ESTABLISHING A CORRELATION BETWEEN FUNCTIONAL INDEPENDENCE AND SELF-PERCEIVED QUALITY OF LIFE IN ADOLESCENTS WHO ARE PHYSICALLY CHALLENGED

THESIS

Presented to the Graduate Council of
Southwest Texas State University
in Partial Fulfillment of
the Requirements

For the Degree

Master of Science in Physical Therapy

By

Deonna Kay Fulfer, B.S.

San Marcos, Texas

May, 1999

DEDICATION

This thesis is dedicated to the loving memory of my grandmother, Mary Kathryn Simms. She believed in me unconditionally, and I know she is watching over me each day. From a very young age, Mamaw has been a true inspiration for success in my life, and I only wish she were here to share this accomplishment with me. I hope I have made you proud, Mamaw!

ACKNOWLEDGEMENTS

I would like to extend my sincerest thanks to my Thesis Committee: Chair Dr. Diana Hunter for being a true inspiration throughout this whole project and believing in me and my abilities, Dr. Janet Bezner for her expertise in research and for always offering encouragement of my individuality, and Dr. Barbara Melzer for her managerial and editorial contributions. My gratitude to the following people for helping me obtain subjects from the various school districts: Carmen Anderson (D.I.S.D.), Anu Day (S.M.C.I.S.D.), Steve Hammond (A.I.S.D.), and Cindy Fudman (A.I.S.D.). I would also like to thank my fellow classmates and David Osborn for believing in me and lending a willing ear when I needed it. Most of all, I would like to extend my deepest appreciation to my parents and to my sister, who have always provided undying support of all of my endeavors.

Thesis presented to committee on March 10, 1999

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

ESTABLISHING A CORRELATION BETWEEN FUNCTIONAL INDEPENDENCE AND SELF-PERCEIVED QUALITY OF LIFE IN ADOLESCENTS WHO ARE PHYSICALLY CHALLENGED

by

Deonna Kay Fulfer, B.S.
Southwest Texas State University
May 1999

Supervising Professor: Diana Hunter, Ph.D., P.T.

The purpose of this study was two-fold. The first purpose was to establish the reliability of the Dallas Independent School District Functional Inventory (FI) in its use within the physically challenged adolescent population. The second purpose was to investigate the presence or absence of a relationship between functional independence and self-perceived quality of life within the physically-challenged adolescent population. The instrumentation used within the study to measure this relationship consisted of the Functional Inventory (FI) and the Quality of Life Profile - Adolescent Version (QOLPAV). Each assessment tool was administered to 29 adolescents within the Dallas Independent School District, San Marcos Consolidated Independent School District, and/or Austin Independent School District who met the predetermined criteria for participation. Data analysis, through the use of the Pearson-product moment correlation coefficient, failed to show a significant correlation between functional independence and self-perceived quality of life within the physically-challenged adolescent population. The information obtained from the absence of a relationship, however, is believed to be even more beneficial in the treatment of adolescents within physical therapy and other health professions. The results focus on emphasizing individuality and encouraging health professionals to heed each patient's individuality when considering treatment of adolescents who are physically challenged.

CHAPTER I

RESEARCH PROBLEM

Introduction

Quality of life assessment is a rapidly growing area of interest among health professionals. According to Arnold Relman, former editor of the *New England Journal of Medicine*, health professionals are just entering what he referred to as the 'Era of Assessment and Accountability,' within which lies a primary focus on the quality and effectiveness of health care.[1] This statement substantiates the usefulness of assessing a patient's quality of life, as this measure is currently being considered in its ability to evaluate efficacy of care and improvements in functional abilities. The value of such a measure could be enhanced if it were found to have a direct correlation with other aspects of an individual's life, such as functional independence. The establishment or denial of this type of correlation was the primary aim of this study.

The substantiation of a correlation between functional status and quality of life measures may be especially beneficial for the physical therapist. Physical therapists, by definition of their profession, have a primary responsibility to assess the physical functioning of each patient. Findings indicative of a correlation in this area could also provide the therapist with a more clearly defined insight into the patient's self-perceptions through information regarding the patient's functional assessment. The therapist may be assisted in determining the type of treatment to be administered, the optimal duration of each treatment session, or a host of other parameters designed to individualize and

optimize each treatment session. This discovery would allow and encourage the physical therapist to more holistically evaluate and treat each patient rather than limiting the scope of treatment to the specific problem for which service is being rendered.

Halpern identified three basic domains by which quality of life outcomes are assessed within society.[2] Physical and material aspects, performance of various adult roles, and a sense of personal accomplishment/fulfillment were the three basic domains of outcome indicated within Halpern's structure.[2] The influence of the three indicators should be observed independently to determine each of their effects on the overall quality of life of the individual. The impact of physical functioning was studied and examined within the present study for its possible relationship to quality of life. Knowledge of this relationship is especially important when one is dealing with a physically-challenged population. The identification of Halpern's domains may lead one to conclude that a deficit in one of these core areas could lead to a decline in an individual's overall perception of his/her quality of life. The author of this study attempted to determine whether or not a decrease in physical functioning made a large enough impact on an individual to impair his/her self-perceived quality of life and, if it did, to what degree the physical impairment must manifest itself before exerting a significant effect.

Research Questions

In reviewing the literature, it was noted that there is a marked dearth of available information regarding adolescent self-perception of quality of life.[2] Information concerning the adolescent perspective of quality of life may assist the health care professional in the identification of issues unique to the adolescent population, possibly impacted by illness and disability, and may be utilized as a predictor of patient response to certain treatments.[3] The paucity of available documentation regarding adolescent quality of life guided the remainder of this study. The specific research questions

addressed were as follows:

1. Does the Dallas Independent School District Functional Inventory possess significant reliability within a population of adolescents who are physically challenged?
2. Within a physically challenged population, does an adolescent's self-perception of quality of life correlate to his/her level of physical functioning?

Purpose and Significance

The purpose of this study was two-fold. The primary purpose was to establish the reliability of the Dallas Independent School District Functional Inventory (FI). Pending its reliability, the secondary purpose was to use this instrument to determine the presence or absence of a significant relationship between an adolescent's level of physical functioning and the personal perspective of his/her quality of life. The relationship would be viewed as either being established or denied by comparing results on two different assessment tools. The FI, if proven reliable, was to be used to assess the adolescent's current level of physical functioning. The Quality of Life Profile-Adolescent Version (QOLPAV) measured the adolescent's self-perception of quality of life. It was surmised that information either confirming or denying a correlational relationship could provide the physical therapist with new insight into the effective treatment of the adolescent. It may afford the physical therapist increased clinical efficacy, as measured both by the patient and by administrative or governing parties. It was anticipated this data might improve the patient-therapist relationship, as well as provide an increased sense of satisfaction to both the physical therapist and the adolescent.

Hypotheses

The author expected to prove the FI reliable for use within the physically challenged adolescent population. The author also expected to establish a significant correlation between the adolescent's level of physical functioning and his/her self-perceived quality of life. Prior to this research, it was both the opinion and the observation of the researcher that the adolescent population tended to be quite judgmental of its peers, especially those with disabilities. Therefore, it was expected that a functional impairment may show a corresponding impact on the adolescent's perceived quality of life.

Operational Definitions

For the sake of clarity, the following terms are defined as they are used within the context of this study. The definition of **quality of life** was "the degree to which a person enjoys the important possibilities of his/her life."[3(p2)] The **level of physical functioning** or **functional status** was determined through criteria met upon evaluation of each subject's scores on the FI. **Adolescence** was defined as young adults 10-17 years of age. The author defined **physical disability** or **physical impairment** as any deficit in physical functioning that interfered with effective performance of the adolescent's daily activities, specifically those related to academic success. **Physically-challenged** was a descriptive term used to identify a person possessing a physical disability or impairment. In regards to data analysis, **total score** was used in reference to the incorporation of all items within a particular instrument. **Basic score** or **base score** indicated omission of the "control" and "opportunities" sections of the QOLPAV.

Assumptions

In order to assure the most reliable and understandable results, a few assumptions

were derived within the course of this study. The researcher was forced to assume the answers given to the quality of life questionnaire and the results gained from the functionality scale adequately represented the student's responses on a typical school day. It was presupposed that the personnel completing the FI adequately represented the adolescent's level of functional independence. It was assumed that the omission of one question from the QOLPAV and several narrative or incomplete items from the FI would neither help nor hinder the results of the study or the reliability of the respective instrumentation. Another assumption was that the quality of life concept applied to all persons, whether disabled or non-disabled.[4] Persons with disabilities were not viewed as an exclusionary group with a unique set of criteria for what constitutes a satisfactory quality of life. This study assumed the principle of self-advocacy, as supported by the People First organization.[4] The concept of self-advocacy emphasized the importance of allowing persons with disabilities to have a voice in the pathways of their own lives. It was also assumed that the adolescents tested within the study could provide a more accurate self-representation than could a parent, other family member, or health professional.

CHAPTER II

LITERATURE REVIEW

Overview of Literature Review

The present study, focusing on the establishment of a relationship between functional status and self-perception of quality of life in physically-challenged adolescents, was a pioneer study. The literature review primarily addresses the need for quality of life measurements and focuses on the unique challenges set forth by restricting the study to a physically impaired adolescent population. It also attempts to demonstrate the relative lack of information available regarding adolescent health as a whole.

History and Validation of Functional Assessment Measures

Obtaining information regarding an individual's level of physical functioning can provide the health care professional with a whole host of valuable information. Measures used to quantify this concept can be useful to the health care provider by supplying information about limiting task requirements, altering types of treatment delivered, or developing alternate teaching strategies.[5] Functional assessment tools have also been used to "screen, diagnose, or describe functional deficits and to determine the resources needed to allow the [individual] to function optimally in specific environments."[5(p302)] Numerous scales exist by which functional status is assessed. The lack of uniformity among these measures, and the sheer subjectivity of some, creates an arduous task for the

new researcher in selecting the appropriate measure by which to measure functionality within a given subject population.

The measurement of functional status has been a growing area of research since the development of the Barthel Index during the 1960s.[6] This instrument originally consisted of 10 items, including feeding, transfers, toileting, personal grooming, bathing, walking, ascending and descending stairs, dressing, bowel control, and bladder control.[7] The Barthel Index is believed by some to be the hallmark instrument by which other functional assessments were derived. It provided a timely assessment of physical functioning, but did not make allowances for patients with mobility impairments. Since the original index was created, a Modified Barthel Index has been established. This version consists of 15 items, broken into the two major categories of self care and mobility. This newer version allows for physical disability by adding in a new component of propelling or pushing a wheelchair.[7]

Many newer evaluative tools have been formulated, all aimed at assessing level of physical functioning. Possibly the most well-known of these instruments is the Functional Independence Measure (FIM). This instrument uses the amount of required assistance as a measurement of severity of disability.[6] It consists of eighteen items, assessing the following six major areas of function: self care, sphincter control, mobility, locomotion, communication, and social cognition.[6] The FIM is reported to be accurate in measuring levels of physical functioning in persons aged seven and above. However, most of the research using this instrument focuses on the adult population. Another example of a generally-accepted functional assessment instrument is the Tufts Assessment of Motor Performance, which assesses functional status in regards to measurement of mobility, dressing, feeding, and communication.[5]

A number of instruments available with which to measure functional status are disability-specific. For example, the Glascow Outcome Scale was developed in 1975 and

is still used as one of the most popular measures of overall outcome.[8] This scale, however, is generally believed to be specific to measuring level of functional status as it pertains to persons who have sustained some type of brain injury. Although this scale provides valuable information regarding the individual's ability to execute his/her daily activities, it is not an assessment tool that can be generalized to all disabled populations. This scale is also not reported to have long-term predictive effects of functional status.[5] Another scale aimed at assessing population-specific functional status is the Rivermead Motor Assessment, which measures gross motor functioning of patients following cerebral vascular accidents.[5]

Several advantages were reported within the literature to support using a specific functional status measure versus a generic measure. Population-specific measures were discovered to possess an increased sensitivity to change and have a greater content validity as compared to generic measures, according to a 1998 physical therapy study.[9] That same study also recognized the absence of a single generally accepted measure of functionality.[9] Another study noted the relevance of condition- or patient-specific measures and supported their emergence as practical alternatives to non-specific measures of function.[10]

Use of Functional Assessment Tools Among Children and Adolescents

Most of the above mentioned scales have focused primarily on evaluating functional status in the adult population. Many instruments are population specific to children or adolescents with disabilities. Some of these include the Pediatric Evaluation of Disability Inventory (PEDI), the Vineland Adaptive Behavior Scale (VABS), the Peabody Developmental Motor Scales , and the Pediatric Functional Independence Measure (WeeFIM).[11] For example, the WeeFIM states two primary goals of the instrument: to evaluate disability and determine an individual's level of functional

independence and to determine the amount of assistance required for physically challenged children to perform "basic life activities."[12] This instrument was derived from the adult Functional Independence Measure, but caters to individuals six years of age and younger. Other of the assessment tools mentioned above, such as the VABS, assess functional status in subjects from birth to eighteen years of age.[11]

New instrumentation to assess pediatric functionality is constantly being developed, much of it either population-specific or environment-specific. One such measure is the Dallas Independent School District Functional Inventory (FI). This instrument measures level of physical functioning, specifically as it relates to the execution of daily activities within an academic setting. This instrument includes areas of accessing the school environment, self care (feeding, toileting, and transfers), participation in instruction, special health care procedures, overall functional status, and school personnel. Although no reliability studies have yet been performed on this instrument, its specificity to function and to a non-specific school age range combine to form a promising instrument.

A primary difficulty in research lies in the decision as to which instrument would be best suited for a particular study. In a study focusing on the adolescent age range, such as this one, this decision is further compounded. The most widely used assessment of functionality, the Functional Independence Measure, has most often been used within adult populations. Although it is reported to be valid for those aged seven and over, little research has been published to support its validity within this unique age group.[6] The WeeFIM, and many other pediatric measurements like it, have age limitations below the previously defined adolescent age range (10-17 years of age).

A 1995 article published in the third edition of The Columbia University College of Physicians and Surgeons Complete Home Medical Guide opened with the following declaration: "[t]traditionally, adolescents, who are neither adults nor children, have not

received adequate attention from medical specialists."[13(p191)] Possibly because of the unique challenges and difficulties set forth by the inherent characteristics of this age group, research on adolescents is often shunned or avoided completely. Researchers have often attempted to broaden results of an adult study and modify those results to fit the adolescent population. This is an unfortunate occurrence, however, as researchers have shown that the factors contributing to the health status of children and adolescents differ from those exhibited by the adult population.[14] Thus, determining accuracy of instrumentation used in measuring level of physical functioning is an area appropriate for research and yet further complicated by the special needs of the adolescent population.

In summary, the need for more effective and user-friendly assessments with which to measure level of physical functioning is clear. There is no unified definition of "functional level" and no golden standard with which to assess this characteristic. In evaluating an individual, however, it is important to view the person as a whole entity and not simply a depiction of functional level. The researcher deems the exploration of other aspects of an individual's life, such as self-perceived quality of life, as a worthwhile step in the development of a complete assessment of the individual.

History and Validation of Quality of Life Measures

Partially due to the relative novelty of the quality of life concept, most of the research has been centered around developing a widely-accepted definition of quality of life and a valid assessment tool with which to measure quality of life. Limited research has been published in which quality of life has been correlated with other measures or concepts. A 1995 study by Wilson and Cleary recognized the small amount of research that "either explicitly conceptualizes the relationships of clinical variables to measures of health related quality of life or attempts to determine the intervening variables that mediate these effects."[15(p59)] The authors suggested that a more complete grasp on such

a relationship may assist in optimizing the effectiveness of clinical interventions for a particular patient.[15] As was previously noted, the quantity of available literature is further reduced when the scope of study is restricted to the adolescent population.[2]

In 1947, the World Health Organization[16] applied the following definition to the concept of health. It stated "health is not only the absence of infirmity and disease but also a state of physical, mental, and social well-being."[16(p465)] Despite this long-standing definition, many members of the general public still regard the concept of health as solely referring to its physical manifestations. Emotional, social, and spiritual aspects of health are often ignored. The medical profession has continued for many years to measure successful patient care in terms of mortality and morbidity rates among populations.[16] The focus has become redirected over the last several years toward utilizing the perceptions of the patients regarding their personal quality of lives as an indicator of successful patient care. Researchers are currently placing more emphasis on the quality of life the treatment renders rather than the length of years it may add to the patient's life.

