance is the common factor among these disorders (American Diabetes Association 1984; Guthrie & Guthrie, 1983).

Health--A dynamic state, components of which include physical, emotional, social, and spiritual wellbeing.

Intentional Change--A change in which the person definitely and voluntarily chooses the change and then strives to achieve it by taking certain steps (Tough, 1982).

Intentional responses to unintentional events, such as having diabetes, will be included in this definition.

Intentional Learning -- Learning that occurs as a result of a person's deliberate efforts to acquire new knowledge, attitudes, or skills.

Learning--The acquisition of knowledge, attitudes or skills.

Learning Project--" A series of clearly related learning efforts adding up to at least seven hours of effort" (Hiemstra, 1975, p.23). The learning effort must include activities designed to obtain new information, to develop new skills, or to acquire new attitudes or beliefs.

"Deciding, planning, traveling time to a learning activity,

and evaluating personal progress will be considered as part of the learning project time" (Hiemstra, 1975, p.23).

Type II Diabetes--A disorder characterized by impaired tissue sensitivity to insulin. Also referred to as non-insulin-dependent diabetes because these individuals produce endogeneous insulin (American Diabetes Association, 1984; Guthrie & Guthrie, 1983).

Type II Diabetic--A person medically diagnosed as having Type II diabetes.

Unintentional Change--"Change which is forced on the person required by circumstances such as events, maturation, and so on" (Tough, 1982, p.48).

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

In 1983, Kidd wrote that the profession of adult education has experienced a "radical transformation" in the last 25 years. He stated that a dramatic change in perspective has occurred. The vantage point is no longer adult education but adult learning. Tough (1978) also reflected this theme calling it a "shift of focus." The traditional focus of adult education was the provision of education or instruction; the emerging focus is on facilitating relevant learning.

Tough has described adults' learning efforts as being analagous to an iceberg. The tip of the iceberg, about one-fifth of all learning, had been visible prior to the change of focus. The visible portion centers around learning through organized adult education opportunities such as classes, programmed instruction, correspondence study, workshops and apprenticeships. However the major portion of the iceberg has been submerged and below view. He proposes that the adult learning efforts which comprise 80% of the iceberg center around self-planned learning projects. In recent years, research has been conducted

in an effort to bring to light the phenomenon of adults' independent learning activities. The implications of this understanding have been and will be tremendous. It is this knowledge which has contributed to Kidd's "radical transformation" in the profession of adult education.

In 1982, Tough acknowledged the connection between learning projects and personal change, and studied adult's intentional change. He believed that by understanding adults' natural change processes, professional helpers would gain insight into how to facilitate these change processes in a more effective manner.

Diabetes is a disease which requires major behavior change by persons who are afflicted with it. Persons who have diabetes need to be involved in daily self management activities which attempt to balance their food intake, physical activity, and medication taking. Whereas more simple physical ailments can be effectively dealt with when health care providers recommend and direct the treatment, an effective approach to diabetes care requires the person with diabetes to be centrally involved in controlling his or her illness.

A recent technological development which is particularly important for diabetics is the availability of blood glucose monitors for their daily use. A monitor provides individuals with a measurement of their current blood glucose levels. With this information, they can

adjust food intake, exercise, or medication attempting to normalize blood glucose levels. For the first time, individuals have access to the information they need to manage their own disease. This development makes the concept of diabetes self-care a viable one.

Strowig and Anderson are two persons who have called for a change of focus in the diabetes teaching-learning interaction. Anderson (1985) has proposed that health professionals focus their attention on supporting the diabetic in his or her learning and lifestyle efforts (and away from the health professionals' ideas regarding the diabetic's learning and lifestyle needs). Strowig suggests that diabetes education needs to focus on the development of capabilities and of individual choice, thereby facilitating individual's deliberate action. (1982, p.1304).

