

## AN ABSTRACT OF THE DISSERTATION OF

Hanan A. Jambi for the degree of Doctor of Philosophy in Nutrition and Food Management presented on September 17, 2003.

Title: Perceived Food Autonomy: Measurement and Relationships with Food Satisfaction among Assisted Living Residents.

Abstract approved:

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Constance Georgiou

The purpose of this exploratory study was to develop an instrument to measure perceived food autonomy (PFA) among cognitively alert residents in state licensed Assisted Living (AL) facilities, and to investigate the influence of PFA on food satisfaction, while controlling for functional (physical, social, and psychological) status, general health, and demographic characteristics. The study was designed to achieve four objectives: 1) to define a theoretical framework for food autonomy among residents in AL settings and to develop an instrument accordingly; 2) to evaluate the content and construct validity of the PFA scale; 3) to evaluate the reliability of the PFA scale; and 4) to investigate the effect of perceived food

autonomy, functional (physical, social and psychological) status, and general health on food satisfaction in AL settings.

Definitions for food autonomy and three underlying dimensions were developed based on conceptualizations of personal autonomy for older adults in long-term care settings, which provided a theoretical framework for the PFA scale development. Content validity was established by expert panel evaluation and a pilot study. Construct validity was achieved from factor analysis procedures with a sample of 120 residents from eleven AL facilities. Cronbach's alpha measure of internal consistency showed the 11-item PFA scale to be reliable ( $\alpha = .71$ ).

Multiple linear regression analysis examined the effect of residents' PFA, health and functional status, and demographic characteristics on food satisfaction. Food satisfaction was measured by a highly reliable ( $\alpha = .87$ ) scale that was compiled for this study. Perceived food autonomy was the most significant predictor of food satisfaction, explaining 37% of its variance. Residents' perceptions of daily pain along with the joint effect of ADL needs and dentures use made a lesser but significant contribution. Altogