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GETTING BACK: SUCCESSFUL

REHABILITATION AFTER A HIP FRACTURE

by

Carole Florek Hair. M.S., R.N.

A dissertation presented to the

FACULTY OF THE PHILIP Y. HAHN SCHOOL OF NURSING

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December 2002

Dissertation Committee

Patricia Roth, Ed.D., R.N., Chairperson Jane M. Georges, Ph.D., R.N. Mary Woods Scherr, Ph.D.

Abstract

Getting Back: Successful Rehabilitation After a Hip Fracture

Fracturing a hip is a devastating experience for the older adult, and mortality and morbidity following a hip fracture are high among this vulnerable population. Mortality rates from 12 to 37 percent have been reported within one year after a hip fracture. It is estimated that 50 percent of individuals who experience hip fractures become partially dependent in activities of daily living, and 33 percent become totally dependent in activities of daily living. Reducing morbidity by improving rehabilitation outcomes is an important healthcare goal for older adults.

Motivating participation in rehabilitation activities poses a challenge for professional caregivers. The purpose of this study was to explore motivation for successful rehabilitation. The study focused on discovering what the experience of fracturing a hip and recovering from this life-altering event was like for the older adult.

Dimensional analysis was used to develop an explanatory model of successful rehabilitation following a hip fracture. In-depth interviews were conducted with eighteen older adults between 72 and 92 years of age. Analysis of the data yielded an explanatory model of successful rehabilitation grounded in the experiences of the participants.

Life stops as you know it emerged as the context of the study that described the sudden dependence experienced by older adults following a hip fracture. The central dimension, *Getting Back*, represented intrinsic motivation to return to independent functioning that served as the primary motivator for participation in rehabilitation. Self-directed actions

used by participants included having a vision of returning to independent functioning, taking responsibility for participating in rehabilitation activities, and monitoring their rehabilitation progress.

Participants identified many conditions that facilitated and hindered their participation in rehabilitation. A lack of social support, limited resources, pain, depression, alterations in mental status, and medical or surgical complications were barriers to participation in rehabilitation. Support provided by professional and informal caregivers was important in facilitating rehabilitation. *Resuming a reasonable life* was the consequence of successful rehabilitation after a hip fracture. These findings have important implications for clinical practice and future research.

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Dedication

I dedicate this work to my family for their love and support throughout my long course of doctoral study.

First and foremost. I dedicate this work to my husband, Charles Hair, for all that you have done to facilitate my work. Thank you especially for your honest criticism, excellent editing, and proofreading skills that helped me to improve the quality of my writing. Thank you most of all for helping me to maintain a balance between work, school, and family that kept me motivated to complete this long-term project.

To my in-laws. Dwight and Cecelia Hair, I dedicate this work to you for your support, encouragement, and understanding of the process of doctoral study. Thank you for suggesting that I recruit participants from the membership of the National Association of Retired Federal Employees, an organization in which you are both active members. Thank you, Dwight, for being a role model to me through your own example of life-long learning and academic achievement.

In memory of my mother, Kay Florek, who so wanted me to achieve this important goal. I know you are with me in spirit Mom.

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Chapter I: Focus of the Inquiry

Fracturing a hip is a devastating experience for the older adult. Mortality and morbidity following a hip fracture are high among this vulnerable population. Mortality rates from 12 to 37 percent have been reported within one year after a hip fracture (Lyons, 1997). An important aim of the Healthy People 2000 (1991) campaign is to reduce hip fractures among individuals age 65 and older. It is estimated that 50 percent of individuals who experience hip fractures become partially dependent in activities of daily living and. 33 percent become totally dependent in activities of daily living (Kannus, et al., 1996). These declines in function represent a serious threat to the autonomy and quality of life for the older adult. The costs for providing care for older adults who do not regain independent functioning are high. Therefore, reducing morbidity by improving rehabilitation outcomes is an important geriatric healthcare goal.

Rehabilitation is especially important for improving functional ability and reducing the potential for long-term disability and dependence for older individuals. The disability rate is eight times greater for individuals over the age of 75 compared with individuals under the age of 45 (Kemp, Brummel-Smith, & Ramsdell, 1990). The United States Institute of Medicine placed research on the rehabilitation of functional disability in older adults among its highest research priorities (U.S. Institute of Medicine, 1991). Participation in therapeutic activities is necessary for improving function and meeting rehabilitation goals. Older adults are unable to participate in rehabilitation activities after a hip fracture for a variety of reasons related to physical health, alterations in mental status. or a lack of motivation. Motivating participation in rehabilitation is a challenge for rehabilitation professionals (Kemp. 1990).

Motivation for Rehabilitation

Motivating participation in rehabilitation activities is one of the biggest challenges facing nurses who work in rehabilitation settings. Successful rehabilitation outcomes are not possible without participation in the prescribed therapeutic activities. Patients who are dependent in self-care activities and refuse to participate in therapies are often labeled as unmotivated for rehabilitation (Kemp. 1990). Therapies are discontinued when older adults are unmotivated to participate or when they are no longer able to demonstrate improvements in measures of functional independence.

Discontinuing rehabilitation efforts reduces the potential for improving function and may ultimately lead to permanent disability and the need for long-term care services for the older adult. These consequences further limit the autonomy and independence of the older individual. Enhancing autonomy among the frail elderly has been a focus of recent aging research. Personal control. choice, self-determination, perceptions of control, and self-motivation are variables used in studying autonomy among older adults (Bowsher & Gerlach, 1990; O'Connor & Vallerand, 1994; Cox, Kaeser, Montgomery, & Marion, 1991; Rhodes, Morrissey, & Ward, 1992). The loss of autonomy has been associated with diminished quality of life (Bowsher & Gerlach, 1990; Cox et al., 1991).

A decline in functional independence has an impact on family members and society through the burden of care and costs associated with long-term care of the older adult.

One way in which these consequences may be avoided is to improve successful outcomes of rehabilitation programs. A first step in accomplishing this goal is to identify factors motivating older adults to participate in rehabilitation activities.

Motivation for rehabilitation among older adults has received little attention in geriatric research literature. A better understanding of this concept and the relationships among influencing variables is needed in order to improve the ability to assess and stimulate motivation for active participation in rehabilitation. The concept of motivation is used as a key variable in models of adaptation to disability and chronic illness (Leidy. Ozbolt, & Swain, 1990; Verbrugge & Jette, 1994). Models and theories have been developed to further enhance the understanding of this concept (Maslow, 1968; Ajzen & Fishbein, 1980; Deci and Ryan, 1987). Kemp (1990) proposed a model conceptualizing motivation for rehabilitation among older adults.

Identifying factors associated with successful rehabilitation outcomes following hip fracture has been the focus of recent studies. Roberto and Bartmann (1993) found that women who had higher capabilities in performing activities of daily living prior to hip fracture reported higher levels of function post-fracture. Parker and Palmer (1995) identified prefracture morbidity as the most significant factor in predicting the ability of participants to continue to live at home. The number of comorbid conditions did not effect post-fracture ambulation in a study conducted by Koval, Skrovron, Aharonoff, Meadows. and Zukerman (1995). Findings from these studies are contradictory. Further research is needed to identify factors for predicting outcomes and promoting rehabilitation among older adults following hip fractures.

In general, studies designed to examine behavioral motivation among older adults have been limited. Quantitative research designs have predominantly been employed in studies evaluating the effects of self-determination and self-motivation (Langer & Rodin, 1976; Rodin and Langer, 1977; Radtke, 1989; Rhodes, et al., 1992). Instruments measuring self-motivation have been designed and tested in young adults. These instruments have been used in studies evaluating self-motivation in older adults (Radtke, 1989; Rhodes, et al., 1992). The validity for measuring motivation in older adults using these instruments has not been demonstrated (Resnick, 1995). Results of these studies must, therefore, be interpreted with caution.

Studies seeking to discover meanings of experiences from the perspective of participants are gaining increasing acceptance and acknowledgement for contributing to the scientific knowledge base in nursing, gerontology, and rehabilitation (Gadow, 1986; Tornstam, 1992; Peters, 1996; Beaton, Tarasuk, Katz, Wright, & Bombardier, 2001). Assessment of outcomes valued by persons with disabilities has been identified as an important area of study by The National Center for Medical Rehabilitation Research (Fuhrer, 1995). Little is known about the factors involved in the motivation to participate in rehabilitation programs from the perspective of the older adult. Research aimed at generating knowledge from this perspective is needed in order to develop future assessment instruments and interventions.

Resnick (1996) initiated work in this area by identifying factors promoting and inhibiting motivation among five elderly women admitted to a rehabilitation facility. Her study included a small number of participants and was limited to women with orthopedic and neurological conditions. Further research is needed to investigate the experiences of

older individuals with different disabling conditions admitted to different types of rehabilitation settings.

Hip fractures are a common cause of disability experienced by older adults. Exploration of factors motivating participation in rehabilitation among individuals following hip fractures is important for improving rehabilitation outcomes. The perceptions of older adults who have achieved successful rehabilitation outcomes are especially important for identifying these factors.

Purpose of the Study

The purpose of the study was to explore the motivation of older adults for successful rehabilitation following hip fractures. The study focused on discovery of meanings the experience of fracturing a hip and recovering from this event have for the older adult. The main lines of inquiry included identifying factors that participants felt helped to motivate their participation in rehabilitation and factors they felt hindered their participation in rehabilitation. An additional line of inquiry pursued with participants included outcomes they felt indicated successful rehabilitation from a hip fracture.

Theoretical Perspective

Symbolic interactionism is the philosophical underpinning for the grounded theory methods used in this study. Symbolic interactionism is a social psychological theory proposed by Blumer (1969) stemming from earlier work of George H. Mead. The theory has three basic premises: 1) individuals' actions are based on the meanings which objects, events, or people have for them, 2) meanings are derived from social interactions among people, and 3) individuals generate and modify meanings through a process of interpretation. An assumption of symbolic interactionism theory is that individuals

interpret events in order to act. rather than simply responding to stimuli present in their environment. Blumer (1969) describes this process of interpretation.

The actor selects. checks, suspends, regroups, and transforms the meanings in light of the situation in which he is placed....meanings are used and revised as instruments for the guidance and formation of action (p. 5).

The process of interpretation has two phases. In the first phase, the individual identifies things that have meaning that will guide actions. In this phase the individual is interacting only with him or herself. In the second phase, the individual interprets the meanings of a situation or event. It is the individual's interpretation of meanings that guides actions according to Blumer (1969).

The premises and assumptions of symbolic interactionism support the purpose of this study. This study seeks to determine how older adults are motivated to participate in rehabilitation by eliciting and examining descriptions and interpretations of their experience. Based on Blumer's description. an older adult's behavior is motivated by the meanings and social context of the rehabilitation experience. Individual attitudes, expectations for recovery, and the availability of social support may be important factors in motivating older adults' participation in rehabilitation. The research method proposed for conducting this study is congruent with symbolic interactionism theory.

Methodology

Grounded theory is a method for conducting qualitative research studies developed by Glaser and Strauss (1967). Concepts are generated from data and organized by their properties to form broader categories. Comparing findings among participants as the data is collected refines the concepts and categories. Patterns of relationships among concepts

begin to emerge from the process of data collection, comparison, and conceptualization of categories that are integrated to form a grounded theory.

Dimensional analysis is a method for developing a grounded theory developed by Schatzman (1991). Dimensional analysis further refined methods for identifying and organizing concepts for the purpose of developing a grounded theory. Data analysis using dimensional analysis consists of three phases: designation. differentiation and integration. Concepts are identified and differentiated within categories that define the context, conditions, actions, processes, and consequences from which the data emerges. Findings are integrated to form a theory grounded in the data.

Dimensional analysis was used to develop a theoretical model of motivation for rehabilitation following hip fracture among older adults. The grounded theory generated using this approach was based on the experiences of participants. The inductive research method was most appropriate for the conduct of this study because factors motivating older adults' participation in rehabilitation following a hip fracture were basically unknown. Theoretical models derived from the perspective of the participant have been limited in geriatric rehabilitation research.

Significance of the Study

Increases in life expectancy have resulted in rapid growth of the older adult population. Individuals age 85 and older represent the fastest growing segment of the population in the United States and the population of adults over the age of 65 is expected to reach 20 percent by the year 2030 (United States Department of Health and Human Services, Public Health Service, 1991). Growth of the older adult population presents challenges to the health care system and to providers of health care services.

Older adults are the highest users of acute hospital services accounting for 41 percent of impatient hospital days (U.S. Special Committee on Aging, 1988). Physiologic changes associated with aging contribute to declines in function following acute illness. Functional declines following hospitalization represent a serious problem among older adults. Two important areas of geriatric research are aimed at 1) evaluating functional outcomes following hospitalization and 2) testing interventions to minimize functional declines associated with hospital admissions (Sager et al., 1996; Murray et al., 1993; Landefeld, Palmer, Kresevic, Fortinsky, & Kowal, 1995).

Physiologic changes associated with aging also contribute toward impaired mobility, predisposing older adults to falls and hip fractures. Hip fractures are a leading cause of functional decline among older adults. The worldwide incidence of hip fractures reported in 1990 was 1.66 million. The incidence of hip fractures occurring in the United States in 1990 was estimated at 280,000. The annual incidence of hip fractures worldwide is projected to rise to 6.26 million by 2050 (Kannus. et al., 1996). In the United States it is estimated that there will be more than 500,000 hip fractures annually by 2040 at an annual cost of \$16 billion (Cummings, Rubin & Black, 1990). As noted previously, there is a high rate of morbidity and mortality following hip fractures in this vulnerable population of older adults.

Findings from this study will contribute to a better understanding of factors motivating older adults' participation in rehabilitation following a hip fracture. Only one theoretical model of motivation for rehabilitation has been developed from the perspective of the older adult (Resnick, 1998b). No existing models of motivation for rehabilitation are grounded specifically in the experience of the older adult following a hip fracture.

The findings of this study will also contribute to the knowledge base for rehabilitation nursing practice. For example, findings may be applied to developing age-appropriate instruments for assessing motivation for rehabilitation in this vulnerable aged population. The theoretical model derived from the findings of this study may be used for developing and testing interventions to enhance motivation of older adults engaged in rehabilitation following hip fractures. Quality of life may be improved for individuals achieving successful rehabilitation outcomes. This important outcome measure needs to be included in future nursing rehabilitation studies.

In a broader context, the findings of this study may contribute to the development of further rehabilitation outcome studies and changes in public policy related to the design, scope, and funding of geriatric rehabilitation programs. Current Medicare regulations limit the length of time and scope of services available for rehabilitation of older adults. Additional time and rehabilitation services may improve outcomes and limit morbidity among older adults. A return to independent functioning following a hip fracture has the potential to reduce costs associated with dependence in functioning among older adults. These costs include the ongoing need for in home support services or long-term care in an institutional setting. As the population of older adults continues to rise, the cost savings derived from improving rehabilitation outcomes could be significant.

Chapter II: Context of the Inquiry

A hip fracture represents a life-altering event for which the outcome is uncertain, posing a threat to the autonomy and independent functioning of the older adult. The context for this inquiry is the experience and meanings that fracturing a hip has for this vulnerable population. Mortality and morbidity related to hip fractures are high (Kannus, et al., 1996). Rehabilitation research has focused on reducing morbidity by identifying and attempting to modify factors associated with negative rehabilitation outcomes. As the population of older adults continues to grow, improving rehabilitation outcomes has important implications for the quality of life for the individual, family, and society.

The following review of literature describes variables associated with experiencing a hip fracture including general predictors of rehabilitation outcomes and factors associated with motivation for rehabilitation. The chapter begins by reviewing studies identifying general predictors of rehabilitation outcomes and predictors of rehabilitation outcomes following a hip fracture. The concept of motivation is reviewed from theoretical and clinical perspectives. Individual motivation is an important psychosocial factor influencing rehabilitation outcomes and motivation, in turn, is influenced by physical and psychosocial factors. Studies of variables associated with motivation for rehabilitation and recovery experiences among older adults are reviewed. The chapter concludes with a critique of previous research, identifying gaps in rehabilitation knowledge, and

suggesting factors that influence motivation and successful rehabilitation outcomes from hip fracture among older adults.

Factors Influencing Rehabilitation Outcomes

Rehabilitation outcome studies evaluate the degree to which rehabilitation goals are met. Evaluation of rehabilitation outcomes among older adults is complicated by the need to consider the confounding effects of physical. psychological, and social variables (Stineman & Granger, 1994). Rehabilitation outcomes are negatively influenced by factors such as age-related functional changes and co-morbidities (Gill. Robison, & Tinetti. 1997). Despite age-related barriers, effective rehabilitation interventions have been demonstrated among older adults (Patrella, Payne, Myers, Overend, & Chesworth, 2000).

General Predictors of Functional Recovery. Predictors of recovery in activities of daily living (ADL) among older adults living in the community were examined in a prospective cohort study (Gill, et al., 1997). Participants in this study included 213 men and women age 72 and older who reported dependence in one or more activities of daily living. All participants were evaluated by research nurses in their homes at entry into the study and one year later using standardized assessment instruments. A three-year followup interview was conducted by telephone interview.

Recovery of ADL function for participants in this study was defined as not needing assistance in any ADLs within two years. Predictors of recovery of ADL function determined in this study included age, mental status, dependence in fewer ADLs, high self-efficacy scores, high mobility and good nutritional status. Individuals who were 85 or younger with Folstein Mini-Mental Status (MMSE) scores of 28 or better and self-

efficacy scores greater than 75 were more likely to recover ADL function. Participants who were on five or fewer medications and those who scored in the best third of a timed physical performance test also demonstrated ADL recovery in this study. Four factors associated with ADL recovery in a multivariate analysis were age 85 or younger. MMSE score of 28 or better, high mobility and good nutritional status. The researchers concluded that individuals older than 85 were less likely to recover independent ADL function. Good nutritional status, high levels of mobility, and intact cognitive function were good predictors of recovery of ADL function among older adults.

Limitations of this study included a lack of differentiation among participants who were dependent at the baseline interview and those who dependent one year later. All participants were considered as one group for the purpose of data analysis and baseline characteristics for the two groups and their rate of ADL recovery were similar. ADL function was determined by self-ratings among participants. Improvements in ADL function may have been due to adaptations made by the older adult, such as using special clothing or equipment, rather than actual improvements in functioning.

Data collection for this study did not include events that precipitated ADL dependence or interventions participants may have received to improve their level of function. There may be different recovery rates among individuals who experience major events such as hip fractures and strokes than for those who experience an acute medical illness or a fall without serious injury. Studies focusing on specific conditions need to be conducted in order to eliminate this limitation. Receiving physical or occupational therapy may have improved ADL function for some participants. Assessment of outcomes needs to be based on similar rehabilitation experiences. Although the study has several limitations, the findings suggest important predictors for recovery of the ability to perform activities of daily living among older adults living at home.

Predictors of Recovery Following Hip Fractures. Recovery of function following hip fractures is complex involving many potential influencing variables. Studies identifying negative outcomes and predictors of recovery following hip fracture have been reported (Koval. et al., 1995; Parker & Palmer, 1995; Marottoli, Berkman, & Cooney, 1992; and Cree, et al., 2000). Parker and Palmer (1995) conducted a study of 643 patients admitted from home following hip fractures to determine factors that predicted their ability to continue to live at home. Patient characteristics including mobility, mental status, and physical health were assessed on admission and one year after the hip fracture. Successful rehabilitation was defined as being alive and continuing to live at home one year after the fracture.

Data collection for this study included assessing the living situation of participants one year after experiencing a hip fracture. Sixty-five percent of patients continued to live at home, ten percent died during the initial hospital admission, twelve percent died after discharge, but within one year following hip fracture, and fourteen percent were admitted to assisted living or skilled nursing facilities. The demographic data supported previously reported findings of the high rate of morbidity and mortality associated with hip fractures (Kannus et al., 1996).

Data were collected after one year and were analyzed using logistic regression analysis. Living at home was the dependent variable. Gender and living alone were not significant predictors of successful rehabilitation in this study. Age, mobility, mental status and physical health, defined by the American Society of Anesthesiologists rating of

operative risk, were all found to be highly significant predicting variables. A hierarchical analysis of the data showed that pre-fracture mobility had the most significant relationship to all of the variables in this study.

Koval et al. (1995) studied the ambulatory ability of 336 community-dwelling older adults age 65 and older one year after hip fractures. The researchers identified variables thought to predict ambulatory ability including: age, gender, number of comorbid conditions, pre-fracture ambulatory ability, pre-fracture living situation, fracture type, American Society of Anesthesiologists rating of operative risk, type of surgery, and number of postoperative complications. Results of this study demonstrated that 41 percent of the participants had regained their pre-fracture ability to ambulate while 59 percent had lost some of their pre-fracture ability.

The predictors of decline in ambulatory ability were analyzed using multiple logistic regression analysis. Age and pre-fracture ambulatory ability were identified as significant predictors of a decline in ambulatory ability twelve to eighteen months after the hip fracture. Participants who were age 85 and older demonstrated a higher decline in the ability to ambulate. The American Society of Anesthesiologists rating of operative risk was also shown to be a predictor of a decline in the ability to ambulate in further analysis of the data using a univariate logistic regression and adjusting for covariates.

These findings support the findings reported by Parker and Palmer (1995). Mental status was not a predicting variable in this study most likely because individuals with significant cognitive dysfunction were excluded from participation. Behavioral characteristics such as self-efficacy beliefs, motivation, and mood that may contribute to participation in rehabilitation and recovery of ambulatory ability were not measured in this study.

A prospective cohort study to determine changes in physical functioning after a hip fracture among community-dwelling older adults was conducted by Marottoli, et al. (1992). This study also examined baseline factors thought to be predictive of changes in function. Subjects included 120 adults age 65 and older who were part of a cohort of 2806 individuals participating the Yale Health and Aging Project funded by the National Institute on Aging. Outcome measures included self-reported performance of activities of daily living prior to the hip fractures. six weeks after the fracture. and six months after the fracture. Baseline factors including physical functioning, mental status, depressive symptoms, social support, and demographic information were assessed prior to the hip fracture.

Data analysis included determining the frequency and the proportion of subjects who were able to perform activities of daily living. A separate analysis was conducted for subjects identified as high functioning during the baseline measures to determine if prefracture ability was predictive of post-fracture functional ability. Bivariate and multivariate analyses were conducted to determine which baseline factors were associated with changes in physical function at six weeks and six months after experiencing a hip fracture.

Outcomes for the 120 subjects were measured and reported over the 6-year time period of this study. Twenty-two participants died within six months of the fracture. Thirty-six subjects were lost to follow-up including twenty-one who refused to participate in follow-up interviews after six weeks and 15 who refused to participate after six months. Outcomes were reported on the remaining subjects (N=84).

A decline in the ability to independently perform each activity of daily living was demonstrated six weeks after a hip fracture. There was no improvement or slight improvement in the activity measures after six months. For example, 86 percent of subjects were able to dress independently at the baseline measure. Only 42% were able to dress independently six weeks after a fracture and 49% were able to dress independently after six months. The decline in functioning was also demonstrated in a separate analysis of the data collected on high functioning subjects.

Results of bivariate analysis of the data revealed that baseline physical function and mental status were significantly associated with function at six weeks and six months after a hip fracture. No significant associations were demonstrated between physical function and other variables including age, gender, education, race, depression social activities. social and emotional support, marital status, co-morbidity, fracture site or complications during the six-week or six month follow-up. Better baseline physical function and mental status were predictive of better functioning six weeks after a fracture in a multivariate analysis of the data. Better physical functioning and the presence of depressive symptoms were predictive of better functioning six months after a fracture. The researchers conclude that the association of depressive symptoms with better function is "counter-intuitive" (p. 866). They suggest that the reaction of subjects to the experience of a hip fracture may contribute to this finding.

The small number of subjects experiencing fractures and completing the study (N=84) is one limitation of this cohort study. Outcome measures were based on self-reports of

function that may be inaccurate. Despite these limitations, findings of this study suggest that there is a substantial decline in physical function associated with hip fracture and that the pre-morbid level of function and mental status are the best predictors of this decline. Further research is needed to identify factors associated with declines in physical function after hip fracture. Identification of factors with the potential for remediation is especially important for reducing morbidity among older adults.

Research has continued to determine factors associated with poor outcomes of hip fractures and predictors of individuals at highest risk. A prospective cohort study conducted by Cree. et al. (2000) in Edmonton Albert. Canada to determine mortality and institutionalization following hip fracture. Participants included 558 adults over the age of 64 who lived in the Edmonton area. Baseline information was collected for 470 participants and 338 participants completed the three-month follow-up. Demographic data included age. gender, marital status, and pre-fracture living situation. Baseline interviews were conducted in the hospital approximately four days after surgery to assess mental status and pre-fracture physical function, health perception, and social support. Follow-up interviews were conducted by telephone to assess post-fracture physical function, health perception, and social support.

Data analysis included a report of mortality for 558 participants during the threemonth period following a hip fracture. Institutionalization was assessed at three months for participants who lived in the community prior to the hip fracture. Bivariate and multivariate analyses were performed to determine the association between the outcomes of mortality and institutionalization with independent variables including gender, age,

mental status, co-morbid conditions, pre-fracture residence, occupation, education, social support, physical function and health perception.

Mortality findings for this study indicated that 44 of the 558 (8%) participants died within three months following their hip fracture. A univariate analysis of the data was conducted to show the variables associated with mortality. Variables including increasing age, a higher number of co-morbidities, male gender, residing in long-term care before a fracture, and poor mental and physical functioning were associated with increased mortality.

Of the 338 participants who survived three months after a hip fracture, 219 (65%) had the cognitive ability to participate in an interview for this study and 58 (17%) were in long-term care. A multivariate analysis was used to predict patients at high risk for institutionalization. Age, lower mental status scores (less than 21 on the MMSE), and lower post-fracture function were found to be the best predictors for institutionalization.

Data collection methods may have influenced the outcome measures of this study. Self-reporting was used for assessment of pre-fracture functioning. Participants reported information during the week following surgery when their mental status could have been altered. Mental status scores obtained after surgery may have been altered by anesthesia, postoperative delirium, environmental factors, or depression experienced by participants following a hip fracture.

The findings of this study support previous research (Gill, et al., 1997; Koval, et al., 1994; Marottoli, et al., 1992) identifying mental status and pre-fracture functioning in predicting rehabilitation outcomes. Although, social support and health perception did not significantly contribute to predicting mortality or institutionalization in this study,

these variables needs to be included in future studies examining rehabilitation outcomes among older adults after a hip fracture.

The relationship between perceived health and rehabilitation outcomes such as performance of activities of daily living (ADLs) and walking ability was reported in a Swedish study (Borgquist, Nilsson, Lindelow, Wiklund, & Thonggren, 1992). Participants in this study included a convenience sample of 80 women and 20 men over the age of 50 (mean age of 74) who lived at home prior to a hip fracture and returned home after rehabilitation. Perceived health was self-reported at six and twelve months post-fracture using the Nottingham Health Profile and the Mood Adjective Checklist. Although reliability and validity have been established for these instruments, the researchers noted that their use with older adults was limited. Data were analyzed using Chi Square for comparing proportions and the Whitney U Test and Kruskal-Wallis oneway analysis of variance for comparing groups in the self-assessments.

No significant differences in health assessment were noted between groups based on the type of fracture sustained and ADL functioning improved for all participants. There were significant differences in perceived health between patients who were and were not managing outdoor ambulation six months after a hip fracture. These differences were demonstrated in the Nottingham Health Profile (NHP) subscales measuring energy and physical mobility. Patients with complications requiring nail extraction and total hip replacement demonstrated significant differences in health perception in the NHP subscales measuring energy and pain. No significant differences in health perception were demonstrated between six and twelve months, although scores on all the subscales improved slightly at twelve months. No significant changes in mood, measured by the

Mood Adjective Checklist, were demonstrated after a hip fracture. This finding may reflect the successful rehabilitation outcomes achieved in the study population who returned home after a hip fracture.

There were several limitation identified in this study. As noted previously, the instruments used in this study were not validated in an older adult population. The researchers assumed validity of this instrument for use in the study population. Perceived health status was not measured prior to hip fracture. An English reference group was used to compare measures of perceived health. as there was no Swedish reference population. While differences among these groups appear to be consistent with expected outcomes after a hip fracture, cultural and language differences may have influenced responses to questions on the NHP.

Although the study design raises concern over the validity of the findings of this study, two important relationships were demonstrated in the findings. First, objective and subjective measures of function were in agreement for the variables energy, physical mobility, and pain. The researchers concluded that self-assessments measuring the perceived health impact of hip fractures are just as valid as objective measures of rehabilitation outcomes. They also suggest that an individual's assessment of the impact of hip fracture is important for evaluating rehabilitation outcomes.

Critique of Rehabilitation Outcomes Research

While studies have identified factors associated with successful and poor rehabilitation outcomes, validity of the findings has been influenced by methodological and design limitations. Many studies have a small number of subjects or a high number of subjects eliminated over time due to death, poor cognitive status, or refusal to

participate. Much of the data has been obtained through self-reports that may or not be reliable among the older participants, especially if data is collected in the immediate postoperative time period.

Confounding variables influencing rehabilitation outcomes such as the type of rehabilitation experience and differentiation between functional improvement and adaptation to disability need to be identified and controlled. Many studies limited outcome measures to demographic data and objective measures. Behavioral characteristics and self-perceptions of participants have not been widely studied in large cohort studies.

Quantitative research instruments used in studies of older adults have often been developed and validated in younger populations. Validity of the instruments used to measure research variables among older adults needs to be established. Little research has focused rehabilitation activities and outcomes identified as important among older adults. Studies that focus on the perspective of the older adult are needed to identify and develop interventions to meet the needs of this population.

Health perceptions may be especially important in motivating older adults to participate in rehabilitation programs. Research has begun to focus on health perceptions including self-efficacy and self-motivation as important variables promoting successful rehabilitation outcomes.

Models and Theories of Motivation

Motivation describes or explains how and what determines a person's thoughts and actions (Weiner, 1992). Models and theories have been developed to further enhance understanding of this abstract concept. A model or theory of motivation would be helpful

for assessing behavior or for developing and testing interventions to improve motivation of older adults. A review of models and theories contributing to further understanding of the concept of motivation follows.

Maslow (1968) identified motivation in subjective terms by stating "I am motivated when I feel a desire or want or yearning or wish or lack" (p. 22). This definition supports an internal. self-directed, and goal-directed basis for motivation. Maslow believed that observable, objective behaviors do not correlate well with an individual's perception of his or her motivation. For example, the older adult who is labeled as unmotivated for rehabilitation may not agree with this assessment. Maslow (1968) further defined types of motivation in terms of outcomes. Deficiency motivation is directed toward maintaining equilibrium while growth motivation is directed toward attaining future goals.

Ajzen and Fishbein (1980) developed a theory of reasoned action for explaining and predicting behavior. The theory views a person's intentions as the determinants of behaviors. As the determinants of behavior, intentions can be identified as a measure of motivation. This idea is supported by Deci and Ryan (1987) who also view intentions as determinants of behavior. They further suggest, "having an intention implies personal causation and is equivalent to being motivated to act" (p. 1024).

According to Ajzen and Fishbein (1980), intentions are determined by a person's attitudes, beliefs, and social influences. This theory supports both internal and external determinants of behavior. In further development of this theory, Ajzen and Madden (1986) described perceived behavioral control as another significant determinant of
intentions and behavior. They proposed that an individual's perception of control over behavior influences motivation.

Deci and Ryan (1985) developed self-determination theory, which describes how individuals behave within their environment. They identified competence, self-initiation, and self-regulation as important factors in determining behavior. They proposed that the presence of these factors enhances motivation while the absence inhibits motivation. The factors enhancing motivation are similar to self-actualizing traits described by Maslow (1968).

Deci and Ryan (1985) further described types of motivation ranging along a continuum representing the degree of self-determination for the behavior. These types include intrinsic motivation. self-determined and non-self-determined extrinsic motivation. and amotivation. Intrinsic motivation represents the most autonomous form of motivation. Examples of behaviors, which are intrinsically motivated, are those performed solely for the satisfaction gained from engaging in the activity. Extrinsically motivated behaviors provide rewards or a negative consequence if not performed. Participating in physical therapy to improve functional ability is an example of externally motivated behavior.

Those behaviors, which are valued and chosen by an individual, are further defined as self-determined while behaviors, which are not valued, or chosen by the individual are defined as non-self-determined. Amotivation is the least self-determined behavior according to Deci and Ryan (1985), representing no links between behavior and outcome. Conceptualizing motivation along a continuum of self-determined behavior has relevance for explaining behaviors of older adults in a rehabilitation setting. For example, older

adults who refused to participate in rehabilitation activities because they perceive no purpose or benefit represent amotivated behavior as defined by the self-determination theory.

Kemp (1990) developed a model of motivation for geriatric rehabilitation. He described motivation as "the result of the interaction among the variables: wants. beliefs. rewards. and costs" (p. 299). This model combines elements of desires. beliefs. and outcomes of motivation and behavioral intentions similar to those of Maslow (1968). Ajzen and Madden (1986) and Deci and Ryan (1985). In Kemp's model these variables are then weighed against the physical, psychological, and social costs of an effort. He proposes that motivation is diminished if the costs of the effort are perceived by the older individual to be too high.

Critique of Theories and Models of Motivation. The theories of motivation described above were developed using concepts from motivational psychology. Research to test these theories has been conducted primarily among college students (Ajzen & Madden, 1986; Dishman & Ikes, 1981). These theories of motivation seek to explain all behavior and were not developed specifically to explain motivation in a rehabilitation context.

Kemp's (1990) conceptual model differs from the other theories of motivation in that it does focus specifically on motivation for rehabilitation among older adults. It is similar to other theories in that it is derived from concepts of motivational psychology and a deductive approach was used for development of the model. None of the current theories of motivation were derived using an inductive approach. A theory conceptually relevant to the experiences of older adults is needed for expanding the rehabilitation nursing knowledge base.

Research Related to Motivation of Older Adults

Because there are so few studies investigating perceptions or measures of motivation for rehabilitation among older adults, this review of research literature includes three important areas of research suggesting variables related to motivation for rehabilitation. The first section reviews findings from studies of perceived behavioral control. Choice and control are important for determining the direction of behaviors previously described by Kemp (1990). Perceived behavioral control is also related to motivation as an important determinant of behavioral intentions previously described by Ajzen and Madden (1986) and Deci and Ryan (1985).

The second section reviews findings from studies of self-motivation. Self-motivation represents the effort and perseverance component of motivation previously described by Kemp (1990). Self-motivation has been identified by Dishman and Ickes (1981) as an important component of overall motivation. Findings from these studies contribute to further clarification of the concept of motivation for rehabilitation of the older adult.

The third section reviews qualitative rehabilitation research findings describing recovery experiences of older adults. Findings from qualitative studies focusing on the recovery process suggest factors influencing motivation for rehabilitation grounded in the daily rehabilitation experiences of the research participants. Stroke and hip fracture research were primarily selected for this review because these sudden disabling events represent the conditions most examined in geriatric rehabilitation research. The final section reviews studies focusing specifically on motivation for rehabilitation among older adults. Although limited in scope, the findings of these studies are most closely linked to the context of this inquiry.

Perceived Behavioral Control. Ajzen and Madden (1986) studied perceived behavioral control as a determinant of intentions to perform behaviors. Studies of personal control and perceived behavioral control have been reported in the nursing literature (Dennis. 1987; Wells, 1994). Gerontological nursing research has studied personal control issues related specifically to the older adult (Bowsher & Gerlach, 1990: Kane. Freeman. Caplan. Aroskar. & Urv-Wong, 1990: Cox. et al., 1991; Blair, 1995: McBride, 1993; Rhodes, et al., 1992).

Bowsher and Gerlach (1990) studied personal control and other factors influencing psychological well being in 302 cognitively intact nursing home residents living in 22 nursing homes. The age range of the participants was from 65 to 101 with a mean age of 79.8 years. Personal control was measured using the Desired Control Measure developed by Reid and Ziegler (1980). Reliability was reported with internal consistency coefficients ranging from .73 to .80. Validity coefficients with measures of psychological well being ranged from .37 to .48. Psychological well-being was measured using a combined Life Satisfaction Index and Affect Balance Scale.

Data were analyzed using a stepwise multiple regression technique. The findings demonstrated that, of the variables tested, expectancy of control explained the highest percent (19%) of the variance in psychological well-being. In a critique of this study, Ryden (1990) noted that a lack of control might lead to the condition of learned helplessness. Learned helplessness is characterized by decreased efforts to achieve a goal when there is little or no progress made by those efforts. She also noted that depression has been identified as a consequence of the inability to control outcomes. A decrease in the efforts made by a helpless or depressed individual may be interpreted as a lack of motivation.

Limitations of this study included a lack of diversity among participants with the majority being widowed, white females. All participants in this study were admitted to proprietary skilled nursing facilities in one geographical area. The researchers recommended replication of the study in other geographical areas, using "nonproprietary or sectarian homes" (p. 100) to verify the findings. Because the validity of the desired control measure was low, the findings of this study must be interpreted with caution.

The concept of control was examined in a qualitative study of autonomy in nursing homes (Kane, et al., 1990). Participants in this study included 135 cognitively intact nursing home residents and a random sample of nursing assistants from 45 facilities located in five states. Residents and nursing assistants were asked about the importance of choice and control over everyday activities such as getting up, care routines, and nursing home activities.

The findings demonstrated a high value for choice and control among the nursing home residents. This result supports the finding of Bowsher and Gerlach (1990). Nursing home residents in this study were dissatisfied with the amount of choice and control they possessed.

Nursing assistants valued choice and control in this study, but did not feel there was much opportunity to change the facility practices. Residents and nursing assistants rated items differently in terms of their importance. For example, residents identified using the telephone as very important while nursing assistants did not identify it as an important activity for residents. The researchers strongly recommended continuing efforts to determine the preferences of residents in nursing homes.

These findings support the importance of choice and control in the nursing home setting. Nursing homes are shifting from solely providing long term care to providing rehabilitation services for the older adult. Personal control may be one of the important variables for programs designed to enhance motivation. Interventions promoting choice and control may be especially important for achieving successful rehabilitation outcomes.

Cox et al. (1991) used a nonequivalent control group design to test a model of nursing care. which gives nursing home residents greater control over their own care. The model included care supportive of choice. control. and continuity of care. The model of care was implemented for six months on the experimental unit. The study sample included 23 experimental and 22 control nursing home residents. Nursing administrators, licensed nursing personnel, and nursing assistants from day and evening shifts also participated in this study.

The measures used with nursing home residents included a 30-item decisional control instrument with Cronbach's alpha levels ranging from .87 to .92. Several measures of psychological well-being were used and the investigators reported the reliability of all measures. Two scales with Cronbach's alpha measures less than .65 were eliminated. Interrater reliability among the interviewers was established with a correlation coefficient of .80.

Although the groups were nonequivalent, differences in demographic variables were statistically controlled when the post intervention measures were evaluated. Findings of

this study indicated that residents on the experimental unit had significant increases in choice. control. and well-being compared to residents on the control unit. The experimental unit staff demonstrated more positive attitudes toward providing choice and control for residents than the staff on the control unit.

The researchers identified several limitations in the study design. Six months was most likely not sufficient time to demonstrate changes caregiver practice. Licensed staff were the primary recipients of education on the care delivery model while unlicensed staff provided most of the direct patient care. The researchers recommended the design and implementation of educational programs for each group of caregivers in future research using this model. Improvements in functional ability were not measured as an outcome among participants and six participants did not complete the study. These participants either died or were transferred to other units during the course of this study.