Education is a vital component of diabetes care. Persons with diabetes not only need a good understanding of diabetes and its control, they need to gain an appreciation of the need to assume responsibility for control of their disease, to learn various psychomotor and decision-making skills, and to discover ways to cope with their environments and life demands. It is proposed that an approach to diabetes education is needed which focuses on helping persons assume responsibility for control of their diabetes and choose to make lifestyle changes.

The present study attempts to gain an understanding of diabetics' intentional learning and change--and thereby, gain insight into how to more effectively facilitate this sort of change by persons with Type II diabetes. This literature review will be organized around the following headings: Intentional Learning, Reasons for Learning Projects, Intentional Change, Diabetes, and Diabetes Education.

Intentional Learning

The first major evidence of adults being engaged in independent learning projects was uncovered by Johnstone and Rivera (1965). They were conducting a national survey which examined the educational pursuits of American adults. Unexpectedly, the study found that self teaching was a common activity among adults. Nine million adults were estimated to have been involved in a self instructional activity in the year prior to the study. This incidence was much greater than anticipated by the researchers. Johnstone and Rivera suggested that "the category (of self teaching) may well represent the most overlooked avenue of activity in the whole field" (p.37).

Soon afterward, Tough became involved in trying to correct this oversight. A major theme of Tough's work has been understanding adults' self-planned attempts to learn new knowledge and skills. In his book, The Adults' Learning

Projects, Tough presented information on the learning efforts of 66 persons. He defined a learning project as:

... a sustained, highly deliberate effort to learn knowledge or a skill; a series of related episodes, adding up to at least seven hours. In each episode, more than half of the person's total motivation is to gain and retain certain fairly clear knowledge and skill, or to produce some lasting change in himself (1979, p.7).

The focus was on the person's highly deliberate efforts to learn. These intentional learning activities were directed at acquiring new knowledge, understanding, beliefs, skills, or behaviors. These learning efforts comprised a broad range of activities which included self-planned learning, and all forms of organized adult education activities.

Tough (1979) conducted intensive, highly structured probing interviews with 66 persons. Major findings from this study revealed that 98% of the interviewees conducted at least one learning project in the prior year and an average of eight learning projects were conducted by each person in one year. In addition, it was determined that the typical person spent from 700 to 800 hours per year engaged in learning projects and nearly 70% of the learning projects were self-planned. Attempting to help people recall their learning projects and details of the projects, Tough used lists of subject matter and learning methods in this interview process.

On the basis of this study, Tough called for additional research to further the understanding of the phenomenon of

adults' learning projects. As of 1985, over 55 research studies had been performed.

In 1974, Coolican reviewed six of the major research studies on self-planned learning which had occurred up to that time. The following is a summary of her review. Researchers conducting these studies included Tough (1971), McCatty (1973), Johns (1973), Denys (1973), Johnson (1973), Coolican (1973), and Peters and Gordon (1974).

Small and very diverse populations were sampled for these studies. McCatty studied 54 professional men in a suburb of Toronto, Canada; Johns, 39 pharmacists in Atlanta, Georgia; Denys, 40 African professionals; Johnson, 40 adults who had recently completed high school degrees or equivalency certificates in Fort Lauderdale, Florida; Coolican, 48 mothers with preschool children in Syracuse, New York; and Peters and Gordon, 443 persons in two Tennessee counties (one rural and one urban).

All of the studies utilized Tough's interview schedule, and explored learning projects which had occurred within the 12 months prior to the interview. Almost every adult had been involved in learning during the preceding year. Tough reported a participation rate of 98%, Peters and Gordon reported a rate of 91%, and the other five studies reported a 100% participation rate. The extent of these learning activities was examined by the number of learning projects undertaken and the estimated number of hours spent for the

learning projects.

Numbers of learning projects ranged from a median of three by persons in the Tennessee study to 13 by recent high school graduates. The estimated number of hours spent ranged from a median of 160 by mothers of preschool children to 1058 by professional men.