Speculation exists that the term "quality of life" was not used before approximately 1975, despite some documentation of earlier efforts aimed at assessing the same basic foundation.[16] The original interest in assessing health-related quality of life grew out of a desire to determine how illness affected the functional abilities of patients.[3] More recent research in this area has been geared toward the inclusion of physical, mental, and social well-being as each relates to the effects of illness.[3]

One of the initial attempts at expanding and adapting the idea to the disabled population emerged a few years ago in The National Quality of Life for Persons with Disabilities Project.[17] This project was conducted in 1987-1988 within the United States and stemmed from a question of what quality really meant as it related to quality of services, quality of support, and quality of life.[17] This project yielded an extensive

document, within which thirty-seven conceptually ordered recommendations were made for a number of quality of life concerns as they related to persons with disabilities.[17] Throughout the project, empowerment of the individual was emphasized, as well as valuing the individual as a whole person and not simply as a manifestation of a disability. The agenda of the project emphasized methods by which researchers, professionals, and/or members of society may better understand and interact with disabled persons. It also stressed ways the United States government could assist with this effort to educate the public and improve the disabled individual's quality of life.[17] Although breakthrough projects and studies such as this one have added to the awareness and body of knowledge in quality of life research, the assessment of quality of life and how its implications relate to health professionals is a concept that bids greater substantiation.

Much controversy currently exists over what defines quality of life. The term "quality of life" has been defined by different authors as

- "a sense of personal satisfaction that is more than contentment and happiness but less than 'meaning' or fulfillment,"[18(p499)]
- "the degree to which a person enjoys the important possibilities of his/her life,"[3(p2)]
- a multidimensional concept that "includes, but is not limited to, the social, physical, and emotional functioning of the child and adolescent, and when indicated his/her family,"[19(pp1333-1334)]
- "satisfaction with one's lot in life and a sense of contentment with one's experiences of the world,"[18(p499)] and
- "the multidimensional evaluation, by both intrapersonal and social-normative criteria, of the person-environment system of the individual."[20(p6)]

It is evident that no single definition of quality of life has been generally accepted. This complicates any research conducted on this subject, because it is difficult to decipher whether or not two studies that claim to be reviewing quality of life are indeed assessing

the same concept. A study was conducted in which the compatibility of several multidimensional quality of life measures was assessed.[21] The study reflected considerable variation in purpose among the different instruments, with some focusing on the neurological aspect of quality of life, some focusing on the clinical manifestations of quality of life, and still others focusing on the underlying factors contributing to one's perception of his/her quality of life.[21] It should be noted that most of the discussion on quality of life found in journals of health professionals is actually referring to health-related quality of life. Health-related quality of life was derived to indicate the ability of an individual to perform in a variety of social roles and to find satisfaction with these roles.[1] This term placed a more direct focus on the different aspects of quality of life as they specifically relate to the concept of health. It has also been suggested that health-related quality of life typically accompanies a different population than the general term, as it commonly measures attributes of individuals already classified as sick or impaired.[16] Because of the frame of reference attributed to the typical reader of professional journals, most authors do not make the distinction between health-related quality of life and the broader concept found within the phrase "quality of life." It can thus be assumed for the purposes of this study that these two phrases can be used interchangeably.

Measuring this abstract concept does not prove to be any easier than defining it. The original aims of obtaining quality of life measures were grounded in efforts to measure self-reported health status, partially for financial purposes. One of the first developed and still frequently used measures of self-rated health status is a one question instrument devised in the 1960s, commonly referred to as the Excellent/Good/Fair/Poor scale (EGFP).[22] This is a simplified rating system that asks for a person's response to the following question: "In general, compared to other people your age, would you say your health is..." (excellent/good/fair/poor).[22(p276)] Cunny and Perri[22] surprisingly

determined this question to be a good overall measure of health related quality of life. Other studies, such as the one by Ratner et al, [22] demonstrated this one question method to solely focus on the subject's self-perception of physical health, to the exclusion of emotional, social, and spiritual dimensions of health. The EFPG is still commonly used as a measure of health status and often extrapolated to measure health-related quality of life, but the reliability of this instrument for quality of life assessment still remains in question.[22] The Ratner et al[22] study issued a warning to theorists and researchers who tend to equate health with quality of life in assuming "too much about the meaning of the term to most people and [that it] might be inappropriately encompassing too much in their conceptualizations of health."[22(p281)]

In review of more current existing literature aimed at measuring patient quality of life, several ideas were consistently identified throughout the majority of the studies. The two major themes within the literature emphasized the extreme complexity and multidimensionality of this concept and the highly subjective nature of quality of life assessment.[18] Many instruments were determined to be partially objective, but the nature of the concept of quality of life indicates a more subjective approach to its assessment. One study in particular hypothesized the reasoning behind the common subjectivity and complexity of the concept to be attributable to the differences found at the intersection of personal needs and social expectations.[2] It should also be recognized that there are almost as many instruments currently being used to measure quality of life as there are definitions of the term. One study entitled "A Critical Appraisal of Quality of Life Measurements," reported that within the seventy-five articles reviewed, 159 different instruments were used and 136 of those were used only one time.[23] This finding indicates the need for commonality among quality of life measurement tools. If researchers cannot agree on a specific tool with which to measure the concept, it is likely that further research on quality of life will have compromised validity. Some of the

quality of life assessment tools found repeatedly within the literature included Medical Outcomes Study, Functional Living Index, Sickness Impact Profile, Karnosfsky Performance Status, Index of Well-Being, and Nottingham Health Profile, in addition to many others not mentioned.[23] The diversity of instruments is accompanied by a wide variety of populations observed and measured. It is the observation of the author that a relatively new area of research typically begins with adult subjects and progresses through the generations. Possibly because of this factor, there was considerably more documentation found regarding quality of life research within the adult population than in child or adolescent populations.

A primary usage of the information obtained from quality of life measurements is to determine the cost of a specific treatment for the patient. This cost, however, often has a physiological value instead of a monetary value. As a health professional, one should be prepared to assess the situation and decide what effects a specific procedure may have on the patient's quality of life. Baker[24] suggested that "quality of life" and "longevity of life" are commonly mistaken for synonymous terms. Indeed, an individual surviving by only life sustaining devices may be increasing longevity of life but certainly not increasing quality of life. A recent American Medical Association publication noted that health-related quality of life measurement was imperative when attempting to improve the patient's life in lieu of physiological correlations of patient experience.[25] Most health professions rarely have the occasion to perform life-deciding procedures. In spite of this fact, the physical therapist certainly provides the patient with interventions which may increase or decrease the patient's quality of life. It seems appropriate to weigh the effort or pain involved in a particular intervention with the gain in quality of life the patient would enjoy as a result.

The data generated as products of such measurement tools is currently being used to predict overall patient outcomes, evaluate therapeutic interventions, and distinguish

groups of patients.[23] The determination or prediction of patient outcomes is perhaps one of the fastest growing uses of quality of life documentation found within the literature. A 1993 article published in *Physical Therapy* made the following claim:

> Although most physical therapists would agree that the ultimate goal of providing physical therapy services...is the improvement of functional status and ultimately the overall quality of life, most physical therapy research focuses on improvements in impairments (such as ROM, muscle strength, aerobic capacity) in evaluating the efficacy of care.[1(p529)]

Because of the surprising lack of knowledge among physical therapists regarding the impact that many services have on patient outcomes, quality of life is becoming an increasingly popular manner in which to evaluate the effectiveness of physical therapy services provided.[1] Results of these quality of life evaluative measures could also assist the therapist in clinical practice by determining compensation, predicting prognosis, choosing various types of treatments, indicating specifications of a patient's care, and monitoring improvements in response to care being administered.[1] Information regarding quality of life was also found to be frequently used within the health professions as a determining factor of transitional outcomes, especially within the disabled population.[2]

There have clearly been many improvements occurring within quality of life research. The concept of quality of life still needs a unified definition, but more exposure is being awarded to this valuable assessment technique. Quality of life assessment is infiltrating itself into the medical network through avenues such as quality assessment and reimbursement. One area where quality of life research is still desperately lacking, however, is within the adolescent population. This finding may be partially attributable to the unique characteristics of this age group. Regardless of the reason, the adolescent population is in need of attention by quality of life researchers.

Special Considerations with Adolescent Populations

The recognition of the relative shortage of research within the adolescent age group is beginning to surface, and adolescent research is becoming increasingly popular within the health professions. This contemporary interest may partially stem from a 1990 study which revealed an increase in morbidity and mortality rates of 10-25 year olds within the Western countries over the last several decades.[24] In 1991, the U.S. Office of Technology Assessment acknowledged the need for further research within this population and compiled three large volumes summarizing recent research relating to the health of adolescents.[24] Three major goals/themes of adolescent research were identified within these volumes. These were: 1) to expand the defining characteristics of adolescent health, 2) to place emphasis upon those things that may determine adolescent health, and 3) to identify potential strategies to encourage health promotion among adolescents.[3,24]

Although the amount of research performed on adolescent populations may have increased, it seems that the human factor has been lost through attempts to understand and categorize the adolescent. Most of the research published on adolescents was focused on prevention. While performing an initial computer search using the keywords of "adolescent health," it was noted that twenty-three out of twenty-five initial documents focused information on methods by which to deter youth from smoking, drinking, or other harmful behaviors. Although there is no doubt that this is valuable research, the lack of comparable research focusing on the adolescent's viewpoint and incorporating a sense of humanity within the research was quite astonishing. One study defined the four domains of adolescent health and morbidity to be emotional health, violence, substance abuse, and sexuality.[26] With the possible exception of the emotional health category, none of the categories considered the adolescent's perception of his/her own life. It was also observed in reviewing the literature that many of the preventative studies on

adolescents assumed an authoritative tone, denying the adolescent credit for making positive life choices.

Current research is finally moving away from the study of single predictors of poor adolescent health (i.e. smoking, drinking, sexual promiscuity).[3] The trend is turning towards a more whole-life framework.[3] One study showed definite progress within this area of research as it attempted to relate health behavior with adolescent self-esteem.[27] This study examined the relevancy of personal attributes to personal health behaviors in adolescents and stressed the importance to health care providers of learning the motivation behind health behaviors.[27] This principle may easily be applied to physical therapy and the concept of quality of life. Efforts to modify physical functioning are greatly inhibited if the physical therapist does not put forth the effort necessary to gain insight into the patient's present perception of his/her quality of life.

The quality of life movement may reveal a whole-life framework in adolescents for which research is currently striving.[2] It allows the incorporation of many complex issues surrounding this unique age group. This movement also provided adolescents with opportunities to place value on personal perceptions of quality of life. One recent model based on The Centre for Health Promotion framework identified and incorporated three major concepts into its creation.[24] The concepts of "being," "belonging," and "becoming" were identified and each of their relationships to adolescent health analyzed.[24] Briefly summarized, the concept of "being" referred to personal values, attitudes, behaviors, and knowledge of the adolescent. "Belonging" characterized the adolescent's perception of the impact which environment and its surroundings placed on his/her life. "Becoming" focused on daily activities, school activities, employment opportunities, and other opportunities for individual growth of the adolescent.[24] This model outlined qualities which should be assessed when examining the quality of life concept within the adolescent population. It also stressed the importance of each of the

three concepts and their relationship to health and to each other.[24]

A review of the quality of life literature resulted in the conclusion that the identification of an appropriate method by which to measure adolescent quality of life is quite challenging. The trend towards the development of instruments with which to measure health status, functional status, and/or quality of life in adults has resulted in several tools that have proven to be valid and quite widely used. The relative lack of comparable attempts in child and adolescent populations and the specificity of application for those that have been accepted has hampered further quality of life research within the adolescent population.[28] Quality of life assessment tools for the adolescent population must take into consideration variations in assessment, such as emphasizing preventative health behaviors and attempting to redirect measures from self-sufficiency to age-appropriateness.[14] The instruments must also allow for developmental change and ensure they are measuring concepts which are important to the appropriate age group and not the age group within which the author may reside.[29] A few instruments that have successfully incorporated these key points include the Child Health and Illness Profile-Adolescent Edition (CHIP-AE), Child Health Questionnaire (CHQ), and Quality of Life Profile-Adolescent Version (QOLPAV). The QOLPAV was chosen for use within this study, as it possessed the most relevant and desirable qualities for the purposes of the present study.

The CHIP-AE is an instrument aimed at measuring health-related issues in individuals aged 11-17.[28] It was originally developed in 1995 and has shown promising results for use within the adolescent population.[28] The CHIP-AE consists of six major domains and twenty subdomains. The six major categories are "discomfort," "disorders," "satisfaction with health," "achievement," "risks," and "resilience."[28] Although this instrument has been viewed as a modified quality of life measure, the researcher felt this instrument to be deficient in the assessment of true adolescent quality of life. This

opinion was generated because the author felt the CHIP-AE aimed more specifically at assessing the child's health status rather than multidimensional quality of life. An additional reason this instrument was not chosen for use within the present study is related to its lengthy 107-153 item structure. Given time constraints and method of administration, this instrument did not seem practical for use within this study.

The CHQ is another instrument used to assess physical and psychosocial levels of functioning and overall well-being in children aged five and above.[30] It may be presented in two forms: a 50-item parent report form or an 87-item child report form.[30] This instrument assesses 14 different concepts, yielding an overall health profile of each child.[30] Although the validity and reliability studies show promising use of this instrument, it was not chosen for use within the present study due to the increased expense to the researcher of purchasing a user's manual and other necessary data interpretation tools. In addition, the author desired instrumentation more specific to the adolescent age range and more specific regarding measurement of quality of life.

Some objective measures of quality of life have been constructed, such as Ditesheim and Templeton's "Quantitative Assessment of Quality of Life."[29] Quantitative measures are typically disease or disability specific, as in the case of the aforementioned instrument.29 Because a primary aim of this study was to evaluate subjective quality of life, objective measures such as the Qualitative Assessment of Quality of Life were deemed inappropriate.

Another variable adding to the difficulty in measuring adolescent quality of life is the perspective from which the report was acquired. Although the few available instruments claimed to all measure quality of life, the response was obtained from different perspectives. This issue raised the question as to whose perspective is the most valid and reliable: the parents', the health professionals', the peers', or the child's.[29] Studies by Neff and Dale[31] have provided evidence supporting the existence of

considerable discrepancy between perceptions of the expert and the child regarding concepts important to quality of life. One study emphasized the creation of most medical technologies and assessment techniques far in advance of an appropriate understanding of how they may impact a child's emotions and quality of life.[32] The results of this study also supported a marked difference between parent and child when asked to rate items perceived as worrisome to children.32 The perspective to be utilized within a study may depend on the design of the instrument and the age of the individual. Some instruments, such as the CHQ, offer both a parent report form and a child report form.[30] Various opinions exist as to the age at which the child has the ability to accurately report self-perceptions regarding health and quality of life. It is also interesting to note the relative lack of research exploring stage-related or age-related development of a youngster's understanding of health and illness.[33] Perrin and Garrity[34] reported that children do not typically begin to gain an understanding of the multifaceted concept of illness until approximately the age of 10 to 12, the point at which the child enters Piaget's formal operational stage. It is important for the clinician to remember this developmental milestone, as children may have altered perceptions of their disabilities until this age. It is the opinion of the author that the most reliable report lies in self-report if the subject demonstrates adequate cognition with which to understand and answer the questions. Lindstrom[24] supported the need for the perception of the adolescent found in self-reporting, as he believed it to be the absent key factor in the measurement of adolescent quality of life. In reference to pediatric quality of life, Peter Rosenbaum et al[29] noted that "the techniques to measure quality of life are readily available, but the challenge remains to decide *whose* judgments, concerning *what* functions should be values in the quality of life measure."[29(p206)] Further literature is available to support the use of self-perception in quality of life research, as it has been stated that subjects with low perceptions of health show an increased risk of mortality as compared to those

individuals perceiving their health as good.[34]

The previously mentioned difficulties encountered by adolescent quality of life researchers are exponentially compounded when dealing with an impaired population. A 1990 study entitled "Health Status of Well vs. Ill Adolescents," utilized a self-rated health and illness measurement tool to compare adolescents labeled as well, acutely ill, and chronically ill.[35] It showed that some children, although diagnosed with cancer or another chronic illness, appeared to be equally "healthy" to well children.[35] The study also emphasized the need for further research on the extent to which a relationship exists among various elements of health as related to various forms of illness. This article emphasized that "virtually nothing is known about the extent of compromise of functional status or health-related quality of life among individuals afflicted with repeat acute conditions."[35(p1251)] The author of this study believed that the most efficacious way in which to correct this lack of knowledge was to correlationally study individual illnesses, forms of impairments, or disabilities as they relate to perceptions of youngsters regarding quality of life.[35] A 1996 study offered a comparison of a sample of physically disabled adolescents with a sample of non-physically disabled adolescents in their responses to the Health Behaviours of School-Aged Children (HBSC) assessment tool.[36] This study focused on various psychosocial aspects of health in an attempt to identify any differences among the two sample groups. The results of the study supported similarities between the two groups in areas of body image, family relationships, attitudes toward school, and number of friends.[36] The authors of this article also reported findings suggesting that adolescents with physical disabilities had an equally high level of self-esteem as those without disabilities, a correlation that has been refuted by other studies.[36] This study's results supported lower perceptions by the disabled child in the areas of social interaction, dating, development of intimate friendships, knowledge about sexuality, and academic aspirations.[36] A study such as this one deserves attention from researchers within the

realm of quality of life. Perhaps a more direct correlation between quality of life and another personal variable such as level of physical functioning should be investigated. In any instance, it is clear that much room for growth is evident within adolescent quality of life research.