Although the findings of this study cannot be generalized, they supported those of Bowsher and Gerlach (1990) that choice and control increased a sense of well-being in the experimental group. This study demonstrated positive outcomes of a control enhancing care delivery model. The relationship between well-being and motivation for self-care still needs to be examined.

Blair (1995) studied the effectiveness of three nursing approaches designed to promote self-care behaviors in nursing home residents. The three approaches included usual nursing care, mutual goal setting, and a combination of mutual goal setting and a behavioral management program. A quasi-experimental design was used to test two hypotheses. The first hypothesis proposed that residents who received mutual goal setting would perform significantly better on self-care activities (bathing, dressing,

shaving, hair combing, feeding self, and brushing teeth) than those receiving usual nursing care, which did not include this approach. The second hypothesis proposed that participants who received both mutual goal setting and behavioral management would perform better on self-care activities than those who received only usual nursing care or only mutual goal setting.

The sample consisted of 79 participants, ranging from age 56 to 100 years, who were residing in three nursing homes. The nursing homes were randomly assigned to a research condition. Training specific to each condition was provided to the staff at each nursing home over a two-week period. Behavior management training consisted of strategies for managing dependent behavior, prompting behavior, and reinforcing desired behaviors.

Blair (1995) developed the instrument used to measure goal attainment in this study. Interrater reliability ranged from .65 to .99 and concurrent validity with other measures ranged between .12 and .63. The findings must be interpreted with caution due to the low reliability and validity of the goal attainment instrument.

At the end of the 22-week study period, participants who received the behavior management and mutual goal setting performed significantly better on self-care activities than those receiving the other two treatments. The researcher concluded that the staff that were trained in behavior management and mutual goal setting were "more effective in motivating residents to perform self-care" (p. 164). The mutual goal setting approach may enhance the motivation of the older adult for self-care through the development of meaningful and relevant goals. Although the reliability and validity of the instrumentation is of concern, the findings support developing rehabilitation programs for the older adult, which include a combination of approaches to care.

McBride (1993) conducted an exploratory study to identify the attitudes and perceived level of control of participants for sustained participation in pulmonary rehabilitation activities. The study sample consisted of 32 English-speaking patients with chronic obstructive pulmonary disease, ranging in age from 51 to 89 years, who had participated in a pulmonary rehabilitation program. Two research assistants conducted semistructured interviews. Participants were asked to describe their feelings and perceptions of control over the interventions recommended to improve their activity tolerance. Interviews were continued with participants until saturation of the data was reached. No follow-up interviews were conducted with the participants to validate the findings in this study.

Three categories of paired responses emerged from the data. These included acceptance/resignation, determination/perseverance, and impatience/intolerance. The acceptance/resignation responses described how individuals adapted to their condition and learned to live with it. The determination/perseverance responses described the participants' motivation to continue as many activities as possible and not give in to their disease. The impatience/intolerance responses described a negative response to the participants' lack of control.

The findings must be interpreted cautiously due to the lack of validation with participants. Although findings of a small qualitative study cannot be generalized, the findings do suggest that a perceived lack of control negatively influences participation in pulmonary rehabilitation activities. Perseverance was identified as an important

component in the participants' motivation to remain active. Perseverance was previously linked to the force of behavior influencing motivation (Kemp, 1990). Perseverance is necessary for sustaining behaviors over time and is identified as an important component of self-motivation. A review of research on self-motivation follows.

Self-motivation. Dishman and Ickes (1981) identified perseverance as an important component of self-motivation. They developed and tested the Self-Motivation Inventory as an instrument for measuring self-motivation. This instrument consists of 40 items scored on a five point Likert Scale measuring attitudes toward hard work, commitment, and perseverance to achieve goals. Using Cronbach's alpha coefficient, an internal consistency reliability score of .91 was demonstrated in studies with college students. A test-retest reliability of .86 was reported. Construct validity demonstrated by relationships with other measures ranged from .47 to .63.

The Self-Motivation Inventory has been used as a measure of self-motivation in two recent nursing studies. Radtke (1989) studied the exercise compliance of twenty-eight participants who completed an inpatient cardiac rehabilitation program. The participants ranged in age from 45 to 81. All participants had been previously treated for a myocardial infarction. Findings of this exploratory study demonstrated that the patients were moderately self-motivated and that the self-motivation persisted over a period of six months. The results supported the findings that the Self-Motivation Inventory is predictive of sustained adherence to an exercise program previously reported by Dishman and Ickes (1981).

Persistence in prescribed activities is important for sustaining the functional improvements achieved in a rehabilitation program. Although the findings of this small

study cannot be generalized, they do suggest that older adults are motivated to continue activities prescribed in a rehabilitation program after discharge. Therefore, assessing self-motivation of older adults is important.

Rhodes et al. (1992) examined the correlation of self-motivation with age among 27 participants in an outpatient cardiac rehabilitation program. The age of participants ranged from 24 to 77 years. The Self-Motivation Inventory (Dishman & Ickes, 1981) was used to measure self-motivation.

There were no significant differences in the mean scores on the Self-Motivation Inventory between participants over age 65 and those participants under age 65. The researchers concluded that self-motivation did not appear to diminish with age. However, they proposed a need for further research among individuals age 75 and older.

The ability to generalize the findings was limited by the small sample size, however, the findings suggest that the Self-Motivation Inventory is an appropriate instrument for use in measuring self-motivation among older adults. Self-motivation is an important characteristic for assessing overall motivation for participation in a rehabilitation program. Nursing interventions that enhance self-motivation need to be identified and evaluated.

In contrast to the findings of Rhodes, et al. (1992), Resnick (1995) reported findings of a descriptive study using the Self-Motivation Inventory (Dishman & Ickes, 1981) with 250 older adults. Participants in the study included patients admitted to a geriatric rehabilitation program following hip fractures or joint replacements. The participants were older than participants in the study conducted by Rhodes et al. with an average age of 84 years. Several problems were identified with the use of the self-motivation

instrument for this population. These include the inability to self-administer the instrument, difficulty in understanding the language of the questions, and a desire of participants to further explain their responses to the questions.

The basic assumptions about motivation underlying this instrument may not apply to the elderly (Resnick, 1995). For example, the instrument includes questions regarding hard work and working to the point of exhaustion. Participants in the study indicated that they chose goals carefully, working toward achieving goals that were most meaningful to them. Participants also used strategies to conserve energy. These strategies would be indicators of low self-motivation using this instrument.

Resnick (1995) concluded that the validity of the Self-Motivation Inventory is poor for use with older adults. This finding has important implications for future studies evaluating self-motivation of older adults. Instruments which reflect characteristics of motivation relevant to the older adult need to be developed. Studying recovery experiences from the perspective of the older adult may help to identify these characteristics.

Recovery Experiences. Studies examining recovery experiences have been reported in the literature (Doolittle, 1991; Folden, 1994; Ruiz, 1992; Pilkington, 1999). Participants in these studies identified strategies and activities they felt promoted recovery following stroke and hip fractures. Findings from these studies can further assist in identifying factors contributing to motivation for rehabilitation that are relevant to the older adult following a hip fracture.

Doolittle (1991) conducted a clinical ethnographic study to examine the experience of having a stroke from the survivor's perspective, and to identify similarities and

differences in the experiences among survivors. Participants were asked questions about their recovery process and the knowledge gained through their experience. Participants in this study included thirteen individuals ranging in age from 50 to 88 years, who had experienced lacunar strokes resulting in one-sided weakness. All participants were able to communicate and had intact mental status. Participants were enrolled in the study within 72 hours of their stroke and were followed for a period of six months.

Data were collected using structured and open-ended questions to obtain information about the physical experience of having a stroke. participants' responses to their disability. and evaluations of their recovery process. Each participant was interviewed on several occasions during the six-month period with an average of nine interviews per participant. Reliability of the data was established by analysis of transcribed interviews. notes from the interviews and field notes. Findings were based on a total of 120 interviews.

Analysis of the data led to the identification of a process of stroke recovery from each participant's perspective. This process included the patients' perceptions of changes in their functional abilities, the acute hospital experience, the transition into rehabilitation. and the return home. Participant's descriptions of their experiences validated the categories of stroke recovery identified by Doolittle (1991) in this study. One limitation of this study was that participants were only followed for the first three months after a stroke. Following participants over a longer period of time may have led to different outcomes depending on further changes in functional ability.

Despite this limitation, two findings that emerged from this study have particular relevance to motivation for rehabilitation of the older adult. First, the participants

perspectives on recovery differed from those of the health care providers. The providers' perspectives focused on the return of functional independence, while the participants' perspectives focused on the resumption of activities, which were meaningful to them. The older person whose goals differ from the goals of the nurse may be assessed as unmotivated for rehabilitation.

Second, the participants' perspectives on recovery identified the importance of accomplishing meaningful goals. Participants described a sense of "renewed hope" (p. 238) they experienced by accomplishing meaningful goals. This sense of hope may be important for sustaining the motivation to participate in rehabilitation. This finding supports the importance of establishing meaningful goals with the older individual.

Folden (1994) used a grounded theory approach to study the process used by stroke survivors in managing their disabilities. The sample for this study included 20 stroke survivors, ranging in age from 65 to 78, who were participating in an inpatient rehabilitation program. Participants were able to communicate and had no significant cognitive impairment.

Data were collected by interviewing participants within two weeks of their stroke and three to four weeks following discharge from the rehabilitation program. Participants were asked to describe the effect the stroke had on their lives and how they were managing the effects, which they identified. The constant comparative method of analysis was used to analyze the data. Reliability was established by an independent analysis of the data by another experienced researcher. Validity of the theory was established through feedback from three of the study participants and two additional stroke survivors. A core category, identified as "ensuring forward progress" (p. 81), described the process stroke survivors used to cope with the effects of the stroke. Participants were able to cope if they believed they were making progress in the rehabilitation program. They identified three strategies, which helped to ensure their forward progress. These included preserving energy, increasing control over recovery, and maintaining hope.

Data supporting each of these categories were included in the report of the study. This study was limited in that it was conducted over a short period of time lasting only three to four weeks after a stroke. Although the findings cannot be generalized, participants identified taking control of their recovery and maintaining hope as essential components for their rehabilitation. These findings support the importance of perceived behavioral control for rehabilitation previously identified.

Participants in this study were also motivated for rehabilitation by hope and a "belief in the goals that they had set for themselves" (Folden, 1994, p. 81). Participants were most motivated to participate in therapies, which they perceived as relevant to their goals. They were discouraged when therapies were discontinued due to a lack of quantifiable progress.

Folden (1994) concluded that participants defined recovery in terms of meeting their personal goals and not necessarily the goals identified by the rehabilitation team. This finding supports the finding of Doolittle (1991) previously described. The older adult may be assessed as unmotivated if his or her personal rehabilitation goals are not explicitly identified and incorporated into the rehabilitation plan of care.

A descriptive exploratory study was conducted to obtain the perspective of quality of life after stroke from thirteen participants who ranged in age from 40 to 91 years

(Pilkington, 1999). Major themes were identified by the researcher and reviewed by a research expert for auditability and credibility. The themes contributed to understanding the phenomenon of experiencing a stroke. Participants descriptions of their experiences included suffering they experienced from the loss of function, hopes for new possibilities of "getting back to normal" (p. 340) following a stroke, an appreciation for ordinary activities, and recognition of the importance of relationships with others for helping to cope with disability and recover.

Limitations of this study included the small sample and the limitation of data collection to three months after a stroke. Although the findings could not be generalized from this qualitative study, the findings suggested a trajectory of stroke recovery and insights for developing interventions to promote recovery. Understanding the experience of stroke and supportive relationships between professional caregivers and patients is identified as being especially important for assessing and planning interventions for recovery and quality of life after a stroke.

Critique of Research Related to Motivation of Older Adults. Studies of personal control, self-motivation, and actions supporting recovery from stroke and hip fractures help to identify factors that facilitate motivation for rehabilitation such as social support and barriers to motivation such as depression. Having a small sample or losing participants during the course of a study limits the ability to generalize findings from most of these studies. A lack of diversity exists among participants with white females representing the majority of individuals involved in geriatric research. Most studies are conducted at a single site limiting the ability to generalize findings to other settings. The

studies reviewed were conducted over a short period of time limiting the opportunity for researchers to determine ongoing behavioral changes following life-altering events.

Many instruments used in the quantitative studies had poor reliability and validity or the validity had not been confirmed with an older adult population. Findings reported in studies using poorly validated instruments must be interpreted with caution. It is important to continue to examine and identify variables related to motivation for rehabilitation. Further research needs to focus on the perspective of a diverse population of older adults with differing illness experiences, in different settings, over longer periods of time.

Motivation for Rehabilitation Among Older Adults

The importance of the concept of motivation in geriatric rehabilitation research is just beginning to emerge. Resnick (1996) studied factors. which increased and decreased motivation among five women ranging in age from 80 to 94 who were admitted to a rehabilitation unit for orthopedic and neurological problems. Participants were selected by a purposeful selection method based on staff assessments of unmotivated behavior. They were interviewed at least three times during admission and follow-up interviews were conducted with two of the participants after discharge.

Data were collected from tape recorded interviews, interview notes, and field notes. Findings were clarified with participants, therapists, and nurses. The rehabilitation team served as an expert panel to confirm the credibility of the data collected in this study.

The participants identified several factors, which increased and decreased their motivation to participate in rehabilitation. The factors for motivating participation included goal setting, humor, caring, kindness, and competence of staff, participation in

decision-making, receiving encouragement, and personality factors among participants. Factors decreasing motivation included participant's perceptions of domination, their responses to domination, and beliefs that they did not need rehabilitation. These findings, based on interviews with five white women with orthopedic and neurological conditions, may not be representative of factors influencing motivation among all older adults.

The Self-efficacy Theory proposes that motivational levels are influenced by selfefficacy beliefs (Bandura, 1977). In a subsequent study using an experimental pretestposttest design. Resnick (1998a) identified factors associated with self-efficacy beliefs and tested interventions designed to enhance self-efficacy beliefs among older adults for participation in rehabilitation. Seventy-seven older adults with a mean age of 78 participated in this study. All participants were admitted to a geriatric rehabilitation program for orthopedic conditions including elective total hip and knee replacements, hip fractures. and other orthopedic fractures or accidents. Participants were randomly assigned to an experimental treatment group or control group receiving usual care. Individuals in the experimental treatment group received usual care plus three selfefficacy enhancing interventions including: 1) role modeling; 2) verbal persuasion; and 3) physiological feedback. Individuals admitted to the control group received usual care consisting of physical therapy and occupational therapy five days per week.

Data were collected on several measures of self-efficacy developed by the researcher and administered in an interview format. These measures included Self-Efficacy for Functional Ability (SEFA), Self-Efficacy for Participation in Rehabilitation (SEPR), Outcome Expectancy for Functional Ability (OEFA), and Outcome Expectancy for Participation in Rehabilitation (OEPR). Reliability for these instruments was tested in a pilot study of measures obtained at admission and discharge. Reliability coefficients ranged from .58 to .95. The low alpha coefficient (.58) was obtained on the OEFA and was considered most likely due to a lack of variability in this measure.

However, Resnick (1998a) stated "generally, all participants believed that performing activities of daily living would help them get stronger and were important to their going home" (p. 97).

Several outcome measures were obtained for each participant using standardized instruments including the Functional Inventory Measure (FIM) and Perceived Health Status. A Participation Index developed and tested by the researcher was also used. These measures all demonstrated acceptable levels internal consistency reliability ranging from .73 to .98. Content, construct, and criterion-related validity were also tested in a pilot study and reported for the measures used in this study.

Data analysis revealed that there were no significant differences between the experimental and control groups on admission for demographic data, length of stay, or outcome variables except for pain, which was slightly higher in the experimental group. Admission function significantly predicted the Self-Efficacy Functional Ability (SEFA) and the Outcome Expectancy Functional Ability (OEFA). This association functional ability at admission as a predictor of self-efficacy and outcome expectancy for functional ability is supported by findings of the association between high levels of pre-admission function and functional recovery previously reported (Gill, et al., 1997; Kannus et al., 1996; Koval et al., 1995; Cree et al., 2000).

The impact of the treatment was evaluated using repeated measures analyses. The treatment group had greater participation. less pain, and stronger efficacy beliefs about participation than the control group at discharge. Regression analysis was used to identify predictors of discharge outcomes. The variables admission function and Outcome Expectancy Function Ability (OEFA) predicted 44 percent of the variance in discharge function.

Limitations of this study included low reliability for measures of self-efficacy and outcome expectations developed by the researcher. Results based on analyses of the data derived using these measures should be interpreted with caution. There were no controls for all potential sources of efficacy enhancing activities to which participants in both experimental and control groups may have been exposed such as receiving verbal encouragement from staff and watching other patients who participated in rehabilitation. Findings may have been influenced by these extraneous activities. Despite these limitations, the findings of this study suggest that self-efficacy and outcome expectancy beliefs are related to participation in rehabilitation and that interventions designed to improve self-efficacy improve self-efficacy beliefs and participation in rehabilitation.

Self-efficacy is used as a measure of motivation in another study among older women who experienced hip fractures (Ruiz, 1992). Self-efficacy expectations, state anxiety, and depressive symptoms were included among the variables in a non-experimental, prospective cohort study to determine their influence on recovery after hip fracture. Participants included 63 individuals ranging from 57 to 92 years of age. Data were collected by postoperative interviews, self-reported questionnaires, and telephone interviews conducted at one and three months after surgical repair of the hip fracture.

Standardized instruments with demonstrated reliability and validity were used to measure self-efficacy beliefs, depression, and anxiety. All instruments were translated into Spanish for administration to Spanish speaking participants. The investigator and a master's prepared nurse, both of whom were bilingual, conducted the back translation process for the instruments used in this study. Additional data contributing to a model of hip fracture recovery was collected through reviewing participant's medical records.

Analysis of the data showed that higher self-efficacy expectations and depressive and anxiety symptoms correlated with increased activity over time. In-hospital self-efficacy beliefs, depressive symptoms and lab values (blood urea nitrogen and total protein) predicted 42 percent of the variance one month into recovery. One-month self-efficacy beliefs, state anxiety, depressive symptoms, and the number of admission medications predicted 42 percent of the variance three months into recovery.

Self-efficacy beliefs, perceived recovery, and self-reported activity all increased over the three- month recovery period. Depressive symptoms remained stable and state anxiety decreased during this same time period. Ethnic differences were found for perceived recovery between Caucasian and Hispanic participants during the in-hospital and one-month measures. There were no differences in perceived recovery between these ethnic groups at the three-month measure. The investigator concluded that recovery from hip fractures could be improved among older women by offering interventions to enhance self-efficacy beliefs and improve mood early in recovery.

There were several limitations in identified in this study including the small sample size and use of a convenience sampling method. Participants, who were self-selected, may have represented a group with higher self-efficacy beliefs than the population of hip

fracture patients at large. Men were not included in this study so the male perspective is not represented in the findings. Self-efficacy, anxiety, and depression may vary by gender after a hip fracture. Activity performance was measured using self-reported data. The accuracy of the data may have influenced the findings in either a positive or negative direction. Finally, variables in this study were measured for the first three months of recovery. A longer time period may have yielded more significant findings.

Analysis and Critique of the Literature

Although research focusing on motivation of the older adult has been limited, several important variables related to motivation have emerged from the preceding review of the literature. Factors contributing to motivation for rehabilitation of the older adult may include goal setting, humor, caring, kindness, participation in decision making, staff competence, and personality factors including self-efficacy beliefs (Resnick, 1998a; Resnick, 1998b). Maintaining hope for recovery, setting meaningful goals, and participating in relevant therapies to meet those goals may also influence motivation (Doolittle, 1991; Folden, 1994). Perseverance and goal-striving behaviors characteristic of self-motivation are important for sustaining participation in a rehabilitation program for older adults (McBride, 1993; Radtke, 1989; Rhodes et al., 1992). Choice and control are particularly important for enhancing motivation of the older adult (Kane et al., 1990). Most of the personal control studies have been conducted in long-term care settings.