Tough determined that learning projects are planned in four modes. These modes include: self-planned learning, group-planned learning, one-to-one learning and resource-planned learning. Tough found that 68% of learning projects were self-planned. Pharmacists (Johns, 1973) reported the smallest number of self-planned learning (56%), while professional men (McCatty, 1973) reported the highest (76%). Group planned projects ranged from 11% by professional men (McCatty, 1973) and African professionals (Denys, 1973) to 23% by recent high school graduates (Johnson, 1973). One-to-one planning was used most frequently (14%) by recent high school graduates (Johnson, 1973), and least frequently (6%) by African professionals (Denys, 1973). Pharmacists (Johns, 1973) used a resource planned learning approach (19%) much more frequently than others whose use of these prepared instructional materials ranged from 1 to 5%.

Most learning projects were initiated for practical reasons, career and family being the two most frequently cited topics. Coolican (1973) asked persons to name the

primary resources used for each learning project.

Friends/relatives/neighbors and paid experts were mentioned most frequently. Books and pamphlets were the next most frequently cited resources. Activities most often involved in the learning were practice, reading and discussion.

Coolican also discovered the phenomenon of "quick learning", projects which could be completed in less than seven hours and which in many cases develop into longer projects. McCatty (1973) found that professional men's most common reasons for planning their own projects were the desire to learn particular things and not gain general information. In Peters and Gordon's (1974) study of Tennesseans, one half of the persons interviewed needed additional assistance at some point in their learning.

After 1974, research continued into the phenomenon of adults' learning projects. In Nebraska, Hiemstra (1975) conducted a study of 256 adults who were at least 55 years of age. He investigated their learning interests, activities and obstacles, and found that adults were involved in an average of 3.3 learning projects per year which took an average of 324 hours. Fifty-five percent of the projects were self-planned; and books, pamphlets, and newspapers were the most common source of information (31% of the resources used).

Hiemstra found that older adults are interested in and are carrying out more "instrumental learning activities"

than "expressive activities"--instrumental activities being designed to enhance the mastery of old age challenges, and expressive activities being ones which are designed to increase a person's enjoyment of life (p.16). He also determined that upper middle and upper class persons, college graduates and white collar workers engaged in significantly more learning projects than other persons (p.64).

Group-planned learning was the focus of Farquaharson's (1975) research. Specifically, he was interested in the effectiveness of self-help groups in assisting people to cope with personal problems. Farquaharson interviewed 40 persons from the Toronto, Ontario area who had accomplished some positive personal changes as a result of being involved in self-help groups. These groups helped people deal with a wide variety of problems. A few of these problems included drinking, weight, bereavement, and child raising. Not only were persons supported with their changes, more than one half reported major positive changes in self confidence and ability to relate to others, one third indicated positive changes in their ability to admit or accept their problem, and one third reported an improved capacity to be helpful to others. Although all persons reported at least some degree of positive change in themselves as a result of membership in their group, less than one quarter viewed their achievement as major personal changes.

The findings of Farquaharson's study revealed that certain kinds of personal problems can be effectively dealt with if persons join together for mutual assistance. Persons are provided with a stimulus for change, observe several different coping styles which help them to plan their own behavior, and build a sense of hopefulness.

Penland's (1977) study was particularly important because it was the first national survey of persons' self-planned learning. Having interviewed 1500 adults who were drawn from a national probability sample, Penland could, for the first time, generalize his results to the entire population of the United States. He found that learners could be characterized according to four groups: (1) continuing learners--persons involved in learning who used either self-planned or course-like activities; (2) self-initiated learners--persons who planned their own projects; (3) persons involved in courses or school like activities; and (4) non learners--persons not engaged in any intentional learning.

A great majority (78.9%) of persons in America see themselves as continuing learners (i.e., they had been engaged in learning activities in the year prior to the interview). Of all persons interviewed, 76.1% had planned one or more of their own learning projects. Eighty three percent of these projects took seven hours or more time to complete. The average number of projects per person was

3.3, and the length of time involved in each project ranged from one to more than 900 hours. The average number of hours was 155.8.

Based on persons' stated reasons why they prefer to learn on their own rather than taking a course, Penland writes "a great many people are concerned with setting their own learning pace and exploring their own style of learning rather than submitting to formal course oriented experiences" (1979, p.174). An additional finding is the fact that no demographic variables were strongly associated with various learning characteristics. "Self-planned learning is more uniformly distributed in the population as a whole than previously suspected" (1979, p.173). Based on this fact, Penland suggested that individuals' contextual situations may be of value in understanding their participation versus non participation in self-planned learning.

Discussing the need for professionals to encourage and support people who are potential learners, Penland writes:

Learning is almost an ubiquitous response to a situation. The stronger the contextual imperative, the more likely is (the learning) to occur. However, sustained effort is impossible to maintain when life coping skills are difficult to perform and the availability of professional help is distant (1977, p.108).

Two more recent learning project research studies were conducted by Hassan and Addleton. Hassan (1981) examined adults' learning projects in relation to their self-directed

learning readiness. She found that highly self-directed learners engaged in more learning projects and were more satisfied with their learning than low self-directed ready people. She also identified a negative correlation between the number of perceived obstacles to learning and readiness for self-directed learning. Addleton (1984) studied the self-directed learning projects of 43 continuing educators. Characteristics of these learning projects were not different from those identified in previous studies. A distinct finding was that 12% of their projects were influenced by previously offered continuing education programs, and fully 61 continuing education programs were designed as a result of these personal learning experiences.

Brookfield (1981) discusses and refutes three criticisms which had been made of learning project research. One criticism is the reliance placed on structured interviews. It was suggested that a high degree of prompting brings about overstated findings, and that it prevents truly revealing sharing by the interviewee. Brookfield acknowledges the potential for this concern, but rebuts it for this particular research approach by quoting Tough's (1980) description of his leisurely, probing interview mechanism. A second criticism is that the sample used for Tough's initial study was highly educated and nonrepresentative of the general population. Brookfield argues that subsequent learning project research covered

broad and diverse populations. This criticism was neutralized. The last criticism is that self-planned learning is an inappropriate topic for adult education research; that attention needs to be focused on supporting institutionally sponsored learning programs. This is refuted by the statement that adult education faces a tremendous and legitimate challenge with regard to supporting self-planned learning, and hence there is a need for this sort of research to be performed.

In summary, the major focus of the learning project research was to describe the extent to which adults are involved in learning projects, and what and how they learn in these self-planned situations. It was identified that participation in learning projects is almost universal. From 79% to 100% of all adults are involved in at least one learning project per year. The average adult conducts four or five learning projects per year, and spends around 100 hours on each learning project. Further, about 70% of adults' learning projects are self-planned.

Learning projects most frequently deal with career and home/family topics. Health is consistently mentioned as a learning project topic. It usually accounts for about 5% of all projects. Learning projects most frequently deal with problems of everyday life for the individuals, and persons frequently need help with their learning. Areas where assistance is needed include goal setting, acquiring

resources and locating expert assistance for learning.

Reasons for Involvement in
Learning Projects

It has been established that adults do, in fact, participate in various learning projects. Related questions which remain to be addressed pertain to the reason for adults' learning and its timing: what causes adults to learn, and why do they set out to learn when they do? The following is a brief discussion of a few theories relative to these questions.

Attempting to understand adults' motivations for learning, Houle (1961) interviewed 22 persons who were highly active adult learners. On the basis of the interviews, he proposed a three-way typology of orientation to participation in continuing learning. These include goal-oriented, activity-oriented, and learning-oriented. Goal-oriented learners engage in learning in order to accomplish specific objectives. Activity-oriented learners participate in learning activities for the sake of the activity itself rather than the learning which may occur because of their involvement. Learning-oriented persons are involved in learning for its own sake.

A substantial amount of motivational orientation research has followed Houle's. Although most of this research has produced more than three orientation factors, the hypothesis that there are three basic orientations

prevails. Notably, Boshier's (1971) Education Participation Scale (E.P.S.) has been used to collect data in over 80 studies on the motivational orientation of an estimated 60,000 persons across different populations and cultures (Boshier & Collins, 1985, p.116). Boshier and Collins (1985) examined the E.P.S. data of 13,442 learners who were from four continents in order to determine the extent to which Houle's typology fits the picture of motivational orientation which emerged from those studies. The result was that the goal-orientation and the learning-orientation were validated, while the activity-orientation was identified as being complex and multifaceted. It was identified as being comprised of a combination of factors which were identified as Social Stimulation, Social Contact, External Expectations, and Community Service (p.125).

This motivational research focused on adults' involvement in formalized adult education programs and, as such, is not directly related to involvement in learning projects. However, it is relevant to the present discussion because of the assumption that diabetics become involved in diabetes and health related learning projects due to their "goal-orientation" to understand and control their disease.

Tough's early study (1968) of adults' learning projects examined the area of motivation. He drew a number of conclusions which were relevant to adults' motivation for engaging in self-directed learning projects. These

conclusions include:

1. Most learners have more than one reason for engaging in learning.
2. Adult learners are most frequently motivated by the desire to use the knowledge or skill gained through the learning.
3. There are three patterns from which people start learning projects: wanting to do something, curiosity, and a desire to learn; and
4. Most participants enjoy learning, and hence, continue to pursue it over time (Cross, 1984, p.83-85).

It seems important to note the similarity of Tough's conclusions regarding involvement in learning projects with Houle's typology regarding participation in formalized adult education activities.

A different approach to understanding adults' involvement in learning projects examines life stages and life events. The human life span has been conceptualized as being comprised of various stages or phases--infancy, childhood, adolescence, and adulthood (Erickson, 1959). Each of these stages is characterized by "developmental tasks" which predictably arise during that phase of life and which need to be accomplished in order to function effectively during that stage of life. Havinghurst (1961) divided the adult years into three phases--early adulthood,

middle age, and later maturity. He identified ten roles of adulthood and further delineated several developmental tasks of adulthood (p.72-98).

Adults facing these tasks require new knowledge, new skills, adjustments in attitudes, and behavior changes. Dealing with these life crises or transitions creates in adults a readiness to learn. Knowles discusses the implications of developmental psychology for adult educators and presents a list "Life Tasks of American Adults" (1980, p.263-264). This list includes tasks in the areas of career, home/family, personal development, leisure, health, and community living. These tasks provide insight into the causes of adults' motivation to learn.

Rather than seeing adult learning as being motivated by developmental tasks, Knox (1977) examined life changes and linked learning with "change events". He characterized adult life as being punctuated by change events. These change events require alterations in role-relationships and, as such, require adaptation. He proposes several ways in which adults try to adapt to change events. These include frantic activity, action, educative activity, seeking assistance, contemplation, and withdrawal (p.538). So, for at least some adults, there is a heightened readiness to learn as a result of a change event.

The resulting educative activity may be directly or indirectly related to the change event, and the relation may or may not be recognized by the individual ... The educative activity may include

all types of informal information seeking such as reading and talking with others, as well as more formal participation in part-time, externally sponsored educational programs. Familiar instances of increased educative activity related to change events occur in relation to the birth of the first child, the purchase of a new car, or a major job change (p.539).

Knox goes on to state that:

"There is no tested knowledge ... about when readiness to engage in educative activity is highest, when educational participation is most likely to occur, or when learning effectiveness is likely to be greatest" (p.539).

Aslanian and Brickell also examined life changes. They discuss life transitions as posing challenges and offering opportunities for growth--i.e., as precipitating learning. These researchers developed the idea of "latent learners". They theorize that adults frequently experience the need, the opportunity, and the desire to learn. But the presence of these three factors is not sufficient to actually cause the person to engage in learning activity. They propose that an "identifiable event triggers an adult's decision to learn at a particular point in time" (1980, p.37).

In discussing the relationship between life transitions and trigger events, Aslanian and Brickell consider transitions to be changes in life status which make learning necessary; that is, transitions are the reasons for learning. Triggers are events which happen in the adult's life which bring about a decision to learn at that point in time (p.38 39). "Transitions are marked by identifiable

events, and it is the timing of these events that causes many adults to decide to learn now rather than at some other point in time" (p.56). Depending on life's events, learning can precede (in anticipation of), accompany, or follow a transition.