Implications for Further Quality of Life Research

It cannot be denied that the health needs of children and adolescents today are very different from those of children and adolescents fifty years ago. One pediatrician vividly demonstrated this progression as he recalled witnessing the effects of poliomyelitis on children in the 1950's and the later development of measles and mumps vaccines that radically changed the lives of many children and their families.[37] The field of medicine and related services are constantly undergoing changes and revisions in an attempt to make the population healthier. The new epidemics jeopardizing adolescent health were noted in one study to be HIV, violence, and sexually transmitted diseases.[27] Another concern becoming prevalent within the health fields is that of quality of life. This concept is especially important to improve understanding of the younger population of children and adolescents. If health professionals can assess the impact of physical impairments or even certain treatments on the adolescent, they will likely have a more complete understanding of the young person. One study whose focus was on the needs of children in the 21st century stated that these needs could confidently be summed in the following statement:

> [The needs of the 21st century children] will be the same as today: the need for loving adults, usually parents; a biological, social, and environmental milieu that includes access to integrated and coordinated health and human services; a supportive and safe neighborhood and community; a school system that allows each child to achieve his or her full potential; and the promise of a job as an adult that will pay a living wage and yield a sense of satisfaction.[37(p811)]

Although the assessment of quality of life and its relationship to other clinical variables is a small part of the complete treatment of the adolescent, each part adds probability towards a successful and happy life for that young person.

Functional status and self-perceived quality of life are two major areas impacting an individual's overall being. Moreover, deficiencies in either of these areas may be even further affected if they present themselves during the critical years of adolescence. Irony exists within the literature, however, as noted by the marked deficiency of research in both of these areas within the adolescent population. In as much as former studies have focused on the establishment of a relationship between physically challenged and non-physically challenged adolescents, the current study narrowed its focus in an attempt to establish a direct correlational relationship. It attempted to isolate the variable of physical functioning as it related to the adolescent's overall perception of quality of life, perhaps yielding a continuum of sorts.

CHAPTER III

METHODS

Sample

The sample utilized was a sample of convenience. Subjects were obtained from the Dallas Independent School District, San Marcos Consolidated Independent School District, and Austin Independent School District, via a contact administrator from each district. The final number of subjects appropriate for use in this study totaled 29. All of the subjects were between the ages of 10 and 17, and all possessed some degree of physical impairment that interfered with their daily execution of normal activities within the academic setting. Each subject had the ability to read and/or understand the questions presented in the quality of life questionnaire, assuming all questions were written at an approximate fourth grade level of comprehension. Students who could cognitively understand the question being asked but could not document responses on paper were included with modifications made, such as permitting the therapist to verbally administer the questionnaire and manually documenting responses for the student. Adolescents displaying severe physical disabilities were not excluded from the sample group, as long as their impairments did not interfere with their abilities to interpret the information being presented. Therapists administering the test were allowed to determine and exclude those individuals whose comprehension level fell below the required fourth grade level and/or those whose severe physical impairments prevented them from responding to the

information presented. Subjects falling either above or below the age requirements set forth above were also excluded from the study. A table of grade level distribution for the 29 subjects is depicted below. Other information regarding students' diagnoses, gender, social status, etc., was not obtained by the author.

GRADE LEVEL	S.M.C.I.S.D	A.I.S.D.	D.I.S.D.	TOTAL NUMBER OF SUBJECTS
4th grade	0	0	2	2
5th grade	2	0	0	2
6th grade	0	0	1	1
7th grade	0	0	4	4
8th grade	0	0	7	7
9th grade	0	1	3	4
10th grade	0	0	3	3
11th grade	0	0	3	3
12th grade	0	0	3	3
TOTAL BY DISTRICT	2	1	26	29

Table 1: Grade Level and District Distribution of Subjects

Research Design

A correlative research design was used within the confines of this study. Specifically, the study followed a non-experimental quantitative research model. This design was chosen because there was no manipulation of an independent variable, as well as the fact that control and randomization were not utilized within this project. The non-experimental research design was best suited for a model such as this one, in which two or more variables were assessed and a resultant correlation established. The variables correlated were those regarding overall level of physical functioning and self-perceived quality of life, as defined within the "Operational Definitions" section of this document.

Instrumentation

The instrument chosen to measure level of functional independence was the Dallas Independent School District Functional Inventory (FI), created by physical therapists, occupational therapists, and other special education personnel within the Dallas Independent School District (Appendix A). This instrument is more population-specific as compared to the Functional Independence Measure, because its scope focuses on the adolescent's level of functional independence specifically as it pertains to the academic setting. The functional assessment used in this study contained items addressing the following areas: accessing the school environment, self care (feeding, toileting, and transfers), participation in instruction, special health care procedures, overall functional status, and school personnel. Each item was rated on a randomly assigned Likert scale, with a score of "1" indicating the child was completely independent with the indicated item and "5" meaning the child was completely dependent on another person for the completion of that item or task. A score of "0" was used to indicate the item did not apply to that particular child. The "school personnel" category lent itself to a narrative type of response and was, therefore, not objectively measurable with the use of a traditional Likert scale. In addition, the "overall functional status" item was not scored on >50% of the completed inventories. The reason for incompleteness in this category was unknown, but was assumed to be a mere oversight on the part of the participating therapists. Due to the difficulty in categorizing and objectifying the above-mentioned two categories, these areas were deleted from use in the data analysis. Therefore, the possible range of scores for the purposes of this study was from 26 (independent with all activities) to 130 (dependent with all activities).

The Quality of Life Profile - Adolescent Version (QOLPAV), authored by Dr. Dennis Raphael et al,[38] was the instrument chosen to measure quality of life (Appendix B). This instrument contained 54 items to be answered by the adolescent, divided into

the three main areas of "being," "belonging," and "becoming."[38] Within the concept of "being", the instrument included subcategories of physical being, psychological being, and spiritual being.[38] Within the concept of "belonging", it included physical belonging, social belonging, and community belonging.[38] Similarly, the concept of "becoming" included practical becoming, leisure becoming, and growth becoming. Because the original authors surveyed a number of adolescents during the creation of the instrument to find out what was important to them, the QOLPAV had a strong emphasis on content validity. The initial reliability studies, utilizing a Chronbach alpha score, showed coefficients for the overall measure and independently for the three major areas of "being," "belonging," and "becoming" to exceed 0.80 in every instance.[38] Based on the pilot study conducted, one question was omitted, and a score of "0" was calculated for that question upon the analysis of raw numerical data. With the above stated omission, scores for the total QOLPAV ranged from a possible -512 to +620. Base QOLPAV scores ranged from a possible -530 to +530. Each of the subcategories of "control" and "opportunities" had potential score ranges of +9 to +45.

A high score on the FI indicated a low level of functional independence, while a high score on the QOLPAV indicated a high self-perceived quality of life. For this reason, the r values gathered from the comparison of these two instruments yielded negative correlations.

Procedure

Approval from the Institutional Review Board at Southwest Texas State University was obtained in March 1998. Following the approval, a pilot study was conducted on a convenience sample of 15 physically able adolescents aged 10-14. The purpose of conducting this pilot was to determine comprehension levels of the QOLPAV within the younger age range. The initial validations studies for the QOLPAV were

performed on adolescents aged 14-20. Since the age range chosen for the purposes of this study was slightly lower, the researcher felt it necessary to make sure all questions were understandable at this age range. Due to the results of the pilot study, one question regarding "being smart about sex" was omitted from use within the remainder of the study.

Initial administrative approval was obtained from San Marcos Consolidated Independent School District (S.M.C.I.S.D.) in April 1998. It soon became evident that gaining complete approval from any of the above mentioned school districts would be a much lengthier process than was anticipated. Over the next six months, follow up was completed by phone calls, faxes, and letters to S.M.C.I.S.D. administration. Simultaneously, the researcher was working, through the use of a contact personnel, to gain approval from the Austin Independent School District (A.I.S.D.). In October 1998, final approval was secured to test two children in one school within the S.M.C.I.S.D. Those from other schools could not yet be tested, despite their identification, because of miscommunication between the researcher and school administrators.

A special education coordinator within the Dallas Independent School District (D.I.S.D.) agreed to distribute the FI and QOLPAV to as many students as possible within the four week allotted time frame in December1998. This contact person proposed the idea to physical therapists and occupational therapists within the D.I.S.D. They agreed to administer the QOLPAV to adolescents whom they regularly treated and who met the predetermined criteria for participation in the study. The participating therapists then attached an identification number to the student and sent the completed questionnaires for analysis with the student's corresponding FI. The data was compiled and analyzed for each subject. A similar procedure was undertaken for the two subjects from the San Marcos Consolidated Independent School District and the one student from the Austin Independent School District. Although a physical therapist was available to administer

the questionnaires to the two San Marcos subjects, the researcher administered the tests to the Austin subject.

There were no physical risks to the subjects within the administration of this study. Although the researcher is not an expert in the field of psychology, no residual psychological detriment appeared nor was expected to be encountered as a result of this study. Because the students were identified only by number and because external personnel were not utilized for the administration of either instrument, parent permission forms were deemed unnecessary.

CHAPTER IV

DATA ANALYSIS AND RESULTS

Data Analysis

Reliability testing of the Dallas Independent School District Functional Inventory (FI) was determined by calculating the Chronbach alpha coefficient of 45 previously completed instruments, utilizing adolescents not related to this study. With an n = 45, a Likert scale was applied to the categories of the FI (1 = independent; 5 = dependent) to establish a numerical value for the non-numerically established scales on the 27 different items assessed (Appendix A).

A Pearson product moment correlation coefficient was calculated for the purpose of examining the relationship between the FI and the Quality of Life Profile-Adolescent Version (QOLPAV). A total of 30 sets of questionnaires (FI and QOLPAV) were obtained, with only one rendered too incomplete to be useful.

Raw numerical scores for both the FI and QOLPAV were examined and correlated for each subject (Appendix C). When analyzing raw numerical scores, items left blank or with a "DK" or "NA" response were assigned a score of "0" on both instruments. Neither the QOLPAV nor the FI provided a strategy for dealing with questions left blank by either the subjects or those administering the tests. Reasons for particular items being left blank by respondents was not known. For this reason, the author did not want to penalize a respondent for an item left blank by assuming that item

was not important to the individual. In addition, the QOLPAV offered the subject a potential response of "don't know" and "does not apply," but did not offer the person scoring the questionnaire a method by which to numerically quantify these responses. For the purposes of calculating a percentage score, items with either "DK" or "NA" were omitted from the total score and treated as if the question were left blank. One reliable handbook of clinical research advised the researcher to avoid the use of zeros in coding for missing data.[39] Based on this information, a percentage score was calculated for each student in addition to the adolescent's raw numerical score (Appendix C). The percentage score was devised by dividing the respondent's total score by the maximum possible score for only the items answered. The percentage scores were then used to compute the correlation coefficient in a similar manner as was done with the raw scores.

Correlational analysis reflects covariance, or the degree of consistency within the distributions of the two measurements.[39] It was noted within the literature that significance of correlation coefficients cannot establish the presence of a strong relationship between the two variables.[39] It can, however, demonstrate that the correlation found is unlikely to be the result of chance.[39] Several different combinations of variables were analyzed for possible correlations between instruments. The overall basic scores of the QOLPAV, which excluded the "control" and "opportunity" sections (base score), were correlated with the total FI score. Similarly, a comparison was done with the inclusion of the "control" and "opportunity" sections of the QOLPAV. The possibility of a significant correlation between an adolescent's level of control felt over his/her quality of life and the individual's determined level of physical functioning was examined. Secondly, a correlation coefficient was calculated to determine whether an adolescent's opportunities to improve quality of life corresponded to the individual's level of physical functioning. Individual items of the QOLPAV were examined for possible correlations to the FI, as were subscale scores. These analyses were performed

using both raw numerical scores and percentage scores. Internal consistency estimates were also calculated for each instrument, utilizing a Chronbach alpha coefficient. All data analyses were done using SPSS Base Version 8.0 IBM software, run on a personal computer. The level of significance for all analyses was set at $p<.05$.

Results

Data regarding level of physical functioning and self-perceived quality of life was obtained through the use of two different instruments. The initial reliability study for the FI (n=45) showed an alpha value of 0.9672. Internal consistency studies revealed an alpha of 0.9627 for the FI and 0.9503 for the QOLPAV. Histograms were constructed to visualize the frequency distribution of total raw scores and total percentage scores for each instrument. Using percentage scores, the QOLPAV rendered a mean of 0.59, with a standard deviation of 0.22 (Figure 1).

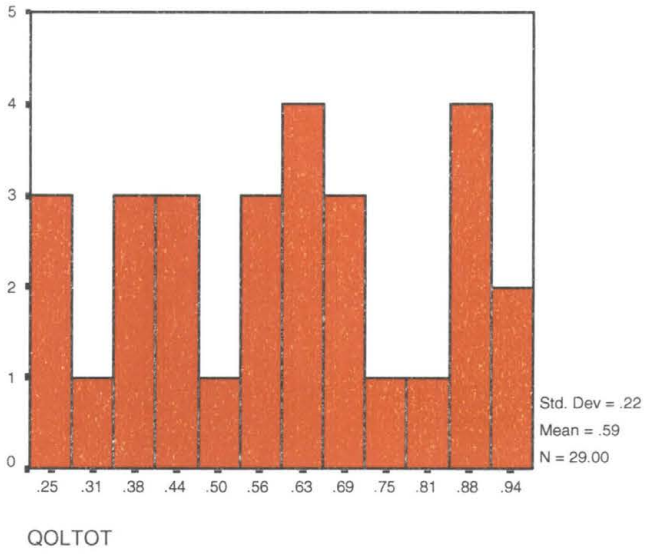


Figure 1: Percentage Score Distribution for Total QOLPAV

Using raw numerical scores, the QOLPAV total resulted in a mean of 362.3, with a standard deviation of 136.89 and scores ranging from 581 to 123 (Figure 2).

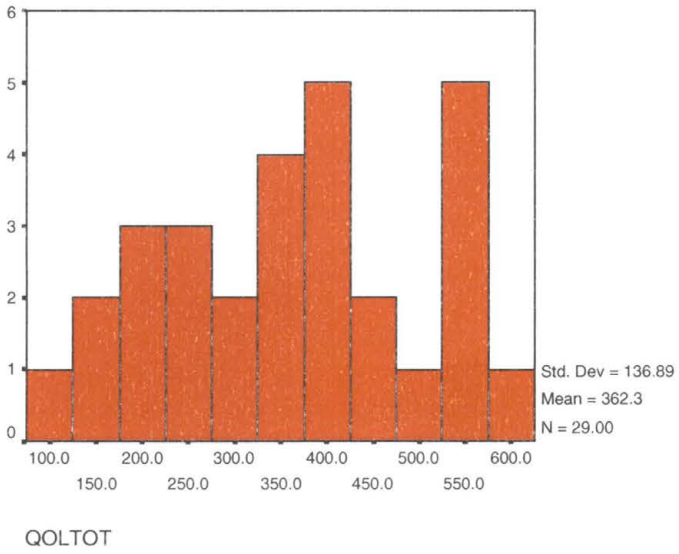


Figure 2: Raw Score Distribution for Total QOLPAV

Histograms were not included for QOLPAV base scores, secondary to their lacking significant variation from those of QOLPAV total scores. The FI rendered a mean percentage score of 0.32 with a standard deviation of 0.24 (Figure 3).

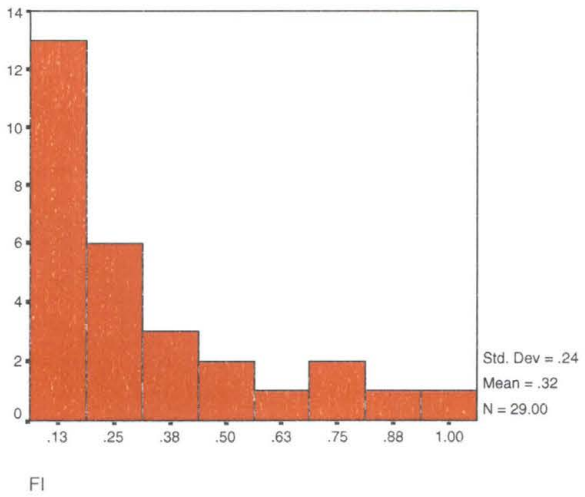


Figure 3: Percentage Score Distribution for FI

Similarly, the raw total scores of the FI revealed a mean of 41.1, a standard deviation of 29.73, and a score range of 115 to 17 (Figure 4).

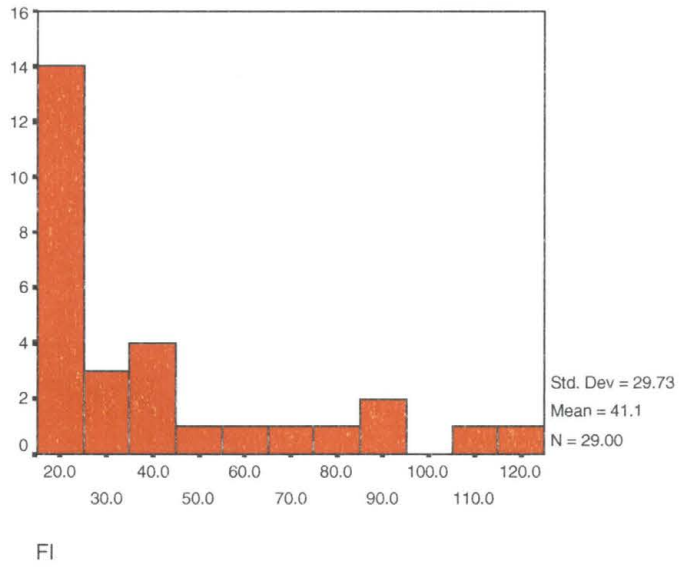


Figure 4: Raw Score Distribution for FI

The quantitative measures gained from each instrument were used to test the hypothesis that an adolescent's perception of his/her quality of life is correlated to the present level of physical functioning within a physically challenged adolescent population. The overall raw numerical scores from each instrument were subjected to the Pearson-product moment correlation coefficient and revealed r values between -0.170 and -0.191 (not significant). A scatter plot of total scores was created to illustrate the low level of relationship between the two variables in question (Appendix C). The strength of the correlation did not change significantly after the scores were converted into percentages in an attempt to compensate for items left unanswered or those answered in an unclear manner. These percentage correlations, performed in the same manner as the raw scores above, showed r values between -0.172 and -0.191. A relatively weak, but significant correlation was found upon comparison of the "control" section of the

QOLPAV with the FI. This correlation yielded an r value of -0.467, significant at the $p<.05$ level. A scatter plot was also created for this association, in efforts to create a pictorial of the correlation (Appendix C). This figure indicates a correlation between the adolescent's feelings of control over his/her quality of life and the adolescent's level of functional independence. An insignificant correlation existed between the adolescent's perception of opportunity to improve personal quality of life and level of functional independence, as it produced an r value of -0.152. Individual items from the QOLPAV were also correlated with total FI scores. Many of these questions showed significant correlations with other items within a particular subcategory, but no single quality of life variable was shown to have a direct correlation to level of physical functioning. In addition, each subcategory of the QOLPAV was examined for group correlations to total FI scores. No significant correlations were found among any of the subcategories (Appendix C).

CHAPTER V

DISCUSSION AND CONCLUSION

Discussion

Within this study, the existence of a relationship between level of physical functioning and self-perceived quality of life among physically-challenged adolescents was explored. The results of the study did not illustrate a significant relationship to support the hypothesis that quality of life and level of physical functioning are related in physically challenged adolescents. Just as the establishment of a correlation between these two concepts could prove beneficial for the physical therapist, the absence of such a correlation may contribute even more valuable information to the health professional.

It is important for health professionals to promote the most advantageous quality of life possible for the adolescent. Previous literature has indicated that adolescents with physical disabilities possess a higher likelihood of developing "secondary disabilities" later in adulthood.[36(p157)] Secondary disabilities include further health related complications, many of which are associated with lifestyle.[36] These types of impairments have a high likelihood of affecting other areas of the individual's life, such as level of function or quality of life.[36] Because a significant link between quality of life and functional independence was not identified in the current study, the challenge to the clinician remains to positively affect the progression of these "secondary disabilities."[36(p157)]

Another study documented children with physically limiting diseases, such as

cerebral palsy or spina bifida, to have low levels of self-confidence and self-esteem.[36] Self-esteem and self-confidence are two concepts which are thought to highly impact overall perceptions of quality of life. Given this piece of information, the results of the present study seem to be in sharp contrast with the results of the above mentioned study. Perhaps these disparate findings can be explained by the fact that children in the present study were more functionally independent because they were being educated in the public school system. Another possibility for the disparity is that the percentage of adolescents surveyed in the present study who were born with their particular disability versus those who acquired the disability at a later age is not known. It is possible that the adolescent possessing a congenital defect may not have an altered sense of quality of life, because he/she knows no different lifestyle than the one incorporating the disability. It is also possible that levels of self-confidence and self-esteem do not impact quality of life as one is led to believe. Whatever the assumptions made, the results of the present study appear to refute the existence of a relationship between functional independence and self-perceived quality of life within a physically challenged adolescent population.

The present study leads one to believe that, of the quality of life indicators established by Halpern, physical functioning may not have a large enough impact on quality of life alone to substantially alter one's perceptions.[2] Peter Rosenbaum[29] noted the real challenge in measuring quality of life within a pediatric population is in deciding "*whose* judgments, concerning *what* functions should be values in the quality of life measure."(p206) The present study supports this difficulty, refuting the fact that level of physical functioning is the sole contributing factor impacting the adolescent's quality of life. In a somewhat similar study the authors pointed out that challenged children are not "uniformly disadvantaged and, in some aspects, may appear equally 'healthy' to well children."[35](p1251) The lack of an identified relationship between quality of life and functional independence within this study promotes the advocation of individuality of

each patient within all health care settings, specifically that of physical therapy. If a relationship was established it may have led some health professionals to believe that they may safely assume a child's general viewpoint of him/herself is based primarily on physical abilities. This assumption could potentially be detrimental to the adolescent patient and may result in a lowering of the adolescent's perceived quality of life, due to the failure to recognize other factors which affect quality of life. If a trained professional is making such generalized assumptions regarding an individual's personal characteristics or abilities based on a single piece of information, it is likely the adolescent will expect this behavior from others.

Upon close examination of the results of the present study, one must recognize the relatively high average score of the QOLPAV (mean = 362.3) and the relatively low average score of the FI (mean = 41.1). The skewing of scores toward a more physically independent population must be considered in examining the implications of this study. It should also be noted that the results cannot be generalized to those adolescents functioning below a fourth grade cognition, as this was a prerequisite for understanding the QOLPAV. Therefore, the study proposes that a severely physically impaired adolescent who is fairly physically independent and who has average cognitive ability may, indeed, possess a high quality of life self-perception. One study summarized similar findings by stating that, "[D]despite the growing literature on the relationship between chronic illness and functional status, little is known about the extent to which various domains of health are related to different types of illness."[35(p1251)]

Results of the present study make literary contributions in a number of different areas. It primarily contributes to the relative lack of information regarding the adolescent population, and specifically quality of life research within that age group.[2] It was previously noted in the literature that adolescents have not traditionally received adequate attention from the medical community.[13] This study provides a contribution to

the relatively novel yet encouraging trend in research - that of moving away from single predictors of adolescent health and taking into consideration the adolescent's self-perceptions regarding quality of life.[3,27] It incorporates self-reporting, and therefore addresses Lindstrom's[24] observation that the lack of self-report within the adolescent population is often the missing piece in adolescent quality of life research. This study also incorporates the human factor into adolescent research, allowing the individual to take credit and responsibility for his/her choices regarding quality of life. It provides quantitative and qualitative support for two of the three major goals of adolescent research, as identified in 1991 by the U.S. Office of Technology Assessment.[3,24] Those goals addressed within the present study are as follows: 1) to place emphasis upon those things that may determine adolescent health and 2) to identify potential strategies to encourage health promotion among adolescents.[3,24] Both objective and subjective support for quality of life research as it pertains to physical therapy are being demonstrated. This demonstration may be partially due to quality of life becoming an increasingly popular manner in which to evaluate efficacy of physical therapy services provided.[1]

Above all, the results of this study promote practice in individuality. Rarely can generalized statements be made regarding a group of people, simply because they possess some similar characteristics. The results support the theory of the National Quality of Life for Persons with Disabilities[17] concept of valuing each individual as a whole person and not as a manifestation of a particular disease or impairment. Each person has his/her own motivation, own sense of security, own strengths, and own weaknesses.

> Thus while the influence of standard risk factors cannot be ignored, individual perceptions are also important because they may actually precede overt manifestation of illness or wellness and may therefore be fertile ground for early intervention or enduring celebration, respectively.[34(p209)]

Delimitations and Limitations

Several delimitations were encountered in this study. The realm of the study did not indicate random sampling to be feasible. For this reason, one delimitation placed on the study was the use of non-randomized sampling. Further, the researcher was not able to monitor the administration of the instruments to secure uniformity of scoring. The researcher was also not able to ensure the level of honesty with which the answers were given.

The major limitations placed on the study revolved around time and availability of subjects. Availability of subjects meeting the predetermined criteria for the study was an identified limitation. A second major limitation was the inability of the author to personally administer the instrumentation, due to school district administrative restrictions.

Implications for Further Research

The present study exemplifies a unique deviation of the current trend towards quality of life research by attempting to correlate the concept with another aspect of the individual's life. Further research is needed, especially within the adolescent population, to solidify the presence or absence of relationships between quality of life and other aspects of an individual. The present study, focusing on the relationship between level of physical functioning and self-perceived quality of life, should be replicated utilizing a larger and more randomized sample size. It would also be worthwhile to conduct the study with the same parameters and the use of different assessment tools for each of the variables. Overall, the present study leads to many avenues of quality of life research for future researchers to explore.

Conclusion

The findings of this study may actually prove more beneficial to the profession than if a significant relationship had been identified between levels of functional independence and self-perceived quality of life. While there is valuable usage of information implicating relationships among physical impairments or emotional indicators and quality of life within a particular subject, there is possibly more valuable information to be implied from its absence. This finding implores every health professional to treat each patient as an individual. It hopefully encourages health care workers to heed the special needs of the adolescent population and to encourage its members to maximize their quality of life, despite adverse physical limitations. Marian Wright, a twentieth century humanitarian, made the following statement regarding the positive encouragement of young people, as published in Santrock.[40] "Standing up for children is the most important mission in the world. If Rosa Parks can sit down for freedom, you can stand up for children."[40(p16)] If health professionals can realize that physical impairments impact every young person differently, they will likely have a more complete and holistic view of each patient. Such a viewpoint is certain to improve the quality of services, and perhaps even the quality of life of each patient encountered.

APPENDIX A: D.I.S.D. FUNCTIONAL INVENTORY

OCCUPATIONAL/PHYSICAL THERAPY FUNCTIONAL INVENTORY

Student _____ ID#_____ DX_____ School _____

Grade _____ Instructional Program _____ Date_____

Therapist _____

	Does Not Apply	Independent 100%	Minimal Assist-75%	Moderate Assist-50%	Maximum Assist-25%	Dependent
Accessing the School Environment						
___ Access the school building						
___ Access classrooms						
___ Access work sites within classroom						
___ Place self at desk						
___ Access lunchroom						
___ Access bathroom(s)						
___ Access gym						
___ Manage stairs/ramps						
___ Access bus						
___ Adaptive equipment						

Number of times student moves between classes, A.M._____ P.M._____

	Does Not Apply	Independent 100%	Minimal Assist/75%	Moderate Assist/50%	Maximum Assist/25%	Dependent
Self Care						
Feeding						
Lunch line						
Carrying tray						
Feeding						

Number of times per day student eats at school _____

Toileting						
Transfers						
Manages clothing						
Diapering						
Catheterization						

Number of times per day student toilets at school _____

Transfers						
To/From Wheelchair						
To/From Adap.Equipment						

Number of times per day student requires transfer _____

Participation in Instruction						
Preparing materials for use						
Writing/Keyboarding						
Constructing, including cutting,pasting,etc.						
Carrying books						

Special Health Care Procedures

	Does Not Apply	Independent 100%	Minimal Assist/75%	Moderate Assist/50%	Maximum Assist/25%	Dependent
Tube Feeding						
Suctioning						
Other						

Number of times student requires special procedures _____

Student's Overall Functional Status _____

_____

School Personnel

How many Special Education teachers assistants are currently assigned to this campus? _____

In what instructional arrangements? _____

How many Special Education teacher assistants are assigned to the student's class(es)? _____

How many students are enrolled in student's Special Education class(es)? _____

Other _____

_____

_____

_____

_____

APPENDIX B: QUALITY OF LIFE PROFILE-ADOLESCENT VERSION

Department of
Public Health Sciences

FACULTY OF MEDICINE,
UNIVERSITY OF TORONTO

12 Queen's Park Cres West,
Toronto, Ontario,
Canada, M5S 1A8

April 14, 1998

Ms. Deonna Fulfer
1011 Wonder World Drive, Apt.#1107
San Marcos, TX 78666

Dear Ms. Fulfer:

I grant you permission to use the Quality of Life Profile - Adolescent Version in your research and to make copies of it as appropriate for your needs.

Best of luck with your research.

Sincerely,

Dennis Raphael
Associate Professor

Tel 416/978-5660/8606
Fax 416/978-8299/2087

Quality of Life Resources
Adolescent Series. Item #6-1
Quality of Life Research Unit
Centre for Health Promotion
University of Toronto

Quality of Life Profile
Adolescent Version

Centre for Health Promotion
University of Toronto

School of Nursing
Laurentian University

January 1996

Correspondence to: Dennis Raphael, Ph.D., Associate Professor,
Department of Behavioural Science
University of Toronto, McMurrich Building
Toronto, Ontario M5S 1A8

What is Quality of Life?

Quality of Life, in simple terms, means:

"How good is your life for you?"

To answer the question "How good is your life for you?" you are asked to focus on yourself and rate some parts of your life. These are all rated on a simple scale of 1-5. These parts are divided into 9 areas we think are part of the lives of all people.

These nine areas are:

1. Who I Am
2. My Thoughts and Feelings
3. My Beliefs and Values

4. Where I Live and Spend My Time
5. The People Around Me
6. My Access to Things

7. My Daily Activities
8. What I Do For Enjoyment
9. What I Do To Improve or Change

First, you will rate how important these parts are to you and how satisfied you are with them. Then, you will indicate how much control you have over them and whether there are possibilities for improvement or change. This sounds like a lot, but you will find that you can rate them rather quickly.

Instructions

Importance

1. The first question to ask yourself is: How *important* is this to me in my life?

If you need to, think about it this way: How much do I care about this?

Rate the items from 1 to 5, using the rating scale below. Rate items 5 if they are extremely important to you; rate items 3 if you think they are somewhat important; rate items 1 if they really have no importance in your life, or are not relevant.

Satisfaction

2. The second question to ask yourself is: How *satisfied* am I with this part of my life?

If you need to, think about it this way: How happy am I with this part of my life?

Rate items 5 if you are extremely satisfied with this part of your life; rate items 3 if you think you are feeling somewhat satisfied with this part of your life; rate items 1 if you are not satisfied at all.

Answer the question in terms of your life as it is right now.

If you feel that the question does not apply to you, place "N/A" (Not Applicable) in the answer space.

If you cannot answer the question because you are very unsure, place a "DK" (Don't Know) in the answer space.

RATING SCALE				
1	2	3	4	5
NOT AT ALL	A LITTLE	SOME	QUITE A BIT	A LOT

Please complete your ratings as honestly as you can.

RATING SCALE				
1 NOT AT ALL	2 A LITTLE	3 SOME	4 QUITE A BIT	5 A LOT

	How Important To Me Is:	How Satisfied Am I With:
My body and my health:		
1. Being smart about sex.	____	____
2. Making healthy choices (alcohol, drugs, smoking).	____	____
3. My appearance - how I look.	____	____
4. My exercising and being fit.	____	____
5. My physical health.	____	____
6. My nutrition and the food I eat.	____	____
My thoughts and feelings:		
7. Being free of worry and stress.	____	____
8. How I feel about myself.	____	____
9. Knowing who I am.	____	____
10. Knowing where I am going.	____	____
11. Thinking and acting independently.	____	____
12. Trusting others.	____	____
My beliefs and values:		
13. Feeling part of things.	____	____
14. Feeling that life has meaning.	____	____
15. Having hope for the future.	____	____
16. Having religious or spiritual beliefs.	____	____
17. Helping others.	____	____
18. My own ideas of right and wrong.	____	____

RATING SCALE				
1 NOT AT ALL	2 A LITTLE	3 SOME	4 QUITE A BIT	5 A LOT

The daily things I do:	How Important To Me Is:	How Satisfied Am I With:
37. Doing volunteer work for others.	____	____
38. Looking after my appearance and hygiene.	____	____
39. Studying and doing homework.	____	____
40. The chores I do at home.	____	____
41. The things I do in school.	____	____
42. The work I do at a job while still in school.	____	____
The things I do for enjoyment:		
43. Attending public entertainment	____	____
44. Having hobbies and personal interest.	____	____
45. Indoor activities (e.g., TV, reading, etc.).	____	____
46. Outdoor activities (e.g., walks, cycling, etc.).	____	____
47. Participating in sports and recreation activities.	____	____
48. Visiting and spending time with others.	____	____
The things I do to improve and change:		
49. Being successful at the things I do.	____	____
50. Getting along better with others.	____	____
51. Learning about new things.	____	____
52. Planning for a job or career.	____	____
53. Planning for more education or training.	____	____
54. Solving my problems.	____	____

Control

The third question to ask yourself is:

How much *control* do I have over this part of my life?
If you need to think about the question another way, try:
How much am I in charge of this aspect of my life?