The preceding review of literature demonstrates many gaps in geriatric rehabilitation research. Most intervention studies were designed without a theoretical basis. Empirical studies focused on only one or two variables such as personal control or selfdetermination that may be related to behavioral motivation. These studies failed to link

variables to form a conceptual model. A limited number of models have developed to explain motivation for rehabilitation among older adults. One research-based model of motivation was derived from the experiences of older adults who participated in rehabilitation for a variety of conditions (Resnick, 1998b). Motivation for rehabilitation among older adults may vary depending on the underlying condition and associated functional losses. No theory of motivation for rehabilitation has been derived from the perspective of the older adult following a hip fracture. Further research is needed to determine factors that older adults themselves identify as motivating their participation in rehabilitation programs.

Chapter III: Methodology

Motivation for rehabilitation has not been thoroughly investigated from the perspective of the older adult. Therefore, the use of grounded theory methods was appropriate for this study to identify factors important for motivating older adults' participation in rehabilitation. A theoretical model generated from this perspective is needed to guide further research and practice.

This chapter describes the design and research methodology utilized for this study. An introduction to grounded theory and dimensional analysis is presented including the rationale for selection of this research methodology. Components of the study design including the inclusion criteria, sampling methods, participants, and procedures for data collection are then presented. The chapter concludes with a discussion of ethical considerations and a description of data management and analysis used for the study. *Method*

Grounded theory is a qualitative research method in which data are collected and analyzed in order to derive theory describing a phenomenon of interest (Strauss & Corbin, 1990). Important concepts and their relationships are identified and provisionally tested during the data collection and analysis process. Theory generated through this process is based on the experiences of the participants.

Glaser (2002) defines grounded theory as "the generation of emergent conceptualizations into integrated patterns, which are denoted by categories and their

properties" (p. 1).

Concepts are named and coded by comparing data collected from participant's descriptions of many incidents. By comparing many descriptions of a phenomenon, patterns begin to emerge from the data. The patterns are organized as categories with properties that further define the category.

Concepts generated for a grounded theory are not based on pre-existing concepts defining a phenomenon (Glaser, 2002). Many concepts generated using grounded theory methods are "in vivo" concepts or concepts that come directly from the words of participants. While grounded theory represents the voice of participants. Glaser (2002) notes that participants only give impressions of concepts based on their individual experiences. The researcher must then develop a grounded theory by discovering "which 'in vivo' concepts do fit, work, and are relevant" to the theory (Glaser, 2002, p. 7).

Schatzman (1991) developed dimensional analysis as a methodological approach to developing grounded theory. Dimensional analysis was chosen for this study because the methods for conducting each phase of data analysis are more clearly defined than methods previously described by Strauss and Corbin (1990). Data analysis using dimensional analysis consists of three phases: designation, differentiation, and integration. A description of each of the phases of dimensional analysis follows.

Designation Phase. The designation phase of dimensional analysis consists of identifying and labeling concepts or dimensions. This phase is similar to open coding described by Strauss and Corbin (1990). The purpose of the designation phase is to provide initial definitions and descriptions of the data that has been collected. The goal of the designation phase is to determine what dimensions are involved with the phenomenon of interest. Hierarchical importance or relationships among dimensions are not specified during this first phase of the data analysis (Schatzman, 1991; Kools, McCarthy, Durham, & Robrecht, 1996).

Differentiation Phase. The differentiation phase of dimensional analysis begins when a sufficient number. or "critical mass". of dimensions have been identified. Dimensions are grouped into more abstract categories and an explanatory matrix is proposed for further defining and analyzing the interrelations among dimensions. Development of the explanatory matrix advances the analysis from a descriptive process to a more conceptual model for explaining the phenomenon of interest. This differentiation phase of data analysis "differentiates the innate characteristics of identified dimensions to various conceptual components such as context, conditions, process (actions/interactions). or consequences" (Kools. McCarthy, Durham. Robrecht, 1996, p. 318).

The perspective, or central dimension, is identified during the differentiation phase of data analysis. Schatzman (1991) notes that the perspective is the dimension, which best explains the relationships among all of the other dimensions. Perspective is similar to the concept of a core category identified by Strauss and Corbin (1990). Once identified, the perspective directs the organization of all other dimensions identified within the explanatory matrix completing the differentiation phase of data analysis.

Integration Phase. Integration is the final phase of data analysis using dimensional analysis. This phase consists of confirming the relationships among dimensions within the explanatory matrix. Theoretical sampling is used to clarify and confirm the relationships identified in the explanatory matrix. The final explanatory matrix developed in this phase provides a comprehensive explanation of the phenomenon under

study grounded in the experiences of the participants. The goal of the integration phase of data analysis is development of a substantive grounded theory.

Data Collection

The purpose of this study was to explore how adults with hip fractures were motivated to participate in rehabilitation. The study was designed to learn about successful rehabilitation experiences from the perspective of the older adult. A discussion of the study design includes criteria for inclusion in the study, sampling methods, a description of the participants, and procedures for data collection.

Inclusion criteria. Participants were required to be at least 70 years of age for inclusion in this study. Inclusion criteria required that the older adult had: 1) experienced a hip fracture within the previous three years; 2) participated in rehabilitation in an inpatient setting and returned home: 3) demonstrated the ability to speak and understand English: 4) demonstrated the ability to recall and relate experiences; and 5) was informed and signed a consent to participate in the study (Appendix A). Experiencing a hip fracture was a criteria used to recruit participants who had the experience of a sudden disabling event. Several older adults were excluded from participation in this study because they had experienced elective. planned hip replacement surgery rather than a hip fracture.

Sampling methods. Participants were recruited among individuals who fractured a hip and were discharged home following a rehabilitation program in a skilled nursing facility, rehabilitation hospital, or transitional care unit. Participants were recruited using a variety of methods. First, participants were recruited from community programs such as senior center after attending a presentation given by the investigator (Appendix B).

Second, participants were recruited from announcements placed in organizational newsletters including the local chapter of the National Association of Retired Federal Employees (NARFE) and a university affiliated geriatric research center. Finally, participants were recruited by referrals from physicians and nurse practitioners.

Participants. Participants in this study were men and women age 70 and older who experienced hip fractures, participated in a rehabilitation program, and returned home. All participants had these experiences within two months to three years of their participation of the study. Eighteen older adults who experienced hip fractures agreed to participate in this study and completed an informed consent form prior to their participation (Appendix A). Participants ranged in age from 72-92 with a mean age of 80 years. Thirteen of the participants were female and 5 were male. Three participants were married, 10 were widowed, and 5 were divorced. All participants lived in a community setting (single family home, condominium, or apartment). Thirteen participants lived alone (10 female, 3 male), three participants lived with a spouse (1 female, 2 male), one participant lived with her brother, and one participant lived with her son and his family. The demographic data are summarized in Table 1 (Appendix C).

Although all participants had one or more chronic health problems, they were all mentally alert and able to describe their experiences and respond to interview questions. Data from one participant was not included in the analysis due to his inability to recall events resulting in his wife's participation in the interview process. Analysis of the data, therefore, is based on 17 interviews completed using the Interview Guide (Appendix D).

Procedures. Data collection began by obtaining the following demographic data from each participant: name, age, gender, marital status, current living situation, medical

diagnoses, and history of previous admissions for rehabilitation. Semi-structured interviews were conducted in a setting chosen by the participant. All interviews were conducted in the participant's home, with the exception of one interview conducted at a senior center. Interviews were audiotape recorded and transcribed verbatim.

The interviews included four initial questions using an interview guide (Appendix D). Prompting and follow-up questions were asked to clarify or expand upon each of the four initial questions. Recruitment of participants, data collection, and data analysis continued until similar themes were repeated and no new themes emerged from the data.

Ethical Considerations

Approval for conducting this study was obtained from the University of San Diego Committee on the Protection of Human Subjects (Appendix E). The researcher recruited older adults who were interested in participating in the study through personal or telephone contacts. The researcher explained the purpose of the study and procedures for participating in interviews. Criteria for participation in the study were also explained in the initial contact. An interview appointment was arranged with each interested individual who met the criteria for inclusion in the study.

Interviews were conducted at a time and location which was convenient and offered privacy for the participant. Written informed consent was obtained from each participant prior to data collection. Risks and benefits of participation and the right to refuse participation or withdraw from the study were discussed as part of the informed consent process. Participants were also informed that any evidence of abuse or neglect observed by the researcher during the interview would be reported as required by law. Participants were also assured of confidentiality in collecting, recording, analyzing, and reporting the data. The researcher was the only person who had access to data identifying participants by name. A transcriber, who was experienced with research conduct. transcribed interview tapes. The tapes and interview transcripts were returned to the researcher after they were transcribed.

In order to protect confidentiality of the participants, all tapes and interview transcripts were identified by number only. Names, numbers, and other identifying information about the participants were kept in a secure location separate from the interview data to assure confidentiality.

Data Analysis

Data management. Data were managed using the qualitative data software program QSR Nud*ist. Twenty-five dimensions were identified in the designation phase of the data analysis. These dimensions were documented as free nodes in QSR Nud*ist, a qualitative research computer software program. Dimensions were later organized into categories within the QSR Nud*ist Index Tree Root system. Categories were organized to correspond with the context, conditions, actions, and consequences within an explanatory matrix.

During the designation phase of the dimensional analysis, theoretical memos were written summarizing data for several interviews to begin to identify important dimensions occurring in each interview. Theoretical memos were written to describe and test hypotheses for components of the explanatory matrix during the differentiation phase of the dimensional analysis. Later interviews were used to clarify and confirm hypotheses generated from early interviews. A perspective was identified and confirmed in subsequent interviews as data were integrated into a grounded theory describing the process of recovery following a hip fracture.

Credibility of data. Professional experience and biases of the researcher pose a threat to credibility of the findings in qualitative research. The researcher must acknowledge beliefs and assumptions about the phenomenon under study and work to limit the influence they may have on analysis of the data. The researcher sought to discover and reflect the meanings that events and actions had for participants in this study. Focusing on the data ensures that the findings represent the experiences of the participants.

Credibility of the data was further ensured through a continuous process of data collection and analysis. Theoretical sampling was used to confirm findings generated from each participant with the experiences of other participants. An audit trail of data analysis was maintained throughout the study.

Designation and differentiation of dimensions and development of categories were documented using the *QRS Nud*ist* software program. Theoretical memos were written to define and refine dimensions and categories that emerged during analysis of the data. Relationships among dimensions were documented by development of an explanatory matrix and tested through continuous comparison of the findings with experiences described by participants. Findings of the data analysis are described in Chapter IV.

Chapter IV: Findings

Data were analyzed using the three phases of dimensional analysis described in Chapter III to conceptualize the complex processes motivating participation of older adults in rehabilitation following a hip fracture. The analysis included identifying the context in which this life-changing event occurs. Conditions that positively and negatively influenced the ability of older adults to participate in the rehabilitation process were also identified. Multiple dimensions were organized conceptually to define actions used by older adults to motivate their participation in rehabilitation. Consequences of rehabilitation resulting from the actions of participants and influencing conditions were identified. An explanatory matrix integrating and defining relationships among the context. conditions, actions and consequences was developed. This chapter describes the explanatory model of successful rehabilitation derived using this process.

An Explanatory Model of Successful Rehabilitation After a Hip Fracture

The explanatory matrix in Figure 1 depicts the theoretical model of successful rehabilitation after a hip fracture. This dynamic process occurs within the context of a sudden change from independence to dependence experienced by the older adult as a result of fracturing a hip. "Life stops as you know it" emerged from the data as the dimension representing this sudden transition from independence to dependence. Shock, pain, and dependence on others characterized the context in which participants experienced a hip fracture.





Context

Figure 1, Getting Back: An Explanatory Model of Successful Rehabilitation After a Hip Fracture

<u>Consequences</u> "Resuming a Reasonable Life" A strong desire to regain functional ability and return home characterized the intrinsic motivation demonstrated by participants in this study. Participants were eager to perform actions aimed at helping them to return to their previous level of functioning. "Getting Back" emerged as the perspective, or central dimension, representing this strong desire to regain functional ability that served as the primary motivator for participation in rehabilitation. "Getting back" varied with individuals depending on their previous levels of activity. Recovery after a hip fracture occurred along a continuum from total dependence to independence.

Participants in this study demonstrated a strong determination to "get back" after a hip fracture. Therefore, they used many self-directed actions to motivate their participation in rehabilitation. They were able to look forward beyond their immediate dependent situation toward achieving desired rehabilitation goals. The description "it's that glow in the dark" emerged from the data and represented envisioning rehabilitation goals and outcomes. Having a vision of their return to independent functioning further motivated participation in rehabilitation among participants.

Participants expressed little doubt in their ability to recover or "get back" to their previous level of functioning. "It's up to the patient" characterized descriptions that represented taking personal responsibility for participating in rehabilitation activities. Regaining control of their actions further motivated participation in rehabilitation among participants.

Participants in this study also monitored their rehabilitation progress based on the goals they had set for themselves. Indicators of progress were based on their ability to perform certain activities. "Everything would be normal" was identified as the in vivo

code that represented self-monitoring of rehabilitation progress. As they reached shortterm goals, participants were further motivated to continue participation in rehabilitation in order to return to their previous level of function.

The ability to "get back" after a hip fracture was influenced by conditions that served as barriers or facilitators to rehabilitation. Several limiting conditions such as pain, depression, alterations in mental status, and medical or surgical complications served as barriers to participation in rehabilitation. Negative interactions with caregivers and a limitation of resources imposed by the healthcare system also served as barriers to participation. After a hip fracture, participants had to overcome physical, psychosocial, and economic barriers in order to motivate their participation in rehabilitation.

Several conditions facilitated motivation for participation in rehabilitation. Support provided by formal and informal caregivers was important to participants. Social support allowed participants to overcome barriers and further motivated their participation in rehabilitation activities. "It comes down to people" emerged as the in vivo code describing participants' reliance on formal and informal caregiver support that motivated ongoing participation in rehabilitation. Positive interactions with caregivers complemented and reinforced the self-directed actions of participants.

"Resuming a reasonable life" was the primary consequence of successful rehabilitation identified among participants in the process of "getting back" from a hip fracture. Although participants identified some limitations in functioning after a hip fracture, they were generally able to find ways to adjust to the limitations and still meet their rehabilitation goals. The consequence of "resuming a reasonable life" emerged from the data as the dimension that best described participants' ability to make the

transition from dependence to independence by adjusting to limitations and resuming activities that were important and meaningful to them.

The preceding section represented an overview of the explanatory model of motivation for successful rehabilitation after a hip fracture. A presentation of findings that emerged from the data to support the model follows.

Life Stops as You Know It

Participants in this study experienced the sudden shock of suffering the acute injury of hip fracture as the result of a fall. "Life Stops as You Know It" is the dimension that emerged from the data to describe the context in which the experience of suffering a hip fracture occurs among older adults. One moment they were engaged in their usual activities. such as bathing, doing laundry, gardening, or participating in activities in the community. The next moment they were injured and dependent on others for assistance.

Interview data revealed several examples of this sudden change in functional ability.

It happened in the fall coming out of Denny's Restaurant [gives date and approximate time]. I was in error. I didn't use the pedestrian crosswalk. I was on Frazee Road which is right outside of Denny's next to the gas station, and I always cut across it, but [I'm] always aware that nothing was coming in either direction. So I proceeded to go across as usual and I was three-quarters of the way past the median divide and everything, and suddenly I look up there's two headlights zooming in on me. I hadn't expected it. What had happened, all those flashing green arrows where I was, I couldn't see that arrow, so he must have come in from Friars Road on to Frazee.....and that's how I was caught flatfooted. So I panicked, let's put it that way. So I veered to my left and stumbled three
times before I fell on my left side rather hard, and [I] had good clothes on that day. Then he [the driver] gets them messed up, but when I got up I couldn't stand. I was in dire pain and the man whose car loomed on me, he didn't hit me, but he stopped. He wondered what the heck happened. I said. "I'm sorry." I didn't know him, but "I'm in dire straights and you'll have to help me." So it took me 15 minutes to move about 10 feet before I got in the back of his car and I couldn't do that because the rear seat was mohair and I couldn't slide across it. So he had to go on the other side and pulled me in. So he was nice enough to take me over the Mercy Hospital emergency. If he had called the paramedics, it would have been \$375.00 to take me over there. So he did that. Then the very next morning, 10:30 AM, I was operated on for the hip fracture.

Pain and the sudden inability to stand made this participant immediately dependent on others for assistance. Another participant confirmed the sudden loss of function and severe pain that accompanies a hip fracture.

I was out washing my clothes. We have a concrete floor; it's a very small room, but I remember taking my clothes out of the washing machine and putting them in the dryer. After it dried, I opened the door and was taking clothes out of the dryer. That's all I remember, then all of a sudden I woke up, I came to and I looked around and said, "What am I doing on the concrete floor?" I had a shirt in my hand and I looked around and said, "That's odd." I started moving and I felt the pain in my hip. How long I had been there I don't know. I crawled over to the table leg and got hold of the leg and pulled myself up to the top of the table and I could hardly stand. My leg and hip hurt so bad. So, I took all the clothes

out and put them in the basket and I half crawled and half walked up those steps, a bunch of steps, and I made it up to my apartment. The best thing I can do is call my son and maybe he'll take me to the doctor.

This participant also confirmed dependence on others following her fracture.

My grandson was down here and he was going to get a sailboat down here and he was going to enter a race, and he wanted to take me out sailing that day. Can you imagine that? So about 10 o'clock I was all ready and I was going down. He had given me a map as to where to come to the Yacht Club. Right down here at the entry as I went around the corner I fell and it was a strange fall, something like I had never witnessed. I've fallen before, but this was strange. And evidently when I went around the corner my right foot was just about halfway off the cement, which left me a little unbalanced, so I thought I fell because of that. But I landed under that big tree down here. There was a lovely young gentle man coming toward me and he helped me and he called the manager. He asked me what he could do and he wanted to bring me up to this condo, and I said, "No, I'm really hurt."

Although this participant did not know precisely what was wrong, she knew that something was seriously wrong. She described her feelings of dependence by stating, "I knew I'd never had that feeling before because I was out of control, and with me out of control is like a bear. I always like to stay in control." Another participant summarized fracturing a hip and her sudden loss of independence by stating, "life stops as you know it". *I Knew Immediately.* Many participants were aware that they had broken a hip based on their symptoms. "I knew immediately" is the dimension that emerged from the data to describe the realization that participants had experienced a life-altering event.

I had just come from visiting my husband [who was seriously ill and in the hospital]. I was walking down a ramp and I had my hands filled with something, and all of a sudden. I think the ramp had a lift. I put my foot down and I went [down] and that was it. I fell on my left side and just started to scream...I knew immediately I broke my hip. I don't know how you instinctively know. I couldn't move.

Pain and immobility were the signs that contributed to this instinctive knowing that a hip had been fractured. Although aware of what had happened to them. participants described their injury as a shock. Each participant described the event as both unexpected and occurring in the midst of his or her usual daily activities. Previous experience with a hip fracture contributed to knowing what had occurred for this participant.

We were taking a walk at the beach and waiting for the band...and stopped to have an ice cream cone, and [I was] sitting on one of those [beach] chairs. I had about that much more [ice cream] to go, so I was still seated, and all of a sudden I just was on the ground. I found myself on the ground, and nobody knew [how]. It was a real shock, but as soon as I fell, I fell on the concrete sidewalk, I said, "Don't touch me. I know I've broken my hip because I had broken the other one, and there is no pain like it." Another participant's description of her fracture confirms an intuitive knowing what had happened.

It was on the 4th of July 1998 and I was alone here and didn't have any particular plans for the morning. I forget if I was going out in the afternoon or not, but I was doing some watering and I turned off the faucet and as I went back toward the house my foot caught in the hose and I felt as if I were just flying. I move fast. I always did move fast, and I landed on a piece of cement in front of the door and the minute I tried to move, I knew what I had done. I just knew right away and my foot was turned out which was another sign of it.