After interviewing 744 adult learners by telephone, Aslanian and Brickell found that 83% of these persons stated that they had learned in response to a life transition. Career and family events are the major triggers for learning. Fifty-six percent and 13% respectively of the interviewees cited these as reasons for learning. Health serves as a minor trigger (cited by 5% of the persons) for learning. Two major motivations for learning in the area of health were moving into good health (or recovering from personal injury or illness) and avoiding moving out of good health (maintaining physical fitness). The triggering event can be an injury or an illness, or an event which causes the person to realize that his or her health will deteriorate/is deteriorating, and that new health behaviors are needed (p. 81-84). While Brockett and Darkenwald (in press) have noted that this study has been criticized because of a disproportionately middle-class sample and the use of certain questions that might have been leading, the findings nonetheless lend support to the notion that adults often undertake learning efforts in response to major life events.

Intentional Change

The Original Study

In The Adults' Learning Projects (1979), Tough stated that learning projects are a primary means through which adults change. One major motivation for adult learning is persons' desire to make major changes in skills, behavior, emotions, attitudes, life situations, or daily routines. There is a connection between intended learning and intentional change.

In Intentional Changes (1982), Tough expanded his focus from adult learning projects to intentional changes undertaken by adults. For this study, 150 men and women from Canada, England, and the United States were interviewed. The interview schedule which was used to guide these interviews was developed and refined over the course of interviewing an additional 180 adults. Persons were asked to describe the most important intentional change they had made in the previous two years. All other questions sought information regarding the benefits of this change, the process through which it was accomplished, and the resources used in the process.

Specifically, this study focused on highly intentional changes. Tough defined intentional change as "a change in which the person definitely and voluntarily chooses the change and then strives to achieve it by taking

certain steps" (1982, p.22). This was distinguished from unintentional change which was considered "change which is forced on the person or required by circumstances" (1982, p.48). Not included in the study were intentional responses to unintentional events such as loss of job, illness, or death of a loved one.

Tough conceptualized the intentional change process as being comprised of three tasks: choosing the change, planning the strategy, and implementing or achieving the change. He was careful to not call these tasks "steps" because many people's changes do not follow the linear progression which is implied in the word. In fact, each task might be performed several times at various stages of the change process. He goes on to describe what individuals actually do while performing these tasks. A generalized discussion of this process follows.

An opportunity, triggering stimulus, or a change in the external environment often leads persons to examine and evaluate themselves and their lives. Such a self-examination often leads to a tentative and then to a definite decision to proceed with a change (p.59). While planning the details involved in the strategy for the change, persons gather information and seek advice from others. "This can involve weeks of exploration or 10 minutes of thought" (p.63). The result of this activity is a tentative plan of strategies and resources. Once the

initial plan is underway, further strategy decisions may be needed. Some changes are very easy to achieve, others very difficult. Depending on the type of change, a wide variety of efforts may be required. Behavior modification techniques, control of environment, and highly deliberate learning episodes are a few implementation efforts. Other efforts could include looking for a job; finding a suitable home, support group or doctor; or persuading another person to cooperate with the change (p.64).

Tough found that the two primary areas of change were job/career/training, and human relationships/emotions/self perceptions. Changes in these areas comprised 54% of all intentional change. Other areas of change were: enjoyable activities (11%); residence location (10%); maintenance of home and finances (7%); physical health (7%); volunteer helping activities (3%); religion (3%); and basic competence in reading, goal-setting, driving, and other changes (3%).

It should be noted that changes in the area of physical health accounted for only 7% of all changes. Some of the changes in the area of physical health included smoking cessation, cessation of alcohol consumption, becoming physically fit through an exercise program, changing physician, and changing eating habits.

The majority of changes (71%) were rated as being of fairly large or of huge importance. Half of those interviewed had achieved 100% of their desired change; the