Rate each of the items from 1 to 5. Rate items 5 if you have almost total control in this area of your life; rate items 3 if you think you have some control in this aspect of life; rate items 1 if you have almost no control.

RATING SCALE				
1	2	3	4	5
ALMOST NONE	A LITTLE	SOME	QUITE A BIT	A LOT

How much control do I have over -- ?

1. My physical health. _____
2. My thoughts and feelings. _____
3. My beliefs and values. _____
4. The places where I spend my time (home, school, work). _____
5. Who I spend my time with. _____
6. Being able to use what my community has to offer. _____
7. The everyday things I can do in my life. _____
8. The things I can do for fun and enjoyment. _____
9. The things I can do to improve myself. _____

Opportunities

The last question to ask yourself is:

Are there *opportunities* for me to improve this part of my life?
If you need to think about the question another way, try:
Do I have choices available to me about this aspect of my life?

Rate each of the items from 1 to 5. Rate items 5 if you have a great many opportunities in this aspect of your life; rate items 3 if you think you have some opportunities; rate items 1 if you have almost no opportunities.

RATING SCALE				
1 ALMOST NONE	2 A FEW	3 SOME	4 QUITE A FEW	5 A GREAT MANY

Are there opportunities for me to improve:

1. My physical health. _____
2. My thoughts and feelings. _____
3. My beliefs and values. _____
4. The places where I spend my time (home, school, work). _____
5. Who I spend my time with. _____
6. Being able to use what my community has to offer. _____
7. The everyday things I can do in my life. _____
8. The things I can do for fun and enjoyment. _____
9. The things I do to better myself. _____

Quality of Life Profile Summary

Enter scores below for Importance (Imp), Satisfaction (Sat), Control and Opportunities (Opps) from pages 3-7.

		Imp	Sat	Basic Score	Control	Opps
My body and health (from page 3)						
1.	Being smart about sex	____	____	____	____	____
2.	Makin healthy choices	____	____	____	#1 from	#1 from
3.	My appearance - How I look	____	____	____	page 6	page 7
4.	My exercising and being fit	____	____	____		
5.	My Physical health	____	____	____		
6.	My nutrition and the food I eat	____	____	____		
My thoughts and feelings (from page 3)						
7.	Being free of worry and stress	____	____	____	____	____
8.	How I feel about myself	____	____	____	#2 from	#2 from
9.	Knowing who I am	____	____	____	page 6	page 7
10.	Knowing where I am going	____	____	____		
11.	Thinking and acting independently	____	____	____		
12.	Trusting others	____	____	____		
My beliefs and values (from page 3)						
13.	Feeling part of things	____	____	____	____	____
14.	Feeling that life has meaning	____	____	____	#3 from	#3 from
15.	Having hope for the future	____	____	____	page 6	page 7
16.	Having religious or spiritual beliefs	____	____	____		
17.	Helping others	____	____	____		
18.	My owh ideas of right and wrong	____	____	____		
Where I live and spend my time (from page 4)						
19.	Feeling safe when I go out	____	____	____	____	____
20.	The area of the country I live in	____	____	____	#4 from	#4 from
21.	The earth and its environment	____	____	____	page 6	page 7
22.	The house or apartment I live in	____	____	____		
23.	The neighbourhood I live in	____	____	____		
24.	The school I attend	____	____	____		

The people around me (from page 4)

25.	Acting responsibly toward others	___	___	___	___	___
26.	Being appreciated by others	___	___	___	#5 from	#5 from
27.	Getting along with my family	___	___	___	page 6	page 7
28.	Having a girlfriend/boyfriend	___	___	___		
29.	Having parties and things to do	___	___	___		
30.	The friends I have	___	___	___		

My access to things (from page 4)

31.	Mdical/social services	___	___	___	___	___
32.	Getting a good education	___	___	___	#6 from	#6 from
33.	Having enough money	___	___	___	page 6	page 7
34.	Having jobs availablewhile in school	___	___	___		
35.	Going to community places	___	___	___		
36.	Having things to do in community	___	___	___		

The daily things I do (from page 5)

37.	Doing volunteer work for others	___	___	___	___	___
38.	Looking after appearance/hygiene	___	___	___	#7 from	#7 from
39.	Studying and doing homework	___	___	___	page 6	page 7
40.	The chores I do at home	___	___	___		
41.	The things I do in school	___	___	___		
42.	Work I do at a job while in school	___	___	___		

The things I do for enjoyment (from page 5)

43.	Attending public entertainment	___	___	___	___	___
44.	Having hobbies/ersonal interests	___	___	___	#8 from	#8 from
45.	Indoor activities	___	___	___	page 6	page 7
46.	Outdoor activities	___	___	___		
47.	Sports and recreation activities	___	___	___		
48.	Visiting/spending time with others	___	___	___		

The things I do to improve and change (from page 5)

49.	Being successful at the things I do	___	___	___	___	___
50.	Getting along better with others	___	___	___	#9 from	#9 from
51.	Learning about new things	___	___	___	page 6	page 7
52.	Planning for a job or career	___	___	___		
53.	Planning for education/training	___	___	___		
54.	Solving my problems	___	___	___		

TOTAL	___	___	___	___	___

Notes for using scores:

1. Items that have scores of +5 or higher add quality of life at the present time and should be maintained or enhanced. Items that score between 0 and +5 add some quality, and might be enhanced. Items that score below 0 might be problem areas that need to be addressed.

2. Control and Opportunities scores are important to the interpretation of quality of life scores. For example, a person may have a good basic quality of life score for "the daily things I do" but has had very little opportunity to see what other activities are like. Similarly, a person may have a good score on "the people around me" but not have chosen who those people are.

Table 1: Determining Basic Score from Importance and Satisfaction Ratings.

Imp.	Sat.	Score	Imp.	Sat.	Score
5	5	+10	2	5	+4
5	4	+5	2	4	+2
5	3	0	2	3	0
5	2	-5	2	2	-2
5	1	-10	2	1	-4
4	5	+8	1	5	+2
4	4	+4	1	4	+1
4	3	0	1	3	0
4	2	-4	1	2	-1
4	1	-8	1	1	-2
3	5	+6			
3	4	+3			
3	3	0			
3	2	-3			
3	1	-6			

APPENDIX C: DATA

	schbld	class	worksite	desk	lunch	bathroom	gym
1	1 00	1.00	1.00	1.00	1.00	1.00	1 00
2	1 00	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1 00	1.00	1 00
4	5.00	5.00	2.00	2.00	5.00	5.00	5 00
5	1.00	1.00	1.00	1.00	1.00	1.00	1 00
6	1.00	1.00	1 00	1.00	1.00	1.00	00
7	4.00	4.00	2.00	1.00	4.00	4.00	4 00
8	1.00	1.00	1.00	1.00	1.00	1 00	1 00
9	1.00	1.00	1.00	1.00	1.00	1.00	1 00
10	1.00	1.00	1 00	1 00	1.00	1.00	1 00
11	5 00	5.00	5.00	5.00	5.00	5.00	5.00
12	2.00	2.00	1.00	1.00	2.00	2.00	2 00
13	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14	1 00	1.00	1.00	1.00	1.00	1.00	1.00
15	2 00	.00	1.00	.00	1.00	2.00	1.00
16	2.00	1.00	1.00	1.00	1.00	1.00	1 00
17	2.00	1.00	1.00	.00	1.00	1.00	1 00
18	5 00	5.00	5.00	5.00	5.00	5.00	4 00
19	1 00	1.00	1.00	1.00	1.00	2.00	1 00
20	5 00	5 00	5.00	5.00	5.00	5.00	5 00
21	.00	1.00	1.00	1.00	1.00	1.00	1 00
22	1.00	1.00	1 00	1.00	1.00	1.00	1 00
23	.00	5.00	5.00	5.00	5.00	5.00	5.00
24	1.00	1 00	1.00	1.00	1.00	.00	1.00
25	1.00	1.00	1.00	1.00	1.00	1.00	1 00
26	2.00	1.00	2 00	1.00	1.00	.00	1 00
27	2.00	2.00	2.00	1.00	3.00	1.00	1 00
28	1.00	1.00	1.00	1.00	1.00	1.00	1.00

	stairs	bus	adapeq	flunch	ftray	ffeed	transfer
1	2 00	1 00	00	5.00	5.00	1.00	1.00
2	1 00	1.00	00	2 00	2.00	1.00	1.00
3	2 00	1.00	1.00	5.00	5.00	1.00	1.00
4	5.00	5.00	3.00	5.00	5.00	2.00	3 00
5	1 00	1 00	1.00	5.00	5.00	1.00	1.00
6	1.00	1.00	1.00	5.00	5.00	1.00	5 00
7	5.00	5.00	4.00	5.00	5.00	1.00	3.00
8	1.00	1.00	1.00	1.00	1.00	1.00	1 00
9	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
11	5.00	5.00	5.00	5.00	5.00	5.00	5.00
12	1.00	2.00	2.00	5.00	.00	2.00	5.00
13	1 00	1.00	.00	1.00	1.00	1.00	1.00
14	1.00	1.00	.00	1.00	1.00	1.00	1.00
15	1.00	1.00	4.00	1.00	2.00	2.00	4.00
16	1.00	.00	.00	1.00	2.00	1.00	1.00
17	1.00	1.00	.00	1.00	5.00	1.00	5.00
18	5.00	5.00	5.00	5.00	5.00	3.00	4 00
19	1.00	1.00	.00	1.00	1.00	1 00	1.00
20	5 00	5.00	5.00	5.00	5.00	5.00	5 00
21	1 00	1.00	.00	1.00	1.00	1.00	1.00
22	1 00	1.00	.00	1.00	1 00	1.00	1 00
23	5.00	5.00	.00	5.00	5.00	1.00	5 00
24	1 00	1.00	.00	.00	.00	1.00	1.00
25	.00	.00	1.00	.00	.00	1.00	1 00
26	2.00	2.00	5.00	.00	.00	1.00	4.00
27	1.00	1.00	1 00	3.00	5.00	1.00	1 00
28	2.00	.00	.00	1.00	.00	1.00	1 00

	clothing	diaper	cath	transwc	transae	material	writing
1	1.00	.00	.00	.00	.00	1.00	1 00
2	1.00	.00	1.00	.00	.00	1.00	1.00
3	1 00	.00	.00	.00	.00	1.00	1 00
4	3.00	5.00	.00	3.00	3.00	5.00	5.00
5	1 00	1.00	1.00	1.00	1.00	1.00	1.00
6	5 00	.00	.00	5.00	5.00	2.00	2.00
7	5.00	.00	.00	3.00	3.00	2.00	1.00
8	1.00	.00	1.00	1.00	.00	1.00	1.00
9	1.00	1.00	1.00	.00	.00	1.00	1.00
10	1.00	.00	1.00	1.00	.00	1.00	1 00
11	5.00	5.00	.00	5.00	5.00	5.00	5.00
12	5.00	5.00	5.00	5.00	5.00	2.00	1.00
13	1 00	.00	.00	.00	.00	1.00	1.00
14	1.00	.00	.00	.00	.00	1.00	1.00
15	5.00	.00	.00	4.00	4.00	.00	4.00
16	1.00	.00	.00	1.00	.00	1.00	1.00
17	1.00	.00	.00	5.00	1.00	3.00	1.00
18	4.00	.00	.00	4.00	4.00	3.00	3.00
19	1.00	2.00	.00	1.00	1.00	1.00	1.00
20	5.00	5.00	.00	5.00	5.00	5.00	5.00
21	1.00	.00	.00	.00	.00	1.00	1.00
22	1.00	.00	.00	.00	.00	2.00	2.00
23	5.00	.00	.00	5.00	.00	5.00	1.00
24	1.00	.00	1.00	1.00	.00	2.00	1.00
25	3.00	3.00	3.00	.00	1.00	1.00	1.00
26	5.00	5.00	4.00	5.00	5.00	2.00	2.00
27	1.00	.00	.00	1.00	3.00	3.00	1.00
28	1.00	.00	.00	.00	.00	1.00	1.00

	construc	books	tubefeed	suction	other
1	1.00	1.00	.00	.00	.00
2	1.00	1.00	.00	.00	.00
3	1.00	1.00	.00	.00	.00
4	5.00	5.00	.00	.00	.00
5	1.00	1.00	.00	.00	.00
6	.00	.00	.00	.00	.00
7	1.00	.00	.00	.00	.00
8	1.00	1.00	.00	.00	.00
9	1.00	1.00	.00	.00	.00
10	1.00	1.00	.00	.00	.00
11	5.00	5.00	5.00	.00	.00
12	3.00	2.00	.00	.00	.00
13	1.00	1.00	.00	.00	.00
14	1.00	1.00	.00	.00	.00
15	.00	4.00	.00	.00	.00
16	1.00	1.00	.00	.00	.00
17	.00	5.00	.00	.00	.00
18	4.00	5.00	.00	.00	.00
19	1.00	1.00	.00	.00	.00
20	5.00	5.00	.00	.00	.00
21	1.00	2.00	.00	.00	.00
22	1.00	1.00	.00	.00	.00
23	5.00	.00	.00	.00	.00
24	1.00	1.00	.00	.00	.00
25	1.00	1.00	.00	.00	.00
26	2.00	2.00	.00	.00	.00
27	.00	1.00	.00	.00	.00
28	1.00	1.00	.00	.00	.00

	schbld	class	worksite	desk	lunch	bathroom	gym
29	1.00	1.00	2.00	1.00	1.00	1.00	1.00

	stairs	bus	adapeq	flunch	ftray	ffeed	transfer
29	2.00	2.00	.00	1.00	1.00	1.00	1.00

	clothing	diaper	cath	transwc	transae	material	writing
29	1.00	.00	.00	.00	.00	1.00	1.00

	construc	books	tubefeed	suction	other
29	1.00	1.00	.00	.00	.00

	var00001	var00002	var00003	var00004	var00005	var00006	var00007
1	.00	10.00	10.00	10.00	10.00	10.00	10.00
2	.00	2.00	2.00	10.00	10.00	.00	10.00
3	.00	10.00	-3.00	8.00	.00	-2.00	-2.00
4	.00	10.00	.00	10.00	10.00	5.00	10.00
5	.00	10.00	.00	-3.00	-4.00	.00	.00
6	.00	10.00	10.00	10.00	5.00	5.00	10.00
7	.00	10.00	6.00	8.00	10.00	8.00	6.00
8	.00	10.00	3.00	10.00	10.00	10.00	10.00
9	.00	.00	10.00	10.00	5.00	10.00	-2.00
10	.00	.00	-10.00	2.00	.00	-5.00	8.00
11	.00	6.00	10.00	10.00	10.00	10.00	4.00
12	.00	4.00	.00	.00	10.00	.00	3.00
13	.00	10.00	10.00	10.00	10.00	10.00	10.00
14	.00	-2.00	10.00	10.00	10.00	10.00	4.00
15	.00	10.00	10.00	10.00	-5.00	6.00	10.00
16	.00	10.00	8.00	4.00	4.00	4.00	3.00
17	.00	10.00	6.00	6.00	10.00	.00	2.00
18	.00	6.00	-5.00	10.00	10.00	.00	5.00
19	.00	10.00	10.00	10.00	10.00	8.00	5.00
20	.00	.00	.00	4.00	4.00	4.00	4.00
21	.00	5.00	4.00	4.00	4.00	4.00	5.00
22	.00	4.00	3.00	4.00	4.00	4.00	4.00
23	.00	10.00	6.00	10.00	10.00	8.00	10.00
24	.00	.00	5.00	10.00	.00	.00	.00
25	.00	5.00	10.00	.00	5.00	.00	5.00
26	.00	10.00	10.00	-2.00	-5.00	5.00	-5.00
27	.00	.00	5.00	.00	5.00	10.00	.00
28	.00	10.00	.00	10.00	10.00	10.00	3.00

	var00008	var00009	var00010	var00011	var00012	var00013	var00014
1	10.00	10.00	-2.00	10.00	10.00	10.00	10.00
2	10.00	10.00	5.00	10.00	-3.00	.00	10.00
3	10.00	6.00	.00	4.00	-2.00	5.00	-2.00
4	10.00	10.00	10.00	10.00	10.00	10.00	10.00
5	.00	.00	4.00	4.00	.00	-3.00	.00
6	10.00	.00	10.00	10.00	5.00	.00	.00
7	10.00	10.00	5.00	10.00	.00	10.00	5.00
8	.00	10.00	10.00	10.00	.00	10.00	10.00
9	10.00	.00	10.00	10.00	10.00	4.00	10.00
10	-10.00	10.00	.00	4.00	10.00	5.00	-5.00
11	4.00	4.00	-2.00	10.00	4.00	10.00	10.00
12	.00	10.00	5.00	5.00	-3.00	5.00	.00
13	10.00	10.00	10.00	10.00	-5.00	10.00	10.00
14	10.00	10.00	10.00	10.00	6.00	10.00	10.00
15	10.00	10.00	.00	.00	.00	10.00	10.00
16	4.00	10.00	10.00	10.00	6.00	4.00	5.00
17	10.00	2.00	10.00	10.00	4.00	10.00	10.00
18	-3.00	5.00	5.00	3.00	-5.00	-5.00	10.00
19	-5.00	.00	8.00	10.00	8.00	10.00	-4.00
20	4.00	4.00	4.00	-3.00	4.00	3.00	4.00
21	5.00	5.00	4.00	4.00	4.00	.00	4.00
22	4.00	3.00	.00	4.00	10.00	10.00	10.00
23	10.00	10.00	.00	10.00	10.00	10.00	10.00
24	.00	.00	.00	.00	4.00	5.00	.00
25	5.00	.00	.00	5.00	5.00	10.00	.00
26	5.00	10.00	10.00	10.00	.00	4.00	4.00
27	.00	5.00	.00	4.00	5.00	5.00	5.00
28	10.00	10.00	10.00	10.00	8.00	.00	10.00

	var00015	var00016	var00017	var00018	var00019	var00020	var00021
1	10.00	-2.00	10.00	10.00	10.00	10.00	10.00
2	10.00	10.00	10.00	10.00	10.00	.00	.00
3	10.00	10.00	-2.00	4.00	5.00	.00	2.00
4	10.00	10.00	10.00	10.00	10.00	10.00	.00
5	.00	4.00	4.00	.00	4.00	-3.00	.00
6	5.00	8.00	5.00	10.00	5.00	10.00	-10.00
7	10.00	5.00	10.00	8.00	10.00	6.00	4.00
8	10.00	10.00	10.00	10.00	8.00	10.00	10.00
9	10.00	-2.00	10.00	10.00	10.00	.00	10.00
10	10.00	-6.00	10.00	.00	8.00	-5.00	-8.00
11	10.00	4.00	10.00	-5.00	.00	.00	.00
12	10.00	8.00	8.00	.00	.00	10.00	3.00
13	10.00	10.00	10.00	10.00	10.00	-5.00	10.00
14	10.00	10.00	10.00	10.00	.00	10.00	10.00
15	10.00	10.00	10.00	.00	.00	10.00	.00
16	10.00	.00	10.00	10.00	5.00	4.00	.00
17	10.00	10.00	10.00	10.00	10.00	2.00	4.00
18	10.00	10.00	8.00	10.00	4.00	10.00	10.00
19	5.00	5.00	2.00	8.00	3.00	5.00	5.00
20	4.00	4.00	4.00	4.00	4.00	-4.00	4.00
21	5.00	10.00	4.00	4.00	4.00	4.00	.00
22	5.00	4.00	10.00	4.00	10.00	5.00	4.00
23	10.00	10.00	10.00	10.00	10.00	10.00	10.00
24	.00	.00	.00	5.00	5.00	.00	.00
25	5.00	4.00	4.00	5.00	5.00	.00	.00
26	5.00	10.00	8.00	5.00	10.00	10.00	10.00
27	5.00	.00	.00	5.00	5.00	10.00	5.00
28	10.00	4.00	.00	4.00	10.00	10.00	10.00

	var00022	var00023	var00024	var00025	var00026	var00027	var00028
1	10.00	10.00	-2.00	10.00	10.00	10.00	10.00
2	-6.00	-4.00	-2.00	8.00	4.00	.00	-4.00
3	.00	10.00	-2.00	-2.00	10.00	10.00	-2.00
4	10.00	10.00	10.00	10.00	10.00	10.00	10.00
5	.00	.00	-3.00	.00	.00	-4.00	-2.00
6	10.00	10.00	8.00	4.00	6.00	10.00	10.00
7	10.00	.00	10.00	10.00	5.00	10.00	-2.00
8	10.00	10.00	10.00	10.00	10.00	10.00	-10.00
9	-2.00	-2.00	10.00	4.00	10.00	10.00	-2.00
10	.00	1.00	10.00	.00	2.00	10.00	-2.00
11	.00	.00	.00	-3.00	-2.00	-3.00	-3.00
12	10.00	8.00	8.00	5.00	.00	10.00	-10.00
13	10.00	10.00	10.00	10.00	10.00	10.00	10.00
14	10.00	10.00	10.00	8.00	10.00	10.00	10.00
15	10.00	10.00	5.00	10.00	.00	10.00	-10.00
16	10.00	10.00	4.00	10.00	10.00	10.00	-4.00
17	10.00	10.00	10.00	10.00	10.00	10.00	2.00
18	-5.00	-5.00	10.00	6.00	10.00	10.00	8.00
19	5.00	5.00	5.00	4.00	6.00	8.00	6.00
20	4.00	4.00	4.00	4.00	4.00	4.00	-2.00
21	4.00	4.00	4.00	4.00	4.00	4.00	.00
22	4.00	4.00	4.00	4.00	4.00	4.00	2.00
23	10.00	10.00	10.00	10.00	10.00	10.00	6.00
24	.00	4.00	.00	.00	.00	5.00	.00
25	.00	.00	4.00	5.00	5.00	4.00	-5.00
26	.00	4.00	10.00	5.00	10.00	10.00	10.00
27	5.00	.00	5.00	5.00	.00	5.00	-5.00
28	10.00	10.00	10.00	10.00	8.00	10.00	.00

	var00029	var00030	var00031	var00032	var00033	var00034	var00035
1	10.00	10.00	10.00	10.00	-2.00	10.00	10.00
2	2.00	10.00	8.00	5.00	1.00	5.00	.00
3	10.00	-2.00	-2.00	10.00	10.00	.00	.00
4	10.00	10.00	10.00	10.00	10.00	.00	10.00
5	.00	.00	4.00	.00	5.00	.00	4.00
6	8.00	10.00	10.00	10.00	5.00	2.00	8.00
7	.00	2.00	-2.00	10.00	10.00	10.00	8.00
8	10.00	.00	10.00	10.00	10.00	.00	10.00
9	10.00	-2.00	.00	10.00	10.00	10.00	4.00
10	10.00	10.00	.00	10.00	.00	.00	10.00
11	.00	4.00	.00	4.00	4.00	.00	4.00
12	.00	10.00	.00	10.00	.00	.00	10.00
13	10.00	10.00	.00	10.00	10.00	10.00	10.00
14	10.00	10.00	10.00	10.00	10.00	10.00	10.00
15	.00	6.00	.00	10.00	10.00	10.00	10.00
16	6.00	8.00	10.00	5.00	10.00	3.00	8.00
17	10.00	10.00	10.00	10.00	4.00	2.00	10.00
18	6.00	10.00	-2.00	-2.00	-3.00	-3.00	-2.00
19	6.00	8.00	.00	.00	.00	.00	10.00
20	4.00	-2.00	1.00	4.00	4.00	4.00	-2.00
21	4.00	4.00	.00	4.00	4.00	4.00	4.00
22	4.00	4.00	4.00	4.00	4.00	4.00	5.00
23	4.00	10.00	10.00	10.00	10.00	-2.00	10.00
24	.00	5.00	.00	.00	.00	.00	.00
25	10.00	5.00	.00	.00	.00	.00	5.00
26	10.00	5.00	.00	5.00	5.00	-5.00	5.00
27	5.00	5.00	5.00	4.00	8.00	.00	5.00
28	10.00	10.00	10.00	10.00	10.00	10.00	10.00

	var00036	var00037	var00038	var00039	var00040	var00041	var00042
1	-2.00	10.00	10.00	10.00	10.00	10.00	.00
2	-10.00	10.00	10.00	2.00	2.00	10.00	10.00
3	10.00	10.00	.00	-2.00	4.00	-2.00	.00
4	10.00	10.00	10.00	10.00	10.00	10.00	.00
5	.00	.00	10.00	.00	.00	.00	.00
6	8.00	-4.00	.00	-6.00	-5.00	10.00	-1.00
7	4.00	8.00	10.00	10.00	.00	10.00	4.00
8	10.00	10.00	10.00	10.00	10.00	10.00	.00
9	-2.00	10.00	10.00	10.00	-2.00	10.00	.00
10	10.00	10.00	.00	10.00	1.00	10.00	.00
11	3.00	.00	.00	2.00	-1.00	.00	.00
12	10.00	8.00	5.00	10.00	4.00	.00	.00
13	-5.00	10.00	10.00	10.00	10.00	10.00	.00
14	10.00	10.00	10.00	10.00	10.00	10.00	10.00
15	6.00	-10.00	10.00	6.00	10.00	10.00	.00
16	10.00	5.00	5.00	10.00	3.00	5.00	-2.00
17	4.00	2.00	4.00	10.00	10.00	.00	2.00
18	-2.00	-2.00	10.00	.00	.00	.00	-3.00
19	10.00	10.00	10.00	8.00	8.00	8.00	8.00
20	4.00	4.00	-8.00	1.00	1.00	4.00	4.00
21	4.00	4.00	4.00	4.00	4.00	4.00	.00
22	4.00	4.00	4.00	4.00	4.00	4.00	4.00
23	.00	10.00	10.00	10.00	10.00	10.00	-2.00
24	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	4.00	.00	3.00	.00	.00
26	5.00	.00	10.00	10.00	-5.00	10.00	10.00
27	10.00	.00	5.00	.00	.00	4.00	.00
28	.00	.00	8.00	10.00	10.00	10.00	10.00

	var00043	var00044	var00045	var00046	var00047	var00048	var00049
1	10.00	10.00	10.00	10.00	10.00	10.00	10.00
2	2.00	10.00	2.00	10.00	-10.00	10.00	10.00
3	10.00	.00	4.00	10.00	10.00	-2.00	-2.00
4	10.00	10.00	10.00	10.00	10.00	10.00	.00
5	4.00	4.00	5.00	5.00	.00	5.00	.00
6	10.00	8.00	10.00	10.00	10.00	10.00	10.00
7	2.00	10.00	4.00	-2.00	2.00	5.00	10.00
8	10.00	10.00	10.00	10.00	.00	10.00	10.00
9	-2.00	10.00	10.00	-2.00	-2.00	10.00	10.00
10	2.00	10.00	10.00	.00	10.00	10.00	1.00
11	-2.00	.00	.00	.00	-2.00	-3.00	.00
12	10.00	10.00	10.00	4.00	.00	3.00	4.00
13	10.00	10.00	10.00	10.00	10.00	10.00	10.00
14	10.00	10.00	10.00	10.00	10.00	10.00	10.00
15	6.00	10.00	10.00	6.00	10.00	10.00	6.00
16	.00	8.00	2.00	10.00	8.00	10.00	10.00
17	10.00	10.00	10.00	10.00	10.00	4.00	.00
18	.00	.00	10.00	10.00	6.00	10.00	.00
19	4.00	4.00	10.00	10.00	10.00	6.00	3.00
20	5.00	5.00	4.00	4.00	4.00	4.00	4.00
21	4.00	4.00	4.00	4.00	4.00	4.00	5.00
22	4.00	4.00	4.00	8.00	4.00	4.00	4.00
23	.00	10.00	10.00	.00	.00	10.00	10.00
24	.00	.00	.00	.00	5.00	4.00	.00
25	.00	4.00	4.00	.00	-2.00	4.00	.00
26	.00	10.00	10.00	.00	5.00	5.00	5.00
27	10.00	5.00	.00	5.00	5.00	5.00	5.00
28	10.00	10.00	10.00	10.00	4.00	10.00	10.00

	var00050	var00051	var00052	var00053	var00054	c1	c2
1	10.00	10.00	10.00	10.00	10.00	5.00	5.00
2	.00	10.00	10.00	10.00	10.00	3.00	5.00
3	-2.00	-2.00	-2.00	-2.00	.00	5.00	4.00
4	10.00	10.00	10.00	10.00	10.00	4.00	5.00
5	4.00	5.00	5.00	.00	.00	4.00	5.00
6	10.00	5.00	-2.00	-8.00	2.00	4.00	3.00
7	10.00	10.00	8.00	10.00	5.00	1.00	5.00
8	10.00	10.00	10.00	10.00	10.00	5.00	5.00
9	10.00	10.00	10.00	10.00	10.00	5.00	4.00
10	10.00	10.00	.00	10.00	2.00	5.00	4.00
11	3.00	-1.00	-1.00	-1.00	-1.00	2.00	3.00
12	10.00	10.00	8.00	10.00	5.00	3.00	4.00
13	10.00	10.00	10.00	10.00	10.00	5.00	5.00
14	10.00	10.00	10.00	10.00	10.00	5.00	5.00
15	10.00	10.00	10.00	10.00	6.00	2.00	5.00
16	10.00	5.00	10.00	10.00	5.00	4.00	4.00
17	10.00	10.00	2.00	10.00	.00	5.00	5.00
18	.00	.00	.00	-3.00	-3.00	4.00	3.00
19	5.00	.00	.00	2.00	2.00	4.00	4.00
20	4.00	4.00	1.00	4.00	4.00	2.00	4.00
21	4.00	4.00	4.00	4.00	4.00	4.00	4.00
22	8.00	5.00	5.00	4.00	4.00	3.00	4.00
23	10.00	10.00	-2.00	.00	10.00	4.00	5.00
24	4.00	.00	.00	.00	.00	3.00	4.00
25	5.00	5.00	.00	.00	.00	4.00	5.00
26	10.00	5.00	.00	.00	5.00	3.00	5.00
27	10.00	4.00	5.00	.00	.00	5.00	5.00
28	10.00	10.00	10.00	10.00	10.00	5.00	5.00

	c3	c4	c5	c6	c7	c8	c9
1	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3	4.00	5.00	5.00	5.00	5.00	5.00	1.00
4	5.00	4.00	4.00	5.00	4.00	4.00	5.00
5	5.00	4.00	4.00	4.00	5.00	5.00	5.00
6	5.00	4.00	5.00	3.00	5.00	5.00	5.00
7	5.00	4.00	5.00	3.00	1.00	5.00	5.00
8	5.00	5.00	5.00	5.00	5.00	5.00	5.00
9	5.00	1.00	3.00	4.00	1.00	5.00	5.00
10	1.00	5.00	5.00	2.00	4.00	3.00	5.00
11	2.00	2.00	2.00	2.00	2.00	2.00	1.00
12	4.00	5.00	4.00	3.00	5.00	5.00	4.00
13	5.00	5.00	5.00	1.00	5.00	5.00	5.00
14	3.00	5.00	5.00	5.00	5.00	5.00	5.00
15	5.00	2.00	5.00	5.00	2.00	5.00	5.00
16	4.00	5.00	5.00	3.00	5.00	5.00	3.00
17	5.00	5.00	5.00	5.00	5.00	5.00	5.00
18	4.00	3.00	3.00	3.00	3.00	4.00	3.00
19	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20	4.00	3.00	3.00	4.00	4.00	4.00	4.00
21	4.00	4.00	4.00	3.00	4.00	4.00	4.00
22	4.00	4.00	4.00	4.00	4.00	4.00	4.00
23	5.00	5.00	5.00	3.00	5.00	5.00	5.00
24	4.00	3.00	3.00	3.00	4.00	4.00	4.00
25	5.00	4.00	3.00	3.00	2.00	2.00	3.00
26	5.00	3.00	4.00	3.00	3.00	3.00	3.00
27	4.00	5.00	3.00	4.00	5.00	5.00	4.00
28	5.00	5.00	5.00	5.00	5.00	5.00	5.00

	opp1	opp2	opp3	opp4	opp5	opp6	opp7
1	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3	4.00	1.00	1.00	2.00	5.00	1.00	4.00
4	4.00	4.00	4.00	4.00	4.00	4.00	4.00
5	4.00	5.00	5.00	4.00	4.00	4.00	5.00
6	4.00	5.00	5.00	1.00	4.00	4.00	4.00
7	5.00	5.00	5.00	5.00	5.00	5.00	1.00
8	5.00	5.00	5.00	5.00	5.00	5.00	5.00
9	2.00	5.00	5.00	1.00	5.00	2.00	1.00
10	5.00	4.00	2.00	5.00	5.00	2.00	2.00
11	3.00	2.00	2.00	3.00	3.00	2.00	2.00
12	2.00	4.00	5.00	5.00	5.00	5.00	4.00
13	5.00	5.00	5.00	5.00	5.00	1.00	5.00
14	5.00	4.00	3.00	5.00	5.00	5.00	5.00
15	5.00	3.00	5.00	5.00	5.00	5.00	3.00
16	4.00	3.00	4.00	3.00	3.00	4.00	4.00
17	5.00	5.00	3.00	5.00	5.00	5.00	3.00
18	3.00	3.00	3.00	3.00	3.00	3.00	3.00
19	5.00	5.00	4.00	4.00	4.00	4.00	4.00
20	1.00	4.00	4.00	4.00	4.00	4.00	4.00
21	3.00	3.00	4.00	4.00	4.00	4.00	4.00
22	4.00	4.00	4.00	4.00	4.00	4.00	4.00
23	3.00	5.00	5.00	5.00	5.00	4.00	5.00
24	3.00	4.00	4.00	3.00	3.00	3.00	3.00
25	4.00	4.00	4.00	3.00	4.00	3.00	3.00
26	2.00	4.00	4.00	3.00	4.00	4.00	3.00
27	5.00	5.00	5.00	4.00	5.00	5.00	5.00
28	1.00	2.00	1.00	1.00	1.00	1.00	1.00

	opp8	opp9
1	5.00	5.00
2	5.00	5.00
3	5.00	5.00
4	5.00	5.00
5	4.00	4.00
6	5.00	3.00
7	5.00	5.00
8	5.00	5.00
9	5.00	5.00
10	4.00	5.00
11	3.00	2.00
12	5.00	4.00
13	5.00	5.00
14	5.00	5.00
15	5.00	5.00
16	4.00	4.00
17	5.00	3.00
18	3.00	3.00
19	4.00	4.00
20	4.00	4.00
21	4.00	4.00
22	4.00	4.00
23	5.00	5.00
24	3.00	4.00
25	4.00	3.00
26	4.00	5.00
27	5.00	4.00
28	1.00	1.00

	var00001	var00002	var00003	var00004	var00005	var00006	var00007
29	.00	5.00	3.00	4.00	5.00	3.00	4.00

	var00008	var00009	var00010	var00011	var00012	var00013	var00014
29	10.00	8.00	5.00	4 00	10.00	10.00	8 00

	var00015	var00016	var00017	var00018	var00019	var00020	var00021
29	10.00	10.00	8.00	5.00	4.00	6.00	8 00

	var00022	var00023	var00024	var00025	var00026	var00027	var00028
29	5.00	8.00	.00	5 00	8 00	10.00	2 00

	var00029	var00030	var00031	var00032	var00033	var00034	var00035
29	8.00	10.00	.00	10.00	6.00	5.00	00

	var00036	var00037	var00038	var00039	var00040	var00041	var00042
29	5.00	4.00	8.00	10.00	4.00	10.00	8.00

	var00043	var00044	var00045	var00046	var00047	var00048	var00049
29	3.00	.00	.00	3.00	8.00	6.00	10.00

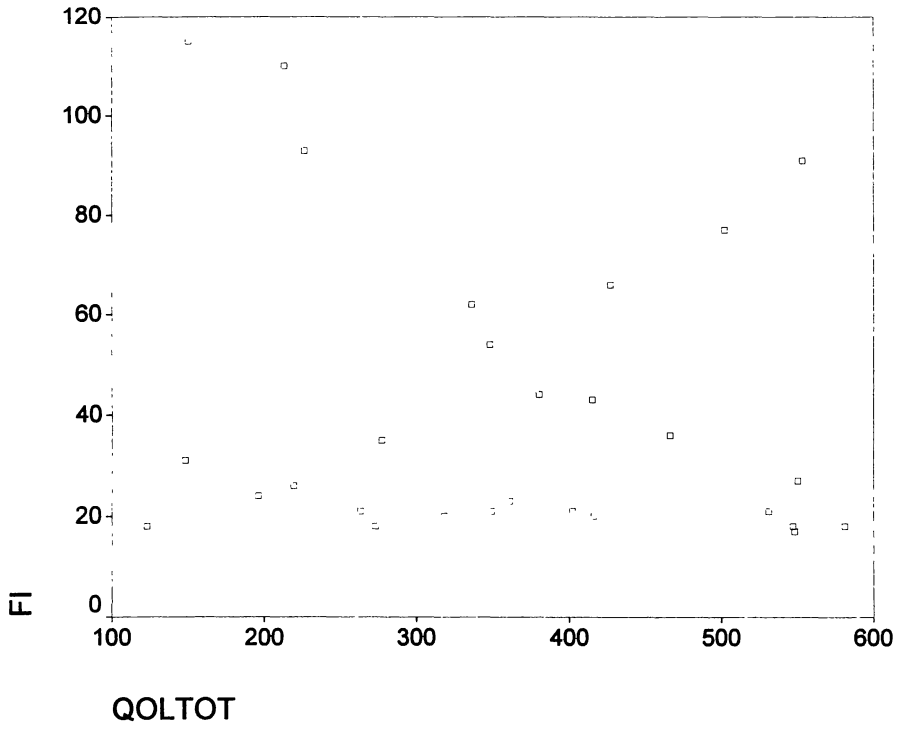
	var00050	var00051	var00052	var00053	var00054	c1	c2
29	5.00	5.00	10.00	5.00	10.00	5.00	4 00

	c3	c4	c5	c6	c7	c8	c9
29	5.00	5.00	5.00	4.00	4.00	5 00	5.00

	opp1	opp2	opp3	opp4	opp5	opp6	opp7
29	5.00	5.00	4.00	3.00	5.00	4.00	3 00

	opp8	opp9
29	5.00	5.00

Scatter Plot - Total Scores of QOLPAV vs. FI



Correlation of Base QOLPAV Scores with Total FI Scores

Correlations

		QOLBASE	FI
QOLBASE	Pearson Correlation	1 000	- 170
	Sig. (2-tailed)		379
	N	29	29
FI	Pearson Correlation	- 170	1 000
	Sig (2-tailed)	379	
	N	29	29

Correlation of Total QOLPAV Scores with Total FI Scores

Correlations

		QOLTOT	FI
QOLTOT	Pearson Correlation	1 000	- 191
	Sig. (2-tailed)		.320
	N	29	29
FI	Pearson Correlation	- 191	1 000
	Sig. (2-tailed)	320	.
	N	29	29

Correlation of Base QOLPAV Percentage Scores with Total FI Percentage Scores

Correlations

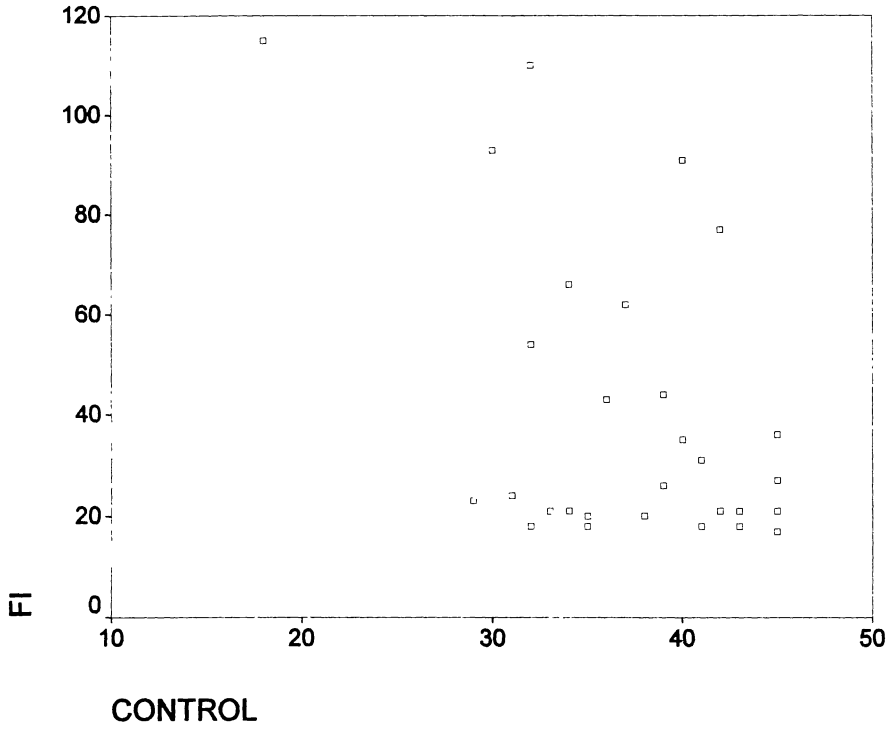
		QOLBASE	FI
QOLBASE	Pearson Correlation	1.000	- 172
	Sig. (2-tailed)		371
	N	29	29
FI	Pearson Correlation	- 172	1 000
	Sig. (2-tailed)	371	
	N	29	29

Correlation of Total QOLPAV Percentage Scores with Total FI Percentage Scores

Correlations

		QOLTOT	FI
QOLTOT	Pearson Correlation	1 000	- 191
	Sig. (2-tailed)	.	321
	N	29	29
FI	Pearson Correlation	- 191	1 000
	Sig. (2-tailed)	321	
	N	29	29

Scatter Plot- "Control" Section of QOLPAV vs. Total Scores of FI



Correlation of "Control" Section of QOLPAV with Total FI Scores

Correlations

		CONTROL	FI
CONTROL	Pearson Correlation	1 000	- 467*
	Sig (2-tailed)		011
	N	29	29
FI	Pearson Correlation	- 467*	1.000
	Sig (2-tailed)	011	
	N	29	29

* Correlation is significant at the 0.05 level (2-tailed).

Correlation of "Health" Items on QOLPAV with Total FI Scores

Correlations

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006
VAR00001	Pearson Correlation	[a]	[a]	[a]	[a]	[a]	[a]
	Sig (2-tailed)						
	N	29	29	29	29	29	29
VAR00002	Pearson Correlation	[a]	1 000	193	155	.052	164
	Sig (2-tailed)			315	422	790	396
	N	29	29	29	29	29	29
VAR00003	Pearson Correlation	[a]	193	1 000	.209	086	620**
	Sig (2-tailed)		315		277	656	000
	N	29	29	29	29	29	29
VAR00004	Pearson Correlation	[a]	155	209	1 000	.508**	.425*
	Sig (2-tailed)		422	277		005	.021
	N	29	29	29	29	29	29
VAR00005	Pearson Correlation	[a]	052	086	.508**	1.000	402*
	Sig (2-tailed)		.790	656	005		031
	N	29	29	29	29	29	29
VAR00006	Pearson Correlation	[a]	164	620**	425*	.402*	1 000
	Sig (2-tailed)	.	396	000	021	031	
	N	29	29	29	29	29	29

**. Correlation is significant at the 0 01 level (2-tailed)

* Correlation is significant at the 0 05 level (2-tailed)

a Cannot be computed because at least one of the variables is constant

Correlation of "My Thoughts and Feelings" Items on QOLPAV with Total FI Scores

Correlations

		VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	FI
VAR00007	Pearson Correlation	1 000	147	.375*	-.044	.194	054	093
	Sig (2-tailed)		446	045	822	313	779	631
	N	29	29	29	29	29	29	29
VAR00008	Pearson Correlation	147	1 000	224	214	354	052	- 019
	Sig (2-tailed)	446		244	264	060	791	922
	N	29	29	29	29	29	29	29
VAR00009	Pearson Correlation	375*	224	1 000	112	262	- 130	050
	Sig (2-tailed)	045	244		562	170	501	797
	N	29	29	29	29	29	29	29
VAR00010	Pearson Correlation	- 044	214	112	1 000	526**	- 092	- 145
	Sig (2-tailed)	.822	264	562		003	636	453
	N	29	29	29	29	29	29	29
VAR00011	Pearson Correlation	.194	.354	262	.526**	1 000	141	- 115
	Sig (2-tailed)	313	060	170	003	.	464	552
	N	29	29	29	29	29	29	29
VAR00012	Pearson Correlation	054	.052	-.130	- 092	.141	1.000	- 134
	Sig (2-tailed)	779	791	501	636	464		487
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	.093	-.019	.050	-.145	- 115	- 134	1 000
	Sig (2-tailed)	631	922	797	453	552	487	
	N	29	29	29	29	29	29	29

* Correlation is significant at the 0 05 level (2-tailed)

** Correlation is significant at the 0 01 level (2-tailed)

Correlation of "My Beliefs and Values" Items on QOLPAV with Total FI Scores

Correlations

		VAR00013	VAR00014	VAR00015	VAR00016	VAR00017	VAR00018	FI
VAR00013	Pearson Correlation	1 000	224	314	055	371*	071	- 027
	Sig (2-tailed)		242	097	775	048	716	891
	N	29	29	29	29	29	29	29
VAR00014	Pearson Correlation	224	1 000	506**	317	555**	343	167
	Sig (2-tailed)	242		005	094	002	068	387
	N	29	29	29	29	29	29	29
VAR00015	Pearson Correlation	314	506**	1 000	.211	567**	245	100
	Sig (2-tailed)	.097	005		271	001	200	605
	N	29	29	29	29	29	29	29
VAR00016	Pearson Correlation	055	317	211	1 000	120	211	185
	Sig (2-tailed)	.775	094	.271	.	536	272	336
	N	29	29	29	29	29	29	29
VAR00017	Pearson Correlation	.371*	.555**	567**	120	1 000	.235	183
	Sig (2-tailed)	048	002	001	536	.	220	342
	N	29	29	29	29	29	29	29
VAR00018	Pearson Correlation	.071	.343	245	.211	235	1.000	-.200
	Sig (2-tailed)	716	068	200	272	220		298
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	-.027	.167	100	185	.183	-.200	1 000
	Sig (2-tailed)	891	387	605	336	342	298	
	N	29	29	29	29	29	29	29

*. Correlation is significant at the 0 05 level (2-tailed)

** Correlation is significant at the 0 01 level (2-tailed)

Correlation of "Where I Live and Spend My Time" Items on QOLPAV with Total FI Scores

Correlations

		VAR00019	VAR00020	VAR00021	VAR00022	VAR00023	VAR00024
VAR00019	Pearson Correlation	1.000	-.049	253	044	010	.279
	Sig (2-tailed)		802	185	.822	959	.142
	N	29	29	29	29	29	29
VAR00020	Pearson Correlation	- 049	1 000	321	475**	.355	.340
	Sig (2-tailed)	.802		090	009	059	071
	N	29	29	29	29	29	29
VAR00021	Pearson Correlation	.253	.321	1 000	.138	.117	.258
	Sig (2-tailed)	185	090		.474	544	177
	N	29	29	29	29	29	29
VAR00022	Pearson Correlation	044	475**	138	1 000	815**	390*
	Sig (2-tailed)	822	.009	474		000	036
	N	29	29	29	29	29	29
VAR00023	Pearson Correlation	.010	355	117	815**	1 000	173
	Sig (2-tailed)	.959	059	544	.000	.	369
	N	29	29	29	29	29	29
VAR00024	Pearson Correlation	279	.340	258	390*	.173	1 000
	Sig (2-tailed)	142	.071	177	.036	.369	
	N	29	29	29	29	29	29

**. Correlation is significant at the 0 01 level (2-tailed)

* Correlation is significant at the 0 05 level (2-tailed)

Correlation of "The People Around Me" Items on QOLPAV with Total FI Scores

Correlations

		VAR00025	VAR00026	VAR00027	VAR00028	VAR00029	VAR00030	FI
VAR00025	Pearson Correlation	1 000	.525**	.522**	158	.241	.428*	- 078
	Sig (2-tailed)	.	003	004	412	209	.021	687
	N	29	29	29	29	29	29	29
VAR00026	Pearson Correlation	525**	1 000	.648**	.547**	760**	.180	- 140
	Sig (2-tailed)	003		000	002	.000	.350	468
	N	29	29	29	29	29	29	29
VAR00027	Pearson Correlation	.522**	648**	1 000	281	.553**	.342	- 141
	Sig (2-tailed)	004	000	.	140	.002	.070	467
	N	29	29	29	29	29	29	29
VAR00028	Pearson Correlation	158	.547**	281	1.000	.442*	.441*	086
	Sig (2-tailed)	412	.002	140	.	016	.017	656
	N	29	29	29	29	29	29	29
VAR00029	Pearson Correlation	.241	.760**	.553**	.442*	1.000	.180	- 323
	Sig (2-tailed)	209	.000	.002	.016	.	.349	088
	N	29	29	29	29	29	29	29
VAR00030	Pearson Correlation	.428*	.180	.342	.441*	.180	1.000	- 069
	Sig (2-tailed)	021	350	070	017	.349		722
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	-.078	-.140	-.141	.086	- 323	-.069	1.000
	Sig. (2-tailed)	.687	.468	467	.656	088	.722	
	N	29	29	29	29	29	29	29

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Correlation of "My Access to Things" Items on QOLPAV with Total FI Scores