For most participants, seeking help followed the realization that they had experienced a hip fracture. This participant describes the sequence of events of her experience.

It was a perfectly ordinary day. I was doing shopping and I walked across the street toward Dixieline in Solana Beach and missed the curb and fell on the sidewalk, and obviously the wrong way. I knew right away that this was different. And as I lay there crumpled, people started helping me. The first guy had a cell phone and he said, "Should I call 911?" And I said, "Yes."

Call 911. Knowing that they had fractured a hip, participants were quick to acknowledge their sudden loss of functional ability. "Call 911" is the dimension that emerged from the data to represent the ability of participants to seek assistance from others. They were forced to make the transition from independence to immediate dependence on others for treatment and care. They relied on family members, witnesses to their injury, or others such as police officers and emergency personnel for assistance.

Family members were often the first to be called by the older adult as this participant described.

So I got to the phone and I called my son instead of 911, because I wanted him here when they came. I thought it would be so much easier to let them in and he lives not too far away. So he was here in 10 or 15 minutes and oh boy, was he upset. But he called 911 and got the ambulance and they came and picked me up. They took me to [name of city and hospital located there].

Participants relied on witnesses to the incident to assist in getting help when the injury occurred in a public place. One participant described being assisted by two men from the nearby gas station.

I crossed the street by the light and I went pretty fast, but I don't know how I slipped. I don't know if there was water there, or [if I was] afraid the traffic was coming, and I fell. Two men from the gas station came over...and one said, "What's your name? How old are you?" [I said] "Ninety-two." And he said, "I'm going to take you to the hospital."

Several participants trusted strangers to transport them to a nearby emergency room for evaluation and treatment. They were aware of their helpless state and were able to become dependent on those who offered assistance. Other participants directed witnesses to call emergency personnel to assist them.

There was a lovely young gentleman coming toward me and he helped me and he called the manager [of the yacht club]. He asked me what he could do, he called the manager, and of course I know [manager's name] very well and she said, "Mrs. S, what do you want me to do, what can we do?" I said, "Guess you'll have to call 911."

Even in their dependent state, these participants maintained a sense of control over the situation by directing the course of their care. One participant described how she directed those who were around her.

I said, "Don't move me, this is serious. Call 911." Because I could tell the pain was unbearable and it was in my groin, so we waited for the ambulance. It came very quickly. I would say in 10 minutes or so.

The hip fracture represented a new course in life for participants in this study who had been independent in their daily functioning until this sudden traumatic event. Following their injuries and confirmation of a hip fracture, participants subsequently underwent surgical repairs in the acute care setting. A brief hospital course was followed by a period of rehabilitation in a variety of settings including units within an acute care facility, rehabilitation hospitals, or skilled nursing facilities. The need for total dependence on others passed quickly for most of the participants as they moved from the initial injury and postoperative period into rehabilitation settings.

Motivation for participation in rehabilitation was influenced by several factors. Participants identified conditions facilitating rehabilitation and conditions acting as barriers to rehabilitation. *Barriers* represent the dimension describing conditions that hindered rehabilitation. "It comes down to people" was the in vivo code describing conditions primarily related to participant's interactions with formal and informal caregivers that were *facilitators* of successful rehabilitation. A presentation of the findings related to conditions begins with an analysis of data related to barriers.

Barriers

Participants identified several hindering conditions that served as barriers to their rehabilitation. Several dimensions hindering participation in rehabilitation emerged from the data. *Personal limitations* experienced by participants were represented by the description "nothing seemed to be right". Examples of this type of barrier included alterations in mental status, depression, pain, and medical or surgical complications.

Conditions external to the participant that limited their ability to participate in rehabilitation were also identified. *Lack of support* emerged from the data representing negative interactions with caregivers. *Limited resources* represented a healthcare system that limits the amount of time and funding provided to older adults for rehabilitation services.

Personal Limitations. Many participants identified alterations in mental status following their injury and surgical repair of their hip fractures. Several participants described memory loss in the immediate postoperative period. One participant attributed the loss of memory to the shock of experiencing a hip fracture.

I don't remember much about my experience in the hospital....I don't know if they kept me under or [if I] was still in shock. I don't know how long I stayed there or anything. I don't remember the hospital stay. I don't remember going into surgery or anything. I didn't remember ever seeing the doctor that did the surgery until he came to see me in the nursing home. So I was in la la land.

Another participant who experienced memory loss attributed it to the medication she received. "I must have had a good deal of sedation because my memory is very

scanty about this." Another participant expressed similar thoughts about pain medication causing her memory loss. She described how she managed this problem. "Finally one day I decided to go off everything because it was making my head not clear."

The majority of participants identified depression as a barrier to their recovery. One participant, whose husband was in the end stages of a terminal illness, was already receiving treatment for depression at the time of her fracture. The timing of depressive symptoms varied among participants. Some had symptoms during inpatient rehabilitation while others had symptoms of depression upon their return home.

Some participants identified the shock of fracturing a hip and resulting dependence as contributing to depression. A participant who had no family in the area described crying over the phone to her nieces. She also described the negative effect that a depressed mood had on her early rehabilitation. "I just felt sorry for myself, but that never set well. I never had that much pain. I wasn't a very good patient at first."

Depression persisted for some participants after coming home. One participant described discussing the problem with her physician.

I had a real depression after I got home. I think this has to do with what has happened to my brain. When I talked to my doctor, he said yes, many people express changes in psyche and he feels it is due in the first place to, the shock of the accident, in the second place, the amount of sedatives that we were given, not only in the ambulance that we were given between hospitals, but in conjunction with the operation.

Participants also described changes in their self-perception and behavior that they attributed to depression. These changes persisted during the early phase of their

rehabilitation. "My temper has shortened and I am finding myself snapping at people, which wasn't something [I would do] before." The negative behavior described by this participant could have led to her being labeled as unmotivated to participate in rehabilitation by members of the rehabilitation team.

Depression that persisted beyond the initial days of rehabilitation could result in a poor rehabilitation effort and outcome. The experience described by this participant delayed her ability to participate in rehabilitation and resulted in the need for ongoing therapy as an outpatient to improve her functional ability.

I think my personality changed altogether. If you want to know the truth, I think I'm very outgoing and I think when that happened to me it was such a shock that I didn't start getting over it until I was home a couple of weeks. In fact you go into a depression, and it's not unusual to go into depression.

One participant wished that her physician or nurse had made recommendations for treatment of her depression. She discovered that exercise helped her mood. "I was kind of depressed for a while and then I thought, well, I've go to try to do something about it, so I tried to exercise more, to move around more." Although most strategies for overcoming depression were self-initiated, some participants identified a need for support from others to overcome their depression. "Well I was a little depressed, but I always knew that I would be able to get up, was determined to. I knew at that time, both of my daughters were alive, and they could help me."

Pain was another common barrier to participating in rehabilitation. Participants experienced pain at the time of the injury, in the post-operative period, during acute rehabilitation, and after returning home. The level of pain varied among participants from severe pain to minimal pain. Several participants expressed surprise at having very little pain following surgery. "Part of my good feelings about all of this [experience] is that I have had very little pain. I'm astonished to be this damaged without any more pain than I have had."

Pain limited the ability of some participants to perform physical therapy activities. "When they came I was just too hurting, too tired to participate very much." A refusal to participate in therapies can be interpreted by members of the rehabilitation team as poor motivation for rehabilitation. Repeated refusals to attend therapy often results in discharge from the rehabilitation setting.

Fear of pain limited participation in rehabilitation for another participant. She described how she continued to attend therapy despite her fear and worked with the therapists to improve her functional ability.

The physical therapist, later the occupational therapist, worked with me and it seemed like forever just to walk a few yards to the room, of course, and I found out that I'm no different than anyone else. I'm fearful, it hurts, I don't want to do it, but I followed instructions.

Participants described receiving pain medication that enabled them to perform in physical therapy. The majority of participants indicated that they got pain pills whenever they needed them. One woman described the education she received about the importance of managing her pain. "They reiterated that they really don't want you to be in pain, that you don't recover, and to make sure that you take as much pain medication as you feel you need." Some participants, however, elected not to take pain medication because of the side effects such as alterations in mental status.

So I do think that in rehab, because pain is so great, and for some people, they can take painkillers and they're kind of out of it. But for older people, they can't [take painkillers]. I'm not alone in my chemical sensitivity. I couldn't take painkillers. It was very difficult.

Some of the older adults in this study experienced persistent pain following discharge from the rehabilitation facility. The persistent pain served as a barrier to participating in rehabilitation and regaining their independence. Two participants in this study later required hip replacement surgery to alleviate persistent pain. Both reported improved functional ability once their pain had been alleviated.

Medical or surgical complications posed another barrier to participating in the rehabilitation process. Medical complications included exacerbations of chronic medical conditions or the development of acute conditions. Acute medical or surgical complications that participants experienced included conditions that were directly related to the hip fracture surgery and other conditions that were not related to the surgery.

While in a skilled nursing facility, one woman developed a hematoma at her operative site. She felt that the nursing staff were not responsive to her change in condition.

I was starting to really get sick. They kept saying every time they'd take my

blood pressure how low my blood pressure was, but did nothing about it, and I

was starting to get very feverish and I was asking for cold washcloths myself. She indicated that she was later readmitted to the hospital for further evaluation and treatment. She made good progress in her recovery after resolution of this acute problem. Another participant was readmitted to the hospital after experiencing chest pain during physical therapy. Post-operative anemia was determined to be the cause of her symptoms of chest pain. She received a blood transfusion to correct this problem.

Several participants described exacerbations of chronic health problems such as hypothyroidism and asthma that became barriers to their rehabilitation.

I didn't respond well afterwards to the anesthetic and it made my asthma so much worse, and my heart started getting erratic and my blood sugar shot up. I never had high blood sugar before. All these problems came out right after surgery that had nothing to do with my hip.

Another participant, who described the barrier to rehabilitation caused by her chronic health condition, confirmed this finding. "I had a terrible recovery. All of my autoimmune diseases, all of the silicone related diseases came to the fore and I really, really was very sick in the hospital."

Although a few of the participants experienced falls during their rehabilitation, none suffered a serious injury or setback to their progress as a result of a fall. In general, participants in this study did not experience many of the complications associated with hip fractures such as deep vein thrombosis, pulmonary embolus, urinary tract infection, or hip dislocation. A low incidence of complications among participants may have contributed to their successful rehabilitation outcomes.

Lack of Support. Participants identified interactions with caregivers that they perceived as a lack of caregiver support. A lack of trust and confidence in therapists, nurses, nursing assistants, and physicians were barriers to rehabilitation. These perceptions stemmed from interactions that were negative or potentially harmful to their needs. Participants felt that physicians, nurses and therapists did not take their concerns

seriously. Not having complaints of pain taken seriously by rehabilitation team members was the most distressing negative interaction. One participant described a conversation he had with his physician.

I was home. and the doctor said, "Everything's fine, everything is in perfect alignment." Yes, I said, but I have pain. He said, "Oh, it will pass." It didn't

pass because I had to sleep in that hospital bed. I had to sit in a chair to sleep.

Participants were aware of being labeled as uncooperative by therapists if they complained or did not follow directions in therapy. All caregivers were not sensitive to the impact that pain had on the ability of older adults to participate in rehabilitation. Some participants felt that they were being threatened that they would not recover if they did not comply with activities despite experiencing pain.

I said. well it hurt, and it does hurt. And he said, "Well, it's going to be worse if you don't [exercise]." So they just kept urging me and urging me and urging me, and they said, if you don't do what I tell you, you won't be able to walk.

Participants identified perceptions of insensitivity from caregivers as a barrier to their participation in rehabilitation. Caregivers were perceived as being "rushed" and not having time to spend with them. One participant described this interaction with her physician. "He's usually very patient and very helpful and he knows I know my body, [but] he made some smart aleck remark and I realized that depressed me."

A lack of communication about what caregivers were doing was a common complaint among participants as described in this statement. "You never know what she was going to do next and she didn't really care if you ever got your teeth washed or not." A lack of communication was perceived by participants as a lack of caring.

A lack of follow through by staff when there was a change in condition was another concern expressed by participants. Participants attributed a lack of continuity of care between care settings to poor staffing and poorly trained staff at the facilities in which they were admitted for rehabilitation. The following statement described the lack of communication regarding a change in condition that one participant experienced.

They took vital signs, but nobody paid much attention to it. So that was negligence. But, of course, they're overworked and underpaid, like all of the places, so I wasn't having realistic expectations.

Participants offered suggestions about what would be helpful to eliminate barriers and setbacks to rehabilitation. One participant suggested keeping older adults informed about their condition and progress. "Sometimes we fear things [when] we don't know what's going on." Providing information about their condition, the purpose of interventions, and their progress in rehabilitation were viewed as important interventions among participants. One participant summarized her thoughts about interactions with caregivers. "It takes sensitivity, and it takes a health care worker who isn't just locked into a system and a recipe. In other words, it comes down to people."

Limited Resources. The healthcare system determines resources such as the amount and type of healthcare services provided for older adults. Medicare, private insurance regulations, and public policies determine specific allocation of these resources. Participants described how policies and regulations influenced their ability to succeed in rehabilitation after a hip fracture. The cost of services and the amount of time allowed for rehabilitation influenced decisions about their care and outcomes of care. Costs not covered by Medicare or private healthcare insurance such as additional time in the skilled nursing facility, transportation, and home custodial care were another concern to participants. Costs varied widely depending on the location of the facility as noted in the statements made by two participants. "The [skilled nursing facility] was, I think, \$4,500 a month. It was beautiful. I can't afford that. That's a little steep for me."

I guess because it was really a residential nursing home, and everybody seemed to know each other, my impression was that a lot of the older people were being taken care of by their children who lived in Rancho Santa Fe. You know, \$8,000. it sounds like a lot of money.

Another participant deplored the cost for transportation from the hospital to the rehabilitation center. "When you move from [hospital] over to [rehabilitation center], which as I said is a scant two blocks away, they'll charge you \$26.00, which is outrageous."

Older individuals are unwilling or unable to pay privately for rehabilitation and support services once they are discharged from inpatient rehabilitation settings. Most participants had family or friends who stayed with them for a brief period of time when they returned home. One participant described her experience with a paid home caregiver. "I don't know how long I had her, probably three or four weeks, and it was expensive." Another participant summarized her views on why costs were of such a concern to her and others of her age cohort.

You meet any person who has lived through the Depression, even if they've got more money; they are very tight with their money. They are so afraid of not having enough, and I was so used, when my kids were growing up, to economizing, even with both of us working. And his [her husband's] favorite statement was. "Do we really need this?"

Constraints placed on the amount of therapy covered by Medicare or private insurance providers influenced the rehabilitation process. The amount of time allowed for rehabilitation is limited. Participants were very aware of the limited time allowed for inpatient rehabilitation. One participant described the effect of the limited time he was allowed.

First of all, they would only give me two weeks. There was a time set there that I knew that was the time I was going to come home. I was just disappointed that I did not progress physically as well as I should have.

The pace of rehabilitation also had an impact on most participants. Although one participant was able to keep up the pace, she felt it was taxing for her.

I was just go, go, go, and I think it was extreme fatigue. I've never been a very macho woman and as I tell all my friends and acquaintances now, I have done more exercising in the last six months than I've done in 60 years.

Participants who were not able to meet the required number of hours of therapy were likely to be discharged from rehabilitation and were at high risk for remaining dependent on others for assistance.

Participants felt that they would have benefited from additional therapy after they returned home. Those who experienced setbacks in their rehabilitation were especially in need of additional rehabilitation services at home. One participant described that she was willing to pay privately for additional therapy. I think you need physical therapy longer after you get out of the nursing home, and if I had realized that, I would have even paid for it and gotten it on my own. But I didn't realize it at the time. I think that would have helped me a lot. Three weeks, and it was only two or three days a week, that the therapist came, and I accomplished what she wanted me to in that time, but I think I needed more. Another participant described the limits of visits provided by the home care nurse. "The nurse came only, I think, for 14 days, and it was certainly only temporary."

Medicare regulations also limit the amount of therapy allowed for any given period of time. A participant, who felt she needed additional therapy at home, described this limitation. "I went back to that young man and I was shocked because he told me that I had used up all of my time for Medicare and I'd have to wait until after the first of the year." Therapy could be extended under justifiable circumstances. For example, a participant who had to negotiate stairs at home was granted an additional week. "My therapist did ask for an extra week because of the stairs and that was good, because stairs can be difficult."

The potential for improving functional outcomes among older adults by providing extended rehabilitation services is unknown. Despite the many barriers to rehabilitation identified by participants, they also described many conditions that facilitated their participation in rehabilitation after a hip fracture.

Facilitators

Participants in this study were strongly motivated to recover and return home after a hip fracture. They depended on assistance from professional caregivers and informal caregivers such as family members, or friends to motivate and facilitate their

participation in rehabilitation. "It comes down to people" emerged from the data describing participants^{*} reliance on formal and informal caregiver support that motivated their participation in rehabilitation. They described family and friends as their "guardian angels" who watched over them and acted as advocates for their care. Interactions with professional caregivers were important to participants in this study and were characterized in the description "they were there for me" that emerged from the data.

Professional Caregivers. Positive relationships that participants developed with their caregivers were especially important in facilitating their rehabilitation. They described the importance of staff and patients getting to know one another as people. The description "they were there for me" emerged from the data representing the personal connection to professional caregivers that motivated their participation for rehabilitation.

You get into talking about your private lives and you felt more like you're talking to somebody in the family rather than a complete stranger who is just getting paid to pay attention to you and do a little professional work. That's important.

Especially important to participants was a sense that caregivers listened to them and did not make assumptions about diminished cognitive ability based on their age.

Listen to the patients. They're not all stupid and goofy because they're old. We may be old but we haven't lost our mind completely, even if we've lost some of it. We haven't lost all of it, and you can believe part of what we tell you and a good part of it.

One participant explained how communication with her physician helped to direct her rehabilitation. "My doctor was very helpful to explain what he had done and what he hoped would happen and so on, what I needed to do."

Participants expressed the importance of being treated with kindness and respect as motivating their participation in rehabilitation. One participant described how caregivers instilled the confidence she needed to succeed in rehabilitation.

They were always so kind to me. Their kindness and willingness to show you and help you was outstanding. And the whole staff that are in there are wonderful. They give you confidence again [that] you can stand on your own two feet.

Demonstrating a caring attitude was another important facilitator of motivation for rehabilitation. Participants were willing to depend on caregivers who they felt were caring and knowledgeable in their field of rehabilitation.

They seemed particularly interested in really wanting to help and being there and so forth.....They were extremely. what should I say. sympathetic, empathetic. and I think that they were very well trained. And I think that that's a basic part.

Participants identified the encouragement they received from staff for helping them to progress in their rehabilitation. One participant described the impact that positive reinforcement had on motivating her rehabilitation progress.

And they started me on physical therapy right away. I have to give credit to those therapists. They were so encouraging and so wonderful that I improved rapidly. I really did. I was walking the length of the corridor in no time at all and going down to the treatment room and going through my exercises. They kept telling me how great I was doing; so then I wanted to do it more. They were wonderful. Another participant confirmed that a sense of hope instilled by caregivers motivated her progress.

I think they [older adults] need to be given words of hope, number one, so that they have a feeling, I am going to get well. It is possible for me. I can, and then next comes. I will.

Participants noted that there were very few registered nurses in skilled nursing facilities. They identified the role of the registered nurse in rehabilitation facilities primarily as the supervisor of nursing assistants. In the home, they identified the registered nurse as a member of a team of professionals who provide ongoing rehabilitation services. One participant, who was admitted to a rehabilitation hospital, described her sense of security in knowing a registered nurse was in charge.

The RN charge nurse each shift would come in at [rehabilitation facility] and introduce him or herself. Even though you knew that person, maybe they had been there the day before because they rotate everybody all over that place, and say, I'm the charge nurse for this shift now. So you knew if it was Mary or if it was John, just who it was. You know somebody by name.

Nursing assistants provided much of the direct nursing care for participants during their inpatient rehabilitation. Participants identified many interactions that they felt demonstrated the caring and support provided by these direct caregivers. These included answering call lights promptly, introducing themselves by name, addressing participants by their last name, listening to their concerns, and treating them as individuals.

The concern that they showed each patient was just outstanding. I could see a woman kitty-corner from me, the nurse had gone in and put her arm around her

and sat and talked to her. They were so wonderful. They got to be my friends. They'd come walking by [and] they would look in. They weren't going to do anything for me. but they always said, "Good morning, [patient's name]," and smiled, the nicest young people.

The ability to convey caring when they had many patients to care for was appreciated by participants. One participant described the combination of efficiency and caring in her assessment of a good rehabilitation experience.

It was a very good experience because the girls were so efficient and they were also very caring. They never left you hanging. Still, they could bathe you in the fastest time I've ever seen.

Participants responded to interventions that were individualized to their needs. Nursing assistants who came to know their patients and what they needed were considered the best.

She was so good. She didn't forget anything. And what she did, she did perfectly. Every blanket was right and I had a riser for me feet because they would get numb and she always had it in. It is amazing how they were all good, but that girl was outstanding.

Informal Caregivers. Participants identified support provided by informal caregivers as an important component in their recovery. Actions of family, friends, neighbors, and clergy were among those most frequently described. "Guardian angels" emerged from the data describing informal caregivers who acted as advocates for participants in the immediate post injury period. Family, friends, and neighbors also served as direct care providers or coordinators of care once participants returned home. One older woman described the advocacy role her daughter-in-law assumed immediately after her injury.

My daughter-in-law had right away asked the doctor to explain [the procedure] again. She had gotten two pictures on the Internet of what would be done.

So she could tell me what it was, and I could visualize it then.

Similarly, another participant described her request to be taken to a specific hospital because her daughter-in-law worked there. She depended on her family members to act as advocates on her behalf and to assist her in making important healthcare decisions. "So I asked them to take me there because that's where she could take over and my son would go there and they could take over and decide what to do."

A woman who lived in a rural community described the support she received from family and friends. She attributed her successful rehabilitation to this small-town community support. "I had lots of attention because I know a lot of people, so the room was full of flowers and cards and everything that could be done to be helpful was [done]." Confirming this view, another participant described her best friend as her "guardian angel", who acted as her advocate when she was experiencing postoperative complications.

Social support was especially important once participants were discharged from the rehabilitation program. Some participants went directly home with family or other caregiver support. One woman went to live with a family member. Another participant, who had no family living in the area, spent an additional two months in a skilled nursing facility until she could return to her apartment with the support of a friend.

All participants described the type of support they received and how helpful it was for them. Children and grandchildren were important sources of social support for participants. They assisted in adapting the home environment to the needs of the older adult and provided supervision and support in doing whatever was needed.

I started asking when I could go home. so they talked to my family, my son and daughter-in-law. I have a daughter, too, and found out what they could do for me at home. So they set up the downstairs as an apartment for me. [They] put in a twin bed and a little refrigerator and microwave, and of course, I came home with a portable potty and a wheelchair and the walker and a lot of little gadgets. At that time my granddaughter, who was 11 that year, it was August, and she was off from school. So she took care of me every day, and she was very helpful for me. She would run errands and do whatever I wanted her to do cheerfully. In fact, I had helped to bring her up, so she and I were close anyway.

Participants described the role reversal that occurred as a result of their dependence. A male participant described the mothering role his daughter assumed after his hip fracture.

I went to stay with my daughter for a week, which helped out a lot. I didn't go home to live by myself. It was better to live with my daughter and she took off the week so she could be with me. It really helped a lot and she fed me and took care of me, just like a mother.

Many participants had their grown children or daughters-in-law stay with them in their own homes for a period of time after they were discharged from inpatient rehabilitation settings. One participant described how her daughter-in-law stayed long enough to monitor how she was doing and to ensure that she had adequate home care. Other participants shared their experiences of support provided by various family members. Daughters or a spouse were the primary sources of support for participants who had them.

I have two girls that live in the Palm Springs area and they took turns coming over. And the one is not married either and she came over. And when I came home from the hospital she stayed with me for a month. So I had help and I knew she could do as much as I could, or maybe more. So it didn't bother me at all.

Grandchildren were another important source of support for participants. Several of them spoke warmly of the relationships they had with their grandchildren.

And then when school was out, my grandson who is 14 came and spent the whole summer with me. He did yard work for me and quite a few things, anything that was too heavy for me to think about doing or anything. All I had to do was say I'd like to have that done [and] it was done.

One divorced male recalled that his son lived with him for about eight months following his hip fracture. Although he lived in a one-bedroom apartment, he pointed to the dining room indicating that his son had slept in that area. He further described his son's role in taking care of him by providing transportation and cooking for him.

Family members provided other types of support for the older adult following a hip fracture. One participant described how her son-in-law, who was an attorney, assisted her with financial matters. Another described how her daughter bought her a portable telephone, so she felt secure knowing she had easy access to call if she needed help. Friends played an important role in providing support for participants once they returned home. Friends from church brought meals in for one participant until she could begin Meals on Wheels. Another participant described her two male neighbors who watched her "like mother hens." Participants who did not have family members living nearby relied on friends for support.

I live here alone. I do not have a relative in this city, and my club, that I go to every Monday, was so wonderful to me, so many phone calls and the cards. I got 50 cards from them, and some would come to visit and offered to help after my daughter went home. I honestly think that that response that I had from people was more helpful than anything that you can think of. Without it I think you would be kind of desperate.

One 92-year old participant spent additional time receiving rehabilitation in a skilled nursing facility because she had no family who were able to be with her at home following her fracture. She needed to be more independent in order for her elderly friends to assist her when she returned home.

My nieces came from Michigan to see that I could have a place to stay, because. like I say, I have no family [locally], and they picked [skilled nursing facility], and it wasn't too bad.....So I stayed two months, and then my lady friend that lives up here, [gives name], she came and helped me. She did the cooking, she did the grocery shopping.

Although she was grateful for the initial help her daughter provided, one participant described her perceptions of the negative impact family assistance can have on the

recovery process. She feared easily accepting a dependent role if there was too much available family support.

I will tell it to you. I think that when elderly people have this kind of accident or whatever it is, that if the relatives are too helpful, there isn't that wonderful urgent feeling that I am going to be independent. They will be dependent on others.

Another participant expressed similar feelings in the context of being a burden to her children.

When I needed them, they were here. That was fine. But I'm not going to do to them like my mother-in-law did to me. She had an only son and she lived in Florida and she would call up and in the middle of the night. She said. "I'm having a heart attack. I'm going to the hospital." He would jump up and get a plane and fly down there. That was a horror, as far as I was concerned and he felt obligated.

Participants in this study felt a strong need to take responsibility for their own care. They did not want to become a burden to their family or friends. They wanted to regain the level of independence that they enjoyed prior to the hip fracture.

Getting Back.

Although many factors contributed toward motivating participants to "get back" after a hip fracture, a strong desire to regain functional independence and return home motivated all other actions. Most participants in this study lived alone and strongly valued their independence. They shared similar desires and beliefs about their ability to recover and return home. "Getting back" emerged from the data as the central dimension representing the strong desire to regain independent functioning and to return home identified by participants. The determination to "get back" served as the primary motivator for participation in rehabilitation. The meaning of "getting back" varied among participants depending on their previous level of activity.

Resumption of previous activities was an important goal as one participant stated. "I wanted to get back to what I was doing before." The goal of "getting back" represented different outcomes for each participant. Some participants identified personal goals based on functional abilities required to return home. The ability to climb stairs was described as a goal by one participant. "I told them I have to do three flights of steps. They said, "We'll get you going up and down those steps.' I said, 'Well. I don't know how.' but do what we have to do."

Other participants described the ability to resume activities such as driving, shopping, working in the garden, attending church, participating in social activities, and resuming volunteer work as goals that were important to them. One participant described her goals "to drive, and go, and do, and not have to be dependent on people." The goal to regain independence was important to participants in this study and served as an important motivator for rehabilitation.

Having a Vision. Identifying and setting meaningful goals motivated participants to move forward with their recovery after a hip fracture. Having a vision is the dimension that emerged from the data that represented a future, goal-oriented attitude demonstrated by participants. One participant described her future orientation when she stated. "You always have to look forward. It's that glow in the dark that helps." Participants identified characteristics of goal setting that were important to them. These included goals that were specific, realistic, and achievable based on their functional ability. One participant offered recommendations for setting realistic rehabilitation goals and described her reaction to meeting goals.

Make it positive, but don't set it so low that they don't think they have to work at all. This is tough and we know it's hard. It isn't easy, but oh it feels so good after you can do this. If you can go down the hall tomorrow, three steps, that great.

Feedback and encouragement further motivated participants in meeting their goals. If progress was slower than expected, they desired reassurance that their progress was acceptable. One participant offered this recommendation for caregivers working with "underachievers".

I think you have to be realistic to a degree, but hopeful and positive, but don't set the goals so high that the underachievers will feel bad about not making it. We also have people who can't for one reason or another reach this. [Let them know] that it is possible with some [work], and if it's a little slower, it's still okay, you will make it.

Participants also identified congruency between the rehabilitation team goals and their personal goals as important for motivating their participation in rehabilitation. "Well that was my goal and that was their goal. Their goal at [name of rehabilitation facility] is to get people well and have them resume a reasonable life." Participants identified characteristic of resuming a "reasonable life" that served as indicators of their rehabilitation progress.

Participants used many self-directed actions to motivate their participation in rehabilitation in order to get back after a hip fracture. The self-directed actions motivating their participation in rehabilitation are represented by the dimensions *Taking Responsibility* and *Monitoring Progress*. An analysis of the data supporting each of these dimensions follows.

Taking Responsibility. In addition to the strong desire to get back motivating participation in rehabilitation described above, participants described taking responsibility and initiative for actions to promote their rehabilitation. A description representing these actions for *taking responsibility* is summarized in the following statement. "You can't depend on [other] people to do it. If you don't do it yourself, how are you going to get better?" By taking personal responsibility for their actions, participants were internally motivated to succeed in regaining their independence. One participant described the importance of internal motivation for ensuring success in the following statement. "If you don't get that going for you nobody can hand it to you. No one can give it to you, you can't go out and buy it."

Only a few participants in this study expressed any doubt in their ability to recover. Those who did have doubts took self-initiated actions to overcome them. One participant, who required hip replacement surgery after failure of a hip pinning, described the following strategy.

Although I doubted myself, I was going through things twice [and] once was enough, then I had to face it again. I was a little down in the dumps. It took me about three or four days to come out of that doldrums I was in there, but I came around it with a little push of my own.

Other participants had no doubt about their ability to recover and return home. They took responsibility for their actions and outcomes. One participant, responding specifically to an inquiry about self-doubt, stated.

Oh. none whatsoever. I'm a person who really feels I'm, in my head, 21.

I may be 75 in my body, but my head is 21 and I was sure that I would be able to, with time, get back to myself because I work on it. I really do. Participants frequently compared themselves to others who had had similar experiences. One participant took responsibility for his participation in rehabilitation in order to avoid a negative outcome.

The main thing is your muscles, everybody. I don't care who it is, once you let your muscles die, you're in a rest home or any place [but home]. You've got to exercise, you don't walk, the first thing you're finished. You can't wait on yourself.

Having goals to work toward further motivated participation in rehabilitation. Regaining functional independence was very important to participants in this study. One participant described the activities she had to perform when her daughter went home to another state.

I had to get out of that bed. I had to take myself to the bathroom. I had to come out here and get my food. It was the best thing in the world for me, but believe me, if I had been near my daughter, it would not have been like that.

The dimension *taking responsibility* represented depending on their own efforts for regaining functional independence and returning home described by participants. One participant described her situation, "I'm learning how to do things all the time because

I'm by myself and I had to do it. I had no choice." Another participant further described this sense of self-reliance.

I sort of had to depend upon myself and I have been very independent. My husband was in the service. by the way, and retired, and I had to see that things were all right at home. That was number one. I was in Honolulu when the war broke out. I have managed to be as independent as possible, and I will do anything to keep my independence, anything.

Participants demonstrated self-reliance for their rehabilitation and recovery by taking initiative for their actions. "You've got to have initiative and wanting to do things that you have done before this happened." The desire to resume previous activities was common to all participants and served as a powerful motivator of their actions. "I wanted to get back to what I was doing before. Just sitting around and not doing anything wasn't for me. I couldn't do it."

Participants identified beliefs that they felt were important in taking responsibility for their participation in rehabilitation. Having a positive attitude supported the selfmotivation prevalent among participants. The following statement supported this attitude. "And then your attitude, you've got to think for the future. You can't just say woe is me and lie down and give up completely." Humor was another aspect of the positive attitude that motivated their participation in rehabilitation. "I think a little humor gets you through most of it as well as can be expected."

An intellectual interest in the rehabilitation process intrinsically motivated some participants. The following comment supports this source of motivation.

It sounds crazy, I must be masochistic or something, but I thought

it was kind of fun in a way because it was something so different than anything I've ever had or experienced before, that I found it kind of interesting, the whole procedure. And what you're capable of doing, [even] when you think you probably can't do what you want to do, but you can.

Participants expressed a high degree of self-reliance motivating their actions in rehabilitation following a hip fracture independent of their age. The following comment dispels the ageist view of older adults as individuals who are unwilling or unable to learn new things. "I don't ever stop to think that I'm 80. If I decide I want to do something, or if I think it needs to be done, I do it." Participant's desires, attitudes, and beliefs supported the sense of self-reliance motivating participation in rehabilitation.

Monitoring Progress. Participants monitored their rehabilitation progress based on the goals they had set for themselves. The indicators of rehabilitation progress identified by participants were based on their ability to perform certain activities. "Everything would be normal" emerged from the data representing a description of how participants identified indicators of rehabilitation progress that were most meaningful to them.

Mobility was especially important at all stages of the rehabilitation process. Early in rehabilitation. one participant described her awareness of improving mobility.

You're not going to lie in bed very long, and I think that helps. I think that when you realize that you can move around, that makes you feel better, even [if you are] in a wheelchair.

Later in rehabilitation, self-monitoring among participants continued to be focused on improvements in functional abilities. One participant described what she identified as an ultimate indicator of reaching her rehabilitation goals. "My rhythm of walking would be

normal. Everything would be normal [so] that I wouldn't have to notice." By expressing the rehabilitation goal as it related to her "normal" walking, this participant was able to monitor her progress toward meeting the goal.

Other indicators of reaching goals were less well defined by participants. Some activities were recognized and appreciated as they occurred. An example of a selfrealization was described in one participant's comment. "After four months, the glorious moment [when] I could turn on this [injured] side. So it was all progress."

Participants described transitioning from a walker, to a cane, or no assistive device as mobility improved. This transition to less dependence on assistive devices was viewed very favorably among participants as an indicator toward reaching rehabilitation goals. The transition was often accompanied by the ability to resume previous activities as described by one participant. "I gave up the walker and then started using the cane walking on the beach."

Reducing dependence on others was another indicator used to monitor progress toward meeting goals identified by participants. Discharge from therapy and resuming use of public transportation represented progress for this participant.

My therapists have all gone. I do my stand up exercises right here [at home],

so consequently I've been up on the buses. I don't have a car anymore,

I take the bus and I go all over and walk fine, go everywhere.

Participants were able to identify when they felt safe and no longer needed to depend on the assistance of others. One participant described not needing the assistance of her friend at home any longer. "I discharged my friend on Friday and I told her go, don't darken my door." This action represented a return to independence for her. Discharging visiting nurses and home therapists was another indicator of progress toward meeting goals and a return to independence for participants. "They sent a physical therapist out here. She came twice, and I told her she didn't need to come anymore. I could do it by myself."

Despite many barriers to rehabilitation, participants in this study were motivated to perform specific actions in order to get back after a hip fracture. Participants employed several self-directed actions to further motivate their participation in rehabilitation activities. The primary intrinsic motivator driving participants to succeed in rehabilitation was having a strong desire and commitment to "getting back".

Additional actions that were intrinsic motivators for rehabilitation included *having a vision* demonstrated by setting personal goals. *taking responsibility* for their actions. and *monitoring progress* toward meeting their goals. One participant summarized her intrinsic motivation for rehabilitation.

I am a very positive, active person. So I had no doubt that despite the fact that this was a very bad break, and I have severe osteoporosis, and I have all of the other [health problems], that I shall overcome.

Resuming a Reasonable Life

Resuming meaningful activities was an important consequence of "getting back" described by participants. "Resuming a Reasonable Life" emerged from the data as the dimension that reflected the goal to get well and return to prior activities. The ability to shower independently, work in the garden, drive, ride the bus, perform volunteer work, or visit with friends were all described as activities indicating recovery by participants. Female participants identified the resumption of homemaking activities as an indicator of "resuming a reasonable life". "I do the dishes, dust, and make beds; and laundry I can do. And as I say, I'm getting back to digging in the garden a little." Driving and shopping for groceries were important activities for many participants. Driving represents a high degree of independence among older adults. Participants who were able to drive did not have to depend on others for transportation for grocery shopping or other activities. Two participants described shopping for groceries as indicators of their independence. "I live alone; I do all my own work. I drive my own car: I shop and get my own groceries."

We have a supermarket right around the corner and I get the basket.

which is the greatest. You really stand up straight and walk well with the basket, so I have no trouble there.

Resuming social activities was an important indicator of "resuming a reasonable life" for participants. One participant felt he was back to normal when he walked to see his friend who lived three houses down the block. Another participant described resuming activities with her club. "I belong to a senior club. Every Monday I go to the club. I'm very active and play bridge. I also belong to two other bridge clubs." Volunteer activities were important to some participants. A return to volunteer work represented resuming a reasonable life for one participant. "I was back working at the Senior Center less than six or seven months, one day a week."

Participants estimated their recovery on a continuum and shared how satisfied they were with their level of functioning. One participant described the recovery continuum as "degrees" of improvement that she observed each day.

I really feel better every day and I would not have believed there would have been so many degrees of this and yet this is just obviously true. When I get out of bed in the morning and start getting dressed. "Oh, I'm better."

Most participants indicated that they were still getting better each day. Another participant described her return to swimming as an indicator that she was resuming her usual life.

I have swimming exercise [class]. Most of the time I go twice a week for an hour. I started swimming therapy there, which was very good. and that's twice a week for now. Then we have an exercise here on Wednesday mornings, which they call "The Chair". You sit in a chair and you do the leg and arm exercises. So that's also the therapy.

Although the goal of most participants was getting back to their previous level of functioning, some participants admitted that they had not achieved this goal. A few participants found an incomplete recovery disturbing, while others accepted the limitations and were satisfied with their recovery.

I've Adjusted. Although participants regained functional independence and returned home, they were changed as a result of the hip fracture. Consequences resulting from their experience included a decline from the previous level of function for many participants, adjusting to limitations, and becoming more cautious with activities to reduce the risk of falling. There were certain activities that participants discontinued. For example bathing in a tub was an activity that one participant gave up. She accepted her limitation by using the shower.

I don't take baths anymore because I figure if I get down I may not get up,
and while I'm up I may not get down without falling down. So I think I just stand in one spot and turn the water on me. It's safer.

Standing for long periods of time was difficult for some participants limiting their ability to cook for themselves. Participants accepted this limitation by altering their cooking style or getting assistance with meals. The alteration in cooking style is described by one participant. "I can't still be in the kitchen or cooking. I can heat it and set it out. but I can't stay there." Obtaining Meals on Wheels was the solution described by another participant. "And. of course it's hard to do any cooking when you can't reach below your knees and so we had Meals on Wheels."

Participants also gave up some of the activities they had previously enjoyed because they viewed these activities as too difficult or potentially unsafe.