Correlations

		VAR00031	VAR00032	VAR00033	VAR00034	VAR00035	VAR00036	FI
VAR00031	Pearson Correlation	1.000	.340	266	115	.466*	.058	- 139
	Sig (2-tailed)		071	.163	551	011	765	472
	N	29	29	29	29	29	29	29
VAR00032	Pearson Correlation	.340	1 000	.554**	470*	539**	221	- 104
	Sig (2-tailed)	071	.	002	010	003	250	593
	N	29	29	29	29	29	29	29
VAR00033	Pearson Correlation	266	554**	1.000	356	.298	.243	- 069
	Sig (2-tailed)	163	002	.	058	116	204	724
	N	29	29	29	29	29	29	29
VAR00034	Pearson Correlation	115	.470*	.356	1.000	.240	-.274	- 326
	Sig (2-tailed)	551	010	.058	.	209	150	084
	N	29	29	29	29	29	29	29
VAR00035	Pearson Correlation	466*	.539**	.298	.240	1.000	.336	- 185
	Sig (2-tailed)	011	.003	.116	.209		075	336
	N	29	29	29	29	29	29	29
VAR00036	Pearson Correlation	058	.221	.243	-.274	.336	1.000	.034
	Sig. (2-tailed)	.765	.250	204	150	.075		860
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	- 139	-.104	-.069	- 326	-.185	.034	1 000
	Sig. (2-tailed)	472	593	724	084	336	860	
	N	29	29	29	29	29	29	29

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Correlation of "The Daily Things I Do" Items on QOLPAV with Total FI Scores

Correlations

		VAR00037	VAR00038	VAR00039	VAR00040	VAR00041	VAR00042	FI
VAR00037	Pearson Correlation	1.000	.200	.493**	.324	.291	.122	- 164
	Sig (2-tailed)		.299	007	086	126	530	396
	N	29	29	29	29	29	29	29
VAR00038	Pearson Correlation	.200	1.000	.516**	.376*	.487**	.210	- 231
	Sig (2-tailed)	.299	.	004	044	007	274	227
	N	29	29	29	29	29	29	29
VAR00039	Pearson Correlation	.493**	.516**	1.000	.530**	541**	.261	- 140
	Sig (2-tailed)	.007	.004	.	003	002	.171	469
	N	29	29	29	29	29	29	29
VAR00040	Pearson Correlation	.324	.376*	.530**	1.000	.250	.070	- 200
	Sig (2-tailed)	086	.044	.003	.	.191	.717	298
	N	29	29	29	29	29	29	29
VAR00041	Pearson Correlation	.291	.487**	.541**	.250	1 000	.381*	- 187
	Sig (2-tailed)	126	.007	.002	.191	.	.041	332
	N	29	29	29	29	29	29	29
VAR00042	Pearson Correlation	.122	.210	.261	.070	.381*	1.000	- 223
	Sig (2-tailed)	.530	.274	171	717	.041		.246
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	-.164	-.231	-.140	-.200	- 187	-.223	1 000
	Sig (2-tailed)	.396	.227	469	298	.332	246	
	N	29	29	29	29	29	29	29

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Correlation of "The Things I Do for Enjoyment" Items on QOLPAV with Total FI Scores

Correlations

		VAR00043	VAR00044	VAR00045	VAR00046	VAR00047	VAR00048	FI
VAR00043	Pearson Correlation	1.000	.324	.359	.661**	.459*	.128	- 188
	Sig (2-tailed)		087	056	000	.012	507	329
	N	29	29	29	29	29	29	29
VAR00044	Pearson Correlation	.324	1.000	.637**	.116	006	.621**	- 128
	Sig (2-tailed)	.087	.	000	550	.974	000	.509
	N	29	29	29	29	29	29	29
VAR00045	Pearson Correlation	.359	.637**	1.000	.282	.327	.551**	008
	Sig (2-tailed)	056	.000		.138	.084	.002	967
	N	29	29	29	29	29	29	29
VAR00046	Pearson Correlation	661**	.116	282	1.000	.398*	316	- 220
	Sig (2-tailed)	000	550	138		032	095	252
	N	29	29	29	29	29	29	29
VAR00047	Pearson Correlation	.459*	.006	.327	.398*	1.000	.155	-.129
	Sig. (2-tailed)	012	.974	.084	.032	.	.423	506
	N	29	29	29	29	29	29	29
VAR00048	Pearson Correlation	.128	.621**	.551**	.316	.155	1.000	- 244
	Sig (2-tailed)	.507	.000	.002	095	.423		202
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	-.188	-.128	.008	-.220	-.129	-.244	1.000
	Sig. (2-tailed)	329	.509	967	.252	.506	.202	
	N	29	29	29	29	29	29	29

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0 05 level (2-tailed)

Correlation of "The Things I do to Improve and Change" Items on QOLPAV with Total FI Scores

Correlations

		VAR00049	VAR00050	VAR00051	VAR00052	VAR00053	VAR00054	FI
VAR00049	Pearson Correlation	1 000	.484**	562**	.590**	.397*	.768**	- 288
	Sig (2-tailed)		008	002	001	033	000	130
	N	29	29	29	29	29	29	29
VAR00050	Pearson Correlation	484**	1 000	.704**	394*	471**	.453*	- 132
	Sig (2-tailed)	008		.000	034	.010	014	494
	N	29	29	29	29	29	29	29
VAR00051	Pearson Correlation	562**	.704**	1.000	.640**	.763**	.718**	- 181
	Sig (2-tailed)	.002	.000		000	.000	000	347
	N	29	29	29	29	29	29	29
VAR00052	Pearson Correlation	.590**	.394*	.640**	1.000	.797**	.725**	- 327
	Sig (2-tailed)	.001	.034	000	.	.000	000	084
	N	29	29	29	29	29	29	29
VAR00053	Pearson Correlation	.397*	.471**	.763**	797**	1.000	.642**	- 263
	Sig (2-tailed)	033	.010	000	000	.	.000	169
	N	29	29	29	29	29	29	29
VAR00054	Pearson Correlation	.768**	.453*	.718**	725**	.642**	1.000	- 217
	Sig (2-tailed)	.000	.014	.000	.000	.000	.	257
	N	29	29	29	29	29	29	29
FI	Pearson Correlation	-.288	-.132	-.181	- 327	-.263	-.217	1 000
	Sig. (2-tailed)	130	.494	347	084	169	.257	
	N	29	29	29	29	29	29	29

** Correlation is significant at the 0 01 level (2-tailed)

* Correlation is significant at the 0 05 level (2-tailed)

Correlation of "My Body and Health" Section on QOLPAV with Total FI Scores

Correlations

		BODY	FI
BODY	Pearson Correlation	1 000	073
	Sig (2-tailed)		705
	N	29	29
FI	Pearson Correlation	073	1.000
	Sig. (2-tailed)	705	
	N	29	29

Correlation of "My thoughts and Feelings" Section on QOLPAV with Total FI Scores

Correlations

		THOUGHTS	FI
THOUGHTS	Pearson Correlation	1.000	- 085
	Sig. (2-tailed)	.	.660
	N	29	29
FI	Pearson Correlation	-.085	1.000
	Sig. (2-tailed)	.660	
	N	29	29

Corrèlation of "My Beliefs and Values" Section on QOLPAV with Total FI Scores

Correlations

		BELIEFS	FI
BELIEFS	Pearson Correlation	1 000	.110
	Sig. (2-tailed)		.570
	N	29	29
FI	Pearson Correlation	.110	1.000
	Sig. (2-tailed)	570	.
	N	29	29

Correlation of "Where I Live..." Section on QOLPAV with Total FI Scores

Correlations

		LIVE	FI
LIVE	Pearson Correlation	1.000	- 029
	Sig. (2-tailed)		881
	N	29	29
FI	Pearson Correlation	- 029	1.000
	Sig. (2-tailed)	881	
	N	29	29

Correlation of "The People Around Me" Section on QOLPAV with Total FI Scores

Correlations

		PEOPLE	FI
PEOPLE	Pearson Correlation	1.000	-.130
	Sig. (2-tailed)	.	.501
	N	29	29
FI	Pearson Correlation	-.130	1.000
	Sig. (2-tailed)	501	.
	N	29	29

Correlation of "My Access to Things" Section on QOLPAV with Total FI Scores

Correlations

		THINGS	FI
THINGS	Pearson Correlation	1.000	- 203
	Sig. (2-tailed)	.	.290
	N	29	29
FI	Pearson Correlation	- 203	1.000
	Sig. (2-tailed)	290	
	N	29	29

Correlation of "The Daily Things I Do" Section on QOLPAV with Total FI Scores

Correlations

		DAILY	FI
DAILY	Pearson Correlation	1.000	-.281
	Sig. (2-tailed)		140
	N	29	29
FI	Pearson Correlation	- 281	1 000
	Sig. (2-tailed)	140	
	N	29	29

Correlation of "The Things I Do for Enjoyment" Section on QOLPAV with Total FI Scores

Correlations

		ENJOY	FI
ENJOY	Pearson Correlation	1.000	-.222
	Sig. (2-tailed)	.	248
	N	29	29
FI	Pearson Correlation	-.222	1.000
	Sig. (2-tailed)	.248	.
	N	29	29

Correlation of "The Things I Do to Improve and Change" Section on QOLPAV with Total FI Scores

Correlations

		IMPROVE	FI
IMPROVE	Pearson Correlation	1.000	-.292
	Sig. (2-tailed)	.	.124
	N	29	29
FI	Pearson Correlation	-.292	1.000
	Sig. (2-tailed)	124	
	N	29	29

Bibliography

1. Jette AM. Using Health-Related Quality of Life Measures in Physical Therapy Outcomes Research. *Phys Ther.* 1993;73(8):528-535.

2. Halpern AS. Quality of Life as a Conceptual Framework for Evaluating Transition Outcomes. *Excep Child.* 1993;59(6):486-499.

3. Raphael D, Rukholm E, Brown I, et al. The Quality of Life Profile-Adolescent Version: Background, Description, and Initial Validation. *J Adolesc Health.* 1996;19:366-375.

4. Woodill G, Renwick R, Brown I, and Raphael D. Being, Belonging, Becoming: An Approach to the Quality of Life of Persons with Developmental Disabilities. In: Goode D. *Quality of Life for Persons with Disabilities - International Perspectives and Issues.* Cambridge, MA: Brookline Books, Inc.;1994:57-74.

5. Umphred DA,ed. *Neurological Rehabilitation: 3rd Edition.* St. Louis, Missouri: Mosby-Year Book, Inc.;1995.

6. Deutsch A, Braun S, Granger C. The Functional Independence Measure and the Functional Independence Measure for Children: Ten Years of Development. *Clinical Reviews in Physical and Rehabilitation Medicine.* 1996;8(4):267-281.

7. Mahoney FI, Barthel DW. Functional Evaluation: The Barthel Index. *MD State Med J.* 1965;14:61-65.

8. Charness A. *Stroke/Head Injury: A Guide to Functional Outcomes in Physical Therapy Management.* Gaithersburg, Maryland: Aspen Publishers, Inc.;1986.

9. Riddle DL, Stratford PW. Use of Generic Versus Region-Specific Functional Status Measures on Patients With Cervical Spine Disorders. *Phys Ther.* 1998;78(9):951-963.

10. Westaway MD, Stratford PW, Binkley JM. The Patient-Specific Functional Scale: Validation of Its Use in Persons With Neck Dysfunction. *JOSPT.* 1998;27(5):331-338.

11. Msall Me, Rogers BT, Ripstein H, et al. Measurements of Functional Outcomes in Children with Cerebral Palsy. *Mental Retardation and Developmental Disabilities Research Reviews.* 1997;3:194-203.

12. Ottenbacher KJ, Msall ME, Lyon NR, et al. Interrater Agreement and Stability of the Functional Independence Measure for Children (WeeFIM)L Use in Children with Developmental Disabilities. *Arch Phys Med Rehabil.* 1997;78:1309-1315.

13. Soren K. Responsibility for Adolescent Health Care. In: *The Columbia University College of Physicians and Surgeons Complete Home Medical Guide.* 3rd Edition. 1995:191-192.

14. Starfield B, Bergner M, Ensminger M, et al. Adolescent Health Status Measurement: Development of the Child Health and Illness Profile. *Pedia.* 1993;91:430-435.

15. Wilson IB, Cleary PD. Linking Clinical Variables With Health-Related Quality of Life. *JAMA.* 1995;273(1):59-65.

16. Spitzer WO. State of Science 1986: Quality of Life and Functional Status as Target Variables for Research. *J Chron Dis.* 1987;40(6):465-471.

17. Goode DA. The National Quality of Life for Persons with Disabilities Project: A Quality of Life Agenda for the U.S. In: Goode D. *Quality of Life for Persons with Disabilities - International Perspectives and Issues.* Cambridge, MA: Brookline Books, Inc.;1994:139-161.

18. Dennis RE, Williams W, Giangreco MF, Cloninger CJ. Quality of Life as Context for Planning and Evaluation of Services for People with Disabilities. *Excep Child.* 1993;59(6):499-514.

19. Bradlyn AS, Ritchey AK, Harris CV, et al. Quality of Life Research in Pediatric Oncology: Research Methods and Barriers. *Cancer.* 1996;78(6):1333-1339.

20. Lawton MP. Measures of Quality of Life and Subjective Well-Being. *Generations.* 1997;21(1):45-53.

21. Katz S. The Science of Quality of Life. *J Chron Dis.* 1987;40(6):459-463.

22. Ratner PA, Johnson JL, Jeffrey B. Examining Emotional, Physical, Social, and Spiritual Health as Determinants of Self-rated Health Status. *Am J Health Promotion.* 1998;12(4):275-282.

23. Gill TM, Feinstein AR. A Critical Appraisal of the Quality of Quality of Life Measurements. *JAMA.* 1994;272(8):619-626

24. Renwick R, Brown I, Nagler M, eds. *Quality of Life in Health Promotion and Rehabilitation: Conceptual Approaches, Issues, and Applications.* Thousand Oaks, CA: SAGE Publications, Inc.;1996.

25. Guyatt GH, Naylor CD, Juniper E, et al. How to Use Articles about Health-Related Quality of Life. *JAMA*. 1997;277(15):1232-1238.

26. Resnick MD, Bearman PS, Blum RW, et al. Protecting Adolescents From Harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA*. 1997;278(10):823-833.

27. Torres R, Fernandez F, Maceira D. Self-Esteem and Value of Health as Correlates of Adolescent Health Behavior. *Adoles*. 1995;30(118):403-413.

28. Starfield B, Riley AW, Green BF, et al. The Adolescent Child Health and Illness Profile: A Population-Based Measure of Health. *Med Care*. 1995;33(5):553-566.

29. Rosenbaum P, Cadman D, Kirpalani H. Pediatrics: Assessing Quality of Life. In: Spilker B,ed. *Quality of Life Assessments in Clinical Trials*. New York, NY: Raven Press,Ltd.;1990:205-215.

30. Landgraf JM, Abetz L, Ware JE. Child Health Questionnaire-Child Self-Report Form (CHQ-CF87). In: *The Child Health Questionnaire User's Manual*. 1996.

31. Neff EJ, Dale JC. Assessment of Quality of Life in School-Aged Children: A Method-Phase I. *Mat-Child Nurs J*. 1990;19(4):313-320.

32. Neff EJ, Dale JC. Worries of School-Age Children. *JSPN*. 1996;1(1):27-34.

33. Perrin EC, Garrity PS. There's a Demon in Your Belly: Children's Understanding of Illness. *Pedia*. 1981;67(6):841-849.

34. Adams T, Bezner J, Steinhardt M. The Conceptualization and Measurement of Perceived Wellness: Integrating Balance Across and Within Dimensions. *Am J Health Promot*. 1997;11(3):208-218.

35. Starfield B, Forrest CB, Ryan SA, et al. Health Status of Well vs. Ill Children. *Archives Pediatr Adolesc Med*. 1990;150:1249-1256.

36. Stevens SE, Steele CA, Jutai JW, et al. Adolescents With Physical Disabilities: Some Psychosocial Aspects of Health. *J Adolesc Health*. 1996;19:157-164.

37. Haggerty RJ. Child Health 2000: New Pediatrics in the Changing Environment of Children's Needs in the 21st Century. *Pedia*. 1995;96:804-812.

38. Raphael D, Rukholm E, Brown I, et al. The Quality of Life Profile-Adolescent Version: Background, Description, and Initial Validation. *Quality of Life Resources Adolescent Series*. 1996;6-2:1-16.

39. Portney LG, Watkins MP. *Foundations of Clinical Research: Applications to Practice*. Norwalk, Connecticut: Appleton and Lange;1993.

40. Santrock JW. *Lifespan Development: 7th Edition*. Boston, Massachusetts: McGraw-Hill College;1999.

.

VITA

Deonna Kay Fulfer was born in Dallas, Texas, on September 22, 1974, the daughter of Bobby Joe Fulfer and Donna Kay Fulfer. After completing her work at South Garland High School, Garland, Texas, in 1993, she entered Texas A&M University in College Station, Texas. There she did an internship in the physical therapy department of St. Joseph's Regional Health Center during the fall semester of 1996. Deonna also performed some volunteer work during the summers at Texas Scottish Rite Hospital for Children. She graduated Magna Cum Laude with a Bachelor of Science degree from Texas A&M University in May, 1997. In June 1997, Deonna entered the Physical Therapy program of the Graduate School of Southwest Texas State University, San Marcos, Texas.

Permanent address: 1918 Tobin Trail
Garland, Texas 75043

This thesis was typed by Deonna Kay Fulfer.