I used to work every weekend out in Santee with a friend of mine, it's what you call a Swap Meet, but he sold all new stuff and I used to help him set tables up, and set stuff on the tables, and help him sell stuff. And I enjoyed that

a lot. But I knew I could never get back to that again or at least I never have. The older adults in this study seemed to adjust to the limitations posed since their hip fracture with varying degrees of acceptance. The degree of acceptance may be related to the value the specific activity had for the individual. One participant related her feelings after being told by her surgeon that she had reached her full level of recovery.

I had maybe 75 percent in that hip, which is a big problem for me. I can't reach my right foot, or wash my foot, put on a sock, or cut my toenails. I can't reach it, and that has bothered me the most of anything. And I still think I should have been able to do that. Another participant related that she had persistent pain and a deformity of her affected leg that limited her ability to walk. This participant, who had been an avid walker, was distressed by both the pain and inability to resume walking as she had prior to the hip fracture.

So now after the second operation, my right leg is slightly longer and it's enough longer so that it throws my gait off, my back off. And at this point, Dr. S said, "Try not to use a lift. Maybe you'll be able to compensate", but it is now seven months... I still have pain. I still can't walk very long or very far, but I almost every day go over to the beach where it's easier to walk on the hard sand. I do time it, but I can't walk very far. I try at least for a half hour. Sometimes I sit down at 10 or 15 minutes, but I'm always with pain.

A fear of falling was another change that participants identified as a consequence of their hip fracture. Several participants noted that they had a loss of balance since the fracture that contributed to their fear of falling.

I can't turn suddenly. I lose my balance if I do and the ground is uneven.

I didn't lose my balance [when I broke my hip]. So I have to be very, very

careful. I'm conscious all the time of the danger of falling... I've adjusted

to it, but still I wish I didn't have it, that limitation.

Several participants continued to use walkers or canes to improve their balance and reduce the risk of falling. Some participants described using assistive devices only when they went outside of the home.

I have my walker, and I still use it when I go in crowds. If I go shopping or anyplace where there is likely to be people that might bump into you, because you could fall again and they recommend when you go out in company until you are firmly planted on the ground again to take a walker.

They say a walker or a cane, but a cane is not as substantial as the walker. Despite these limitations participants described getting on with their activities after returning home.

I walk with a cane. My balance isn't good yet, and there are days when I have a hard time putting my slacks on and there are a lot of times you don't do it yourself. But I do get up and I walk every day, sometimes a whole hour. Patients accepted limitations in functional ability in different ways. One participant accepted variations in her functional ability and used humor to cope with them.

There are days that I feel stronger than other days. There are days that I feel wobbly, I call it wobbly, and then there are days that I can get along just fine without any help. I laugh and say I don't know how I'm going to feel until I get up in the morning and walk around.

Reflecting on their hip fractures and the rehabilitation process, participants expressed a need to have more information about what to expect from rehabilitation and their potential for recovery. One participant who was not satisfied with her level of functional improvement expressed her need for information and encouragement.

Nobody ever told me that there might be a limit to my recovery. I think if they had, maybe I would have worked harder on my exercises after the therapist left. So it could be partly my fault.

Another participant who felt she did not have adequate information about her rehabilitation expressed this view. "I think what disturbed me most of all, I wasn't being told the truth about the extent of the injury and how long it would take me to recover. That came as a great surprise." Despite having limitations compared with their previous levels of function, participants in this study adjusted to functional limitations, returned home to independent living, and were able to "resume a reasonable life".

Summary of Findings

All participants in this study experienced a sudden change in their ability to function independently following a hip fracture. A strong desire and belief in their ability to "get back" from a hip fracture was the primary motivator for their participation in rehabilitation. Participants assumed responsibility for their participation in rehabilitation, envisioned and pursued goals that were meaningful to them, and monitored their progress toward achieving those goals. Several conditions influenced participants' intrinsic motivation for rehabilitation by hindering or facilitating the process of "getting back". Although participants identified some limitations in functioning, they adjusted to limitations and were generally able to meet their rehabilitation goals and "resume a reasonable life". One participant summarized his successful rehabilitation after a hip fracture in the following statement. "You may not get back as good as you were, but at least you're back." A discussion of the findings of this study is presented in Chapter V.

Chapter V: Discussion of the Findings

The findings of this study are discussed from a theoretical perspective and in relation to findings from related research. First, the context and explanatory model of motivation for rehabilitation after a hip fracture derived from this study are discussed in relation to symbolic interactionism. Actions used by older adults for motivating participation in rehabilitation are then discussed in relation to existing theories of motivation. Finally, conditions facilitating and hindering the rehabilitation process and consequences of rehabilitation are discussed and compared with research findings reported in the literature.

Symbolic Interactionism

Motivation for rehabilitation is a process consisting of social interactions between the individual with his or her self, and with others. Blumer (1969) described several root images representing ways in which actions are conducted in human society. He proposed that root images serve as a framework for the study and analysis of human interactions. Three root images identified by Blumer are 1) the nature of human actions 2) interlinkages among actions. and 3) the human being as an acting organism. The explanatory model of motivation described in the previous chapter describes the actions and interactions of participants in a manner that is consistent with symbolic interactionism.

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The nature of human actions. In describing the nature of human actions Blumer (1969) contrasted the conceptualization of actions defined by symbolic interactionism with the conceptualization of actions defined by psychological and social sciences. He proposed that actions performed by an individual involve an awareness of things that he or she notes. and that behaviors are based on how the individual interprets what he or she notes. He summarized this process of noting things in the following statement.

The things taken into account cover such matters as his wishes and wants. his objectives, the available means for their achievement, the actions and anticipated actions of others, his image of himself, and the likely result of a given line of action (p. 15).

The explanatory model of motivation for rehabilitation after a hip fracture that emerged from this study is consistent with the nature of human actions described by Blumer. Participants wanted to "get back" to their former activities and they identified goals for "getting back". They assumed responsibility for their own actions and relied on the actions of others to assist in meeting their goals. Participants maintained a positive belief that they could achieve their goals based on their own actions and interactions with others despite encountering barriers.

Blumer (1969) described the nature of actions undertaken by individuals. "Lines of action may be started or stopped, they may be abandoned or postponed, they may be confined to mere planning or to an inner life of reverie, or if initiated, they may be transformed" (p. 16). Conditions that emerged in the grounded theory of successful rehabilitation influenced the actions of participants. Barriers such as pain, depression, altered mental status, and medical or surgical complications hindered rehabilitation progress after a hip fracture. Formal and informal caregivers facilitated the actions of individuals in rehabilitation.

Interlinkages among actions. Blumer (1969) identified the root image he named "interlinkages of actions" in which there is an "interdependency of diverse actions of diverse people" in social networks (p. 19). He defined functioning of interdependent relationships in symbolic interactionism based on how individuals "define the situation in which they are called on to act" (p. 19). Interactions among older adults and their caregivers influence motivation for participation in the rehabilitation process.

The human being as an acting organism. Blumer (1969) described the capacity of human beings to identify and interpret their circumstances in any situation. Interpretation of the situation is required in order for the individual to act. Blumer noted that the individual "has to cope with the situations in which he is called on to act, ascertaining the meaning of the actions of others and mapping out his own line of action in the light of such interpretation" (p. 15). Although the situation and actions of others influence behavior, the individual accepts primary responsibility for actions.

The grounded theory of successful rehabilitation among older adults after a hip fracture derived from this study follows the trajectory described by Blumer. Participants were able to cope with their dependent situation after experiencing a hip fracture. They assessed their situation in order to identify and perform goal-oriented actions. They engaged in interdependent relationships with professional and informal caregivers to facilitate their actions. They also experienced and overcame barriers and adjusted to limitations in functional ability. Successful rehabilitation outcomes, such as

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improvements in physical functioning, motivated participants to continue their participation in rehabilitation activities.

Theories of Motivation

Findings of this study are consistent with several theories and models of motivation described in Chapter II. Motivation describes or explains how and what determines a person's thoughts and actions (Weiner, 1992). The interaction of wants, beliefs, rewards, and costs influences motivation (Kemp, 1990). Only a few studies have examined motivation of older adults for rehabilitation. In these studies, motivation was assessed using empirical measures of self-efficacy (Ruiz, 1992, Resnick, 1998a). Resnick (1998a) also examined motivation for rehabilitation from the perspective of participants who were receiving rehabilitation for a variety of conditions. The grounded theory of successful rehabilitation after a hip fracture emerged from the perspective of the older adult who experienced this sudden, traumatic event. The findings of this study contribute to this small body of geriatric rehabilitation research.

Life stops as you know it. Participants shared the stories of fracturing a hip and their recovery after this sudden, life-altering event. "Life stops as you know" it described the context of sudden dependence experienced by participants. They knew immediately that something was wrong and that they needed help. This finding was similar to the sudden changes described by a participant in another study after experiencing a stroke (Pilkington, 1999).

Getting back. Following the hip fracture, participants identified beliefs that they felt were important in motivating their participation in rehabilitation. These beliefs included having a positive attitude, strong desire, and determination to do whatever it took to

regain their independence. The desire and determination to get back was the strongest motivator for participation in rehabilitation among the participants. Their intention to get back to their previous activities motivated their actions for participating in rehabilitation. Behavioral intentions are determined by a person's attitudes and beliefs according to Ajzen and Fishbein (1980). Few studies have reported behavioral intentions for rehabilitation from the perspective of the older adult. Self-efficacy beliefs have been measured and reported in rehabilitation studies (Ruiz, 1992; Resnick, 1996a).

Self-efficacy theory explains the relationship between self-perception and behavior (Bandura, 1977). Individuals who believe in their abilities demonstrate the ability to act. Motivation for rehabilitation after a hip fracture was influenced by self-efficacy expectations expressed by participants. This finding is consistent with the findings that self-efficacy and outcome expectancy beliefs are related to participation in rehabilitation reported by Resnick (1998a). Participants in her study demonstrated high levels of self-efficacy in descriptions of their beliefs and actions. Interventions to improve self-efficacy have been shown to be effective in improving rehabilitation outcomes (Resnick, 1998b).

Having a vision. The ability to envision resuming previous activities was common to all participants and served as a powerful motivator of their behavior in rehabilitation after a hip fracture. This finding is consistent with Maslow's (1968) theory of growth motivation that is directed toward attaining goals. Participants identified goals for returning to activities that were meaningful to them such as driving, gardening, and doing volunteer work. These findings are consistent with the findings among stroke survivors that accomplishing meaningful goals gave them a sense of hope (Doolittle, 1991; Folden, 1994).

Taking responsibility. Participants directed their rehabilitation and recovery by taking responsibility for their actions. They persisted in actions to meet their goals despite barriers. Persistence in performing prescribed activities has been shown as an important factor in sustaining functional improvements following cardiac rehabilitation (Radtke, 1989). Perseverance has been identified as an important component of self-motivation (Dishman & Ickes, 1981).

Most participants had no doubt about their ability to recover and return home. The confidence expressed by participants is consistent with competence and self-initiation described by Deci and Ryan (1985) as predicting variables for self-determined behaviors. Only a few participants expressed doubt in their ability to recover. Those who had doubts described self-initiated actions that they used to overcome them.

Participants also believed that they had the ability to get back to their previous level of functioning. Ajzen and Madden (1986) described perceived behavioral control as a significant determinant of intentions and behavior. Participants assumed personal control for the outcomes of rehabilitation after a hip fracture. This finding is consistent with the findings from previous studies. Regaining control was the core process identified in a study of individuals who experienced a myocardial infarction (Johnson & Morse, 1990). Successful recovery of older patients following a hip fracture was dependent upon restoring the patient's perception of control over their recovery (Brown & Furstenberg, 1992). *Monitoring progress*. Self-regulation was a strategy used by participants to motivate their actions for rehabilitation. They closely monitored their rehabilitation progress based on the goals they had set for themselves. Self-monitoring of progress involved noting limitations or improvements in functional abilities. Monitoring and assessing their own rehabilitation progress provided assurance that they were getting back to their previous level of functioning. This finding is consistent with findings previously reported in the literature. Participants in a study of transitions in the lives of elderly women who sustained hip fractures indicated that "recognizing progress was the crucial element to overcome the depressive feelings" and "being able to toilet oneself independently was the most significant milestone." (Robinson. 1999. p. 1347). Deci and Ryan (1985) identified self-regulation as a significant predicting variable for self-determined behaviors.

Related Research Findings.

Barriers. Conditions hindering participation in rehabilitation emerged from the data as important components of the explanatory model of motivation for rehabilitation after a hip fracture. Physiological factors such as pain, negative interactions with others, and limitations imposed by the healthcare system all served as barriers to successful rehabilitation. A discussion of the findings for each of the hindering conditions identified in the model follows.

Personal Limitations. The influences of factors such as pain, depression, altered mental status, and medical or surgical complications on motivation for rehabilitation described by participants have not been consistently demonstrated in previous studies. Participants described pain as a condition hindering motivation for rehabilitation. This finding was consistent with the findings of another study of elderly women who sustained

hip fractures. Pain was identified as a function-inhibiting factor in that study (Robinson. 1999).

Alterations in mental status described by participants as hindering motivation for rehabilitation were also consistent with the findings of previous studies. Alterations in mental status were identified as predictors of poor rehabilitation outcomes (Marottoli et al., 1992; Parker & Palmer, 1996; Cree, et al., 2000). Participants who experienced depression identified their mood as hindering motivation for rehabilitation. Participants in Robinson's study (1999) described feeling a loss of control and dependency that were identified as function-inhibiting factors.

Depression has not consistently emerged as a hindering factor to motivation for rehabilitation. Contrary to expectations. depression was predictive of better functioning six months after a hip fracture in one study (Marottoli et al., 1992). Further study of the relationships among depression, motivation for rehabilitation, and rehabilitation outcomes is needed.

Participants identified medical and surgical complications as factors hindering their motivation for rehabilitation. These findings were consistent with morbidity previously reported in the literature (Kannus, et al., 1996; Cree, et al., 2000). However, unlike studies reporting poor rehabilitation outcomes, older adults who experienced hip fractures were able to overcome barriers, reach their rehabilitation goals, and return home.

Lack of Support. Participants identified a lack of support from caregivers as a barrier to motivation for rehabilitation. Participants identified perceptions of insensitivity from caregivers as a barrier to their participation in rehabilitation. Caregivers were often perceived as being rushed and not having the time to assist participants with activities of

daily living after a hip fracture. This finding is consistent with the findings of Brown & Furstenberg, (1992) who studied methods for empowering older adults who experienced hip fractures.

The time constraints that staff shortages and patient volume impose may limit hospital nurses to rushed, task focused, and impersonal care. Staff may have little time for assessment and response to the patient's feelings of loss of control, or for providing needed patient education. The loss of control over one's activities in the hospital and the withholding of information by medical staff tend to undermine the patient's perception of control (p. 86).

A lack of communication and follow through in responding to their concerns were identified as hindering motivation for rehabilitation among participants. This finding is consistent with findings of helplessness experienced by hospitalized patients. Taylor (1979) found that withholding information contributed to undermining the patient's perception of control.

Interactions with caregivers were important to participants who wanted to be included in decisions regarding their care. They stressed the importance of being kept informed about their condition and progress. A study of autonomy among older adults confirmed the importance of returning control to older individuals as they recover from functionaltering illnesses (Callopy, 1990).

Interactions between caregivers and patients were influenced by the healthcare system. Participants noted that a lack of education and training among staff in skilled nursing facilities contributed to the barriers identified for successful rehabilitation. They also recognized that staff were overworked and underpaid. These findings are consistent with findings reported by Diamond (1992) who worked as a nursing assistant as he gathered data for his ethnographic study of the culture of the nursing home industry.

Limited Resources. Participants identified factors within the healthcare system that influenced their rehabilitation. They specifically identified Medicare and insurance regulations that determine the allocation of resources for rehabilitation care. Participants identified the negative impact that limitations in the amount of time and funding allowed for rehabilitation had on their rehabilitation outcomes. Most participants felt that they would have benefited from additional physical therapy and home health services when they were discharged from the inpatient rehabilitation setting.

Studies to determine the most effective setting for rehabilitation among older adults after hip fractures have been reported in the literature (Siegler & Kinosian, 1995; Kane et al., 1996; Kramer, et al., 1997). These studies used empiric measures of function to assess rehabilitation outcomes. Studies assessing patients' perceptions of the level functional recovery achieved after rehabilitation are limited. A study of the meaning of recovery among workers with work-related musculoskeletal disorders concluded that perceptions of recovery vary among individuals and may not be related to symptoms or the level of functional ability (Beaton, et al., 2001). Further research focusing on the perceptions of older adults regarding the impact of limited healthcare resources on rehabilitation outcomes is needed.

Facilitators. Professional and informal caregiver support emerged as an important condition for motivating participation in rehabilitation among participants. Participants identified relationships that they developed with professional caregivers as especially

important for receiving information, reassurance, encouragement, and a sense of caring and interpersonal connection. These findings are consistent with the findings of other researchers (Brown & Furstenberg, 1992; Fleury, J., 1991; Resnick, 1996a; Resnick, 1998).

Professional Caregivers. Caregivers serve as extrinsic motivators helping older adults to establish goals for self-care and returning home. Providing encouragement has been identified as important for empowering and motivating patients for participation in rehabilitation (Fleury, J., 1996; Resnick, 1996). Specific strategies to strengthen motivation to perform functional activities include identifying the patient's goals and establishing goals that are attainable within a short period of time (Resnick, 1998b).

Participants felt that their motivation to participate in rehabilitation was facilitated by caregivers who conveyed a sense of caring and concern. Older adults responded to care that is individualized to their needs (Resnick, 1998b). Research focusing on patients' perceptions of the role of professional caregivers in facilitating their recovery is needed.

After a hip fracture, participants felt that their rehabilitation progress was facilitated when they received adequate information about their condition and progress. Information sharing has been identified as an important component for empowering patients following hip fractures (Brown & Furstenberg, 1992). Home health professionals who participated in focus groups reported that patients and family members often had no idea of the time required for healing or the potential for recovery of usual daily activities. They concluded that a lack of information limited older adults from engaging in rehabilitation activities and contributed to a sense of anxiety and helplessness in directing their recovery.

Informal Caregivers. Participants identified support provided by family, friends, neighbors, and clergy as an important component for their recovery. These informal caregivers served as advocates in the immediate post-fracture period and as direct caregivers or coordinators of care during the transition from the inpatient to home setting. All participants had family or friends who participated in their care as they were recovering from a hip fracture. The support provided by informal caregivers assisted participants in meeting their rehabilitation goal to return home.

Social support was identified by Resnick (1998a) as one of the many factors that motivate older adults for rehabilitation. In a study of stroke survivors, participants identified how relationships with family and friends contributed to their quality of life by helping them to feel that they were "not alone" and that they were "still alive" (Pilkington, 1999, p. 342). In another study, individuals with hip fractures identified "accepting help to compensate for shortcomings" as a function-promoting factor (Robinson, 1999, p. 1345).

Resuming a reasonable life. Outcomes of rehabilitation represent consequences in the theoretical model of motivation for rehabilitation after a hip fracture. Participants identified resuming meaningful activities such as homemaking, gardening, grocery shopping, driving, and resuming social activities as indicators of resuming a reasonable life. Similar findings of perceptions of the meaning of rehabilitation and recovery are reported in the literature.

Participants in a study of quality of life after a stroke identified resuming life as they had lived it prior to the stroke as their desired outcome (Pilkington, 1999). In another study, pride in recovering after a hip fracture was linked to resuming independent

activities (Robinson, 1999). Similarly, in a study of the meaning of recovery, a participant described feeling good about himself when he could do things that he had previously been able to do (Beaton et al., 2001).

Full recovery of functional abilities was not achieved by all of the participants after a hip fracture despite the desire to "resume a reasonable life". Similarly, participants, in a study of quality of life after a stroke, described adjusting to limitations and finding new activities that were meaningful to them (Pilkington, 1999).

I've adjusted. Many participants experienced a decline compared with their previous level of functioning after a hip fracture. They described adjusting to limitations as part of their recovery after a hip fracture. Adjustments made by participants included discontinuing some of their previous activities, performing some activities at a lower level of intensity, using a cane or walker, and accepting alterations in functional ability.

Participants described no longer being able to work at the local swap meet or bathe in a tub as they did prior to the hip fracture. Participants described good days and bad days in which their functional abilities varied. They compared themselves to others, who were more disabled, to compensate for feelings sadness over their loss of function. These findings are consistent with descriptions of the experiences of stroke survivors (Pilkington, 1999). Observing the rehabilitation progress of others motivated participants in another study (Robinson, 1999).

The motivation to participate in rehabilitation activities and resume a reasonable life is a common theme demonstrated among older adults during recovery from strokes and hip fractures. Older adults use a variety of strategies for adapting and adjusting to setbacks and losses in function. Research focused on developing strategies for adaptation to changes in functional abilities among older adults is needed.

Summary

This chapter provided a discussion of the findings from a theoretical perspective and in relation to findings from related rehabilitation research. Development of a grounded theory of successful rehabilitation after a hip fracture integrated findings generated from the experiences and perspectives of the older adults who participated in the study. The findings were discussed in relation to existing theories, models, and related research findings. The explanatory model of successful rehabilitation after a hip fracture that emerged from the data is consistent with symbolic interactionism theory. Actions used by participants for motivating participation in rehabilitation were consistent with existing theories of motivation.

Conditions facilitating and hindering successful rehabilitation were consistent with symbolic interactionism, existing theories of motivation, and findings of studies focusing on rehabilitation of the older adult. Areas for further research were proposed when no findings related to the findings in this study were reported in the literature.

Development of a grounded theory of successful rehabilitation among older adults following a hip fracture is important for directing clinical care and further research. Efforts to improve care following hip fractures will benefit older adults and caregivers who facilitate the process of "getting back". Reflections on the conduct of the study, directions for future research, and implications of the findings for clinical practice are presented in Chapter VI.

Chapter VI: Reflections on the Study

Exploring the motivation among older adults for rehabilitation following a hip fracture was the primary focus of this inquiry. The findings of this study resulted in generation of an explanatory model of successful rehabilitation grounded in the experiences of participants. This chapter reviews strengths and limitations of the study that influenced interpretation of the findings. Implications of the findings for clinical practice are discussed and recommendations directing further research are proposed.

Critique of the Study

Symbolic interactionism provided a theoretical perspective that was consistent with the focus and methods of the inquiry. Grounded theory was an appropriate methodology for the study of motivation for rehabilitation among older adults. The method is especially useful for generating theory when concepts and relationships among concepts are poorly understood. Instruments measuring motivation have been developed with younger adults and the validity with older adults has not been confirmed. A grounded theory is generated based on the experience of participants and lends itself to developing concepts or dimensions that are relevant for the older adult.

Eighteen participants were interviewed for this study and 17 interviews were included in the data analysis. The number of participants is small in qualitative studies. The number of participants in this study was sufficient to identify dimensions and

differentiate among dimensions through comparing the findings across data collected from many participants.

The researcher, who is an experienced gerontological nurse practitioner skilled in interviewing older adults, conducted all interviews. Participants were encouraged to describe their experiences of hip fracture and recovery in a way that promoted information sharing. Interview techniques included face-to-face seating between the researcher and participant to facilitate communication and allowing adequate time for participants to reflect on the questions prior to answering. The researcher also assured participants that their experiences and perceptions were important for this study.

The findings of this study contribute to the body of knowledge for concepts of motivation, rehabilitation, and recovery among older adults. Because they were interviewed after they returned home, participants were able to describe the entire process of rehabilitation after hip fracture. They described the process from the time of the event to their return home including progress and adjustments they made after returning home. Participant's descriptions contributed to the generation a more conceptually rich explanatory model of successful rehabilitation after a hip fracture.

Participants in this study also provided insights into the recovery experience after hip fractures from the perspective of individuals who were successful in rehabilitation. This perspective is especially needed for conditions such as hip fractures that are associated with a high rate of mortality and morbidity among older adults. Successful recovery experiences are important for developing interventions and directing further research on the effectiveness of such interventions.

Participants in this study were a self-selected group who volunteered to participate in the study. The self-selection process may have contributed to a bias for including older adults who were most successful in rehabilitation after a hip fracture. Participants also represented a homogeneous sample of individuals. All participants were Caucasian men and women who lived in one geographic location. Further study of rehabilitation after hip fractures is needed among more culturally diverse populations.

The researcher was knowledgeable about the existing theories of motivation and the findings of rehabilitation studies reported in the literature. However, in analyzing the data collected from participants, she was able to suspend her general knowledge of the phenomenon and approach the data as an uninformed observer. This technique allowed the researcher to develop an understanding of successful rehabilitation from the perspective of the older adult.

Data were collected with open-ended questions and participants were encouraged to describe their experience in their own words. In vivo codes were used to identify dimensions whenever possible. These methods allowed the researcher to generate a theory of successful rehabilitation after a hip fracture grounded in the experiences of the older adult.

Implications for Clinical Practice

The findings of this study provide many implications for clinical practice. The central dimension "getting back" confirms the importance of a strong desire and determination to resume previous activities in motivating older adults participation in rehabilitation. Assessing self-motivation is important in order to identify individuals who will be most likely to succeed in rehabilitation after a hip fracture. Individuals who demonstrate poor

self-motivation may be at risk for limited participation in rehabilitation and poor rehabilitation outcomes.

Conditions that are barriers to rehabilitation such as pain, alterations in mental status, depression, and medical and surgical complications need to be identified quickly and treated appropriately. Interventions to treat or minimize the effects of conditions hindering motivation for rehabilitation may reduce the high mortality and morbidity associated with hip fractures among older adults.

Conditions that facilitate rehabilitation need to be assessed. The actions of formal and informal caregivers facilitate "getting back" after a hip fracture. Professional caregivers need to be aware of the importance of their actions in motivating participation in rehabilitation among older adults. Providing information, support, and encouragement throughout the rehabilitation process reinforces self-directed actions motivating older adults.

The availability of informal caregivers such as family members. friends, and neighbors needs to be determined. Social support is needed by the older adult for navigating the healthcare system and making the transition from the inpatient setting to home. Professional caregivers need to work with the informal caregivers by communicating information, planning rehabilitation care, and planning for discharge. Professional and informal caregivers need to work together to empower the older adult in regaining personal control and independence following a hip fracture.

Future Directions for Research

Instruments to measure motivation or self-motivation among older adults need to be developed to assist nurses in assessing motivation for participation in rehabilitation.

Resnick (1995) identified poor validity among older adults demonstrated by instruments currently available for measuring motivation. Developing an instrument measuring motivation that is grounded in the experiences of older adults may help to overcome this problem.

An instrument of motivation for rehabilitation among older adults could be developed based on the theoretical model of motivation derived from this study. This instrument would include items that assess the strength of a desire to recover, the ability to set goals, the willingness to accept responsibility for actions, the ability to initiate actions, and the ability to self-monitor rehabilitation progress. According to the explanatory model, individuals who demonstrate high levels of all of these characteristics would be most motivated to "get back" after a hip fracture.

Assessment and treatment of conditions hindering rehabilitation would contribute to successful rehabilitation outcomes according to the model. Research to confirm the impact of barriers to rehabilitation outcomes is needed to test this model. Individuals who experienced complications, negative interactions with caregivers, or limitations in healthcare resources would be expected to be at risk for failing to achieve rehabilitation goals based on the explanatory model.

Assessment and promotion of conditions facilitating rehabilitation would contribute to successful rehabilitation according to the explanatory model. Research to confirm the impact of positive interactions with others on rehabilitation outcomes is needed to test this model. Individuals who had positive interactions with formal and informal caregivers would be expected to achieve successful rehabilitation outcomes based on the explanatory model.

Additional research examining the relationships among factors adversely influencing rehabilitation outcomes in older adults is needed. As noted previously, depression has not consistently emerged as a factor hindering rehabilitation outcomes. Further study of the relationships among depression, motivation for rehabilitation, and rehabilitation outcomes is needed.

Research examining the impact of limited healthcare resources on rehabilitation outcomes is also needed. Older adults are a vulnerable population profoundly effected by a healthcare system that has not been designed to promote independence. Medicare regulations, that limit rehabilitation and homecare services, promote the status quo of institution-based long-term care for older adults. Frail older adults are at a disadvantage in political power relationships required for changing current healthcare policies.

Studies specifically aimed at changing policies and regulations that limit rehabilitation services provided for older adults need to be conducted. Research using emancipatory paradigms such as participatory action research would be useful in guiding such studies. The intended outcome of research using this method is to empower participants to create and share knowledge in order to stimulate actions for change.

Interventions to alleviate conditions that hinder participation in rehabilitation need to be developed, implemented, and evaluated. Rehabilitation outcomes need to be measured and evaluated when modifiable factors such as pain and depression are minimized. Future inquiries need to focus on individuals who were not successful in "getting back" following a hip fracture. The conduct of a study among this group of older adults may be difficult, as individuals who fail in rehabilitation may not have the cognitive ability to consent and participate in research studies.

Further research to determine conditions that facilitate successful rehabilitation is needed. Factors such as humor and spirituality have not consistently been reported among factors facilitating rehabilitation outcomes. Research focusing on the role of professional and informal caregivers in facilitating motivation for rehabilitation is also needed. Findings from theses studies can be used to develop specific interventions.

Interventions for promoting successful rehabilitation also need to be developed, implemented, and evaluated. It will be important to develop interventions that are identified as helpful from the perspective of the older adult. Copp (1986) described a process of empowering vulnerable individuals. Interventions to empower older adults may enhance participation in rehabilitation and improve outcomes among this vulnerable population.

The conduct of this study provided an opportunity to interact with older adults who demonstrated resilience in successfully recovering from a hip fracture. Participants had the self-motivation to overcome barriers and participate in rehabilitation in order to return home and "resume a reasonable life". The self-directed actions used by older adults for "getting back" after a hip fracture offer hope and inspiration to anyone faced with the challenges of rehabilitation and recovery.

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UNIVERSITY OF SAN DIEGO

CONSENT TO ACT AS A RESEARCH PARTICIPANT

Carole Hair is a registered nurse, currently enrolled in the Doctor of Nursing Science program at the University of San Diego, who is conducting a research study as part of her dissertation. The study is designed to learn about factors, which help or hinder participation of older adults admitted to a rehabilitation program. In order to complete this study she would like to interview older adults who have participated in a rehabilitation program following a hospital admission.

If I agree to participate in this study, I understand that I will be asked questions about my age, marital status, medical diagnoses, living situation, and previous admissions to a rehabilitation program. I further understand that I will be asked to describe my experiences during hospitalization and during rehabilitation. I will be asked to describe what helped or hindered my participation in the rehabilitation program.

The interview will take about one hour to complete and will be conducted at a time and in a location which is convenient for me. The interview will be tape recorded in order to obtain information about my experiences in my own words. I may also be contacted after the interview in order to help Ms. Hair in her understanding my experiences.

Participation in the study should not involve risks or discomforts to me except for possible minor fatigue or discomfort in answering questions about my experiences in a rehabilitation program.

My participation in this study is entirely voluntary. I understand I may refuse to participate or withdraw at any time without jeopardy to the care that I am receiving for follow-up after discharge from the rehabilitation program.

There will be no direct benefit to me from participating in this study. However, Ms. Hair hopes to learn about the factors helping or hindering participation of older adults admitted to a rehabilitation program. Knowledge obtained from the perspective of the older adult can then be used for improving rehabilitation programs.

I understand that my name will be kept separate from the interview tapes and that this information will be kept completely confidential. My identity will not be disclosed without my consent as required by law. I further understand that to preserve my anonymity my name will not appear in any reports or publications about this study.

Ms. Hair has explained this study to me and answered my questions. If I have other questions about my participation in this study, I can reach Ms. Hair at 552-8585 x2279 or 589-1783.

There are no other agreements, written or verbal, related to this study beyond that expressed on this consent form. I have received a copy of this consent document and The Experimental Subjects Bill of Rights.

I. the undersigned, understand the above explanations and, on that basis, I give consent to my voluntary participation in this study.

Signature of	
Participant	Date

Location

Signature o	f
Researcher	Date
Appendix B

Prevention and Treatment of Hip Fractures Among Older Adults & Introduction to a Study

Carole F. Hair, MS, RN

Doctoral Candidate University of San Diego

- I. Introduction
- II. Musculoskeletal diseases and hip fractures among older adults
- III. Purpose of the study
- IV. Who is eligible to participate?
- V. What does participation involve?
- VI. Why is this study important for me?
- VII. Prevention of hip fractures
- VIII. Questions?

Prevention and Treatment of Hip Fractures Among Older Adults & Introduction to Study

I. Introduction -

a. To Self

- RN, NP @ VA San Diego Healthcare System
- Manager Extended Care Unit with rehab emphasis

- Student in the doctoral program in nursing at USD working on my doctoral dissertation

b. To aging population trends

Older adults comprise approx 12% of the U.S. population. By 2020 it is predicted that 17% of the U.S. population will be over the age of 65.

The average life expectancy is increasing. We now see many more people living into their 80's and 90's than ever before.

II. Musculoskeletal Diseases & Hip Fractures Among Older Adults

a. Facts and figures

Musculoskeletal diseases are the number one cause of disability according to U.S. government health statistics

The most common changes in the musculoskeletal system in aging are an increase in osteoporosis, degenerative joint changes, cartilage changes, slower gait, muscle and nerve changes.

These changes effect posture, strength, endurance, and the ability to move around.

Older individuals who have other diseases (cardiac, neurological, pulmonary) may have even more weakness, deconditioning, and gait abnormalities (posture and balance). These changes make older adults more susceptible for falls and fractures. Falls are a leading cause of injury and disability among older adults. It is estimated that each year approximately 1/3 of people age 65 and over living at home will fall at least once.

Approximately 5-6% of people who fall have a serious injury such as a hip fracture. There are 220.000 hip fractures each year in the U. S. among individuals who are age 65 and over. The incidence of hip fractures rises with age.

From this brief review you can see that there are many factors which contribute to hip fractures among older adults.....osteoporosis. other changes in the musculoskeletal system which effect strength and stability in walking, and other diseases which increase the risk for falling.

b. Anatomy of the hip

Where does the hip fracture occur? (handout of femur diagram)

What is done to repair this fracture? If the person is able to tolerate surgery a procedure called a total hip arthroplasty may be done. This procedure involves replacing the upper femur with a metallic ball and socket (share picture from Williams p. 214).

c. Recovery following hip fractures

Recovery following hip fractures requires some time for rehabilitation. Rehabilitation is a process which helps people who have had a decline in function regain their highest possible functional level. Many professionals are involved in rehabilitation care. These include physicians, nurses, physical therapists, occupational therapists, speech pathologists, and social workers. This team of professionals is most interested functional abilities and ways to improve them or to help a person to adapt to changes in functional ability. The person with a hip fracture is the most important member of the rehabilitation team.

III. Purpose Of My Study

a. To learn what motivates older adults to participate in rehabilitation after hip fractures.

b. What helps or hinders rehabilitation progress?

c. How did rehabilitation nurses influence the rehabilitation process?

IV. Who Is Eligible To Participate?

a. Age 75 and older

b. Experienced a hip fracture with the past 3 years

c. Received care in an inpatient facility such as a rehabilitation hospital, extended care unit, transitional care unit, skill nursing facility or health care center.

d. Returned home after rehabilitation.

V. What Does Participation Involve?

a. Set up a convenient time for an appointment for an interview.

b. Sign a consent form to participate in the study.

c. Participate in an audiotaped interview lasting approximately one to two hours.

d. Answer questions about yourself and your recovery experience.

VI. Why Is This Study Important For Me?

a. Those who volunteer to participate in this study will help rehabilitation professionals gain a better understanding of the recovery process from the perspective of the patient.

b. This information will help us to design programs which best meet the needs of older adults.

c. What is learned from this study will help others in the future.

VII. How Can We Prevent Hip Fractures?

- By prevention and treatment of osteoporosis

Physical activity is one of the most important ways to prevent bone loss. Improved physical fitness is also associated with improved muscle strength, stability, reaction time, balance and coordination.

Stop smoking!!! A woman who stops smoking before menopause reduces her chances of a fracture by about 25%.

Estrogen replacement therapy - Reduces the risk of fracture by about 50%.

Calcium supplements - Reduction in hip Fractures has been shown in one study of elderly women living in a nursing home by about 25%.

Avoiding excessive use of alcohol - Alcohol use decreases the density of bones and increases the risk of falls.

By preventing falls (provide handout on fall prevention at home)

VIII. Questions?

Appendix C

Participant Number	Age	Gender	Marital Status	Living Situation	Prior Rehabilitation
1	74	М	М	With Spouse	No
2	79	M	W	Alone	Yes
3	75	F	W	Alone	No
4	80	М	D	Alone	No
5	76	M	D	Alone	Yes
6	85	F	W	Alone	No
7	83	F	W	Alone	No
8	92	F	W	Alone	No
9	73	F	W	Alone	No
10	86	F	W	Alone	No
11	91	F	W	Alone	No
12	80	F	W	Alone	Yes
13	74	F	D	With Brother	No
14	83	F	D	Aione	No
15	82	F	W	With Son & Family	No
16	72	М	M	With Spouse	Yes
17	84	F	D	Alone	No
18	75	F	M	With Spouse	Yes

Appendix D

Code Number: _____

Interview Guide

Motivation for Rehabilitation among Older Adults: A Grounded Theory Study

> Carole F. Hair, MS, RN Doctoral Candidate University of San Diego

Participant's Name: _____ Date:

Consent To Act as a Research Participant Signed:

BEGIN RECORDING INTERVIEW

Age: _____ Marital Status: _____

Medical Diagnoses/Primary Health Problems:

Living situation: (e.g. alone, with spouse, with others: in own home,

apartment, mobile home, assisted living facility)_____

Were you ever admitted to a rehabilitation facility prior to your hip

fracture?

If yes, when?

What was the reason for your admission?

Code Number: _____

Research Questions

1. Please describe your rehabilitation experience following your hip fracture.

Probing Questions

Did you have a hip fracture due to a fall? How did your injury affect your ability to function? Were you limited in your ability to perform your usual activities? What activities were affected? What did you hope to accomplish by participating in the rehabilitation program? What were your personal goals? Did you hope to be able to regain your prior ability to function? Were you able to meet this goal? How did you feel about your ability to meet (or not meet) your goals?

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2. What helped to motivate your participation in the rehabilitation program?

Probing Questions

Tell me about all of the things you can think of which helped you to participate in the rehabilitation program. Were there certain people who helped you to participate in the program? Who were they? Therapists (OT, PT, RT), nurses (RN, LVN, Nursing assistant). MD, social worker, family members, friends, clergy, other. In what ways were (persons identified) helpful? Did your attitude help you to participate in the program? Were you hopeful, discouraged, depressed, determined, fearful, other? Were previous rehabilitation experiences helpful? In what way? Were specific goals helpful? Which ones? Did the environment help you to participate in rehabilitation? (Equipment, modifications in your room, bathroom, therapy room, other). Did you receive follow-up care as an outpatient? (Home care, clinic or office visits, outpatient therapy, other). Was this helpful for your participation in rehabilitation? In what ways? 3. What hindered your ability to participate in the rehabilitation program?

Probing Questions

Were there personal factors such as depression. fatigue, shortness of breath, pain, or others which hindered your participation? Did actions of any rehabilitation team members, family members, friends or other people hinder your participation? What were these actions? Were there any problems with the facility (environment) which hindered your participation? (lack of equipment, poor accessibility, lack of privacy, other). 4. In what ways did the rehabilitation nurses help or hinder you with this process?

Probing Questions

Could you describe your best nurse or nurses while you were in the program? What made you think that she or he was the best? Did she or he help you in your recovery? In what ways?

Were there any nurses who you felt hindered your recovery? In what ways?

5. Is there anything else you would like to tell me about your rehabilitation experience which you feel would be helpful for improving rehabilitation programs for older adults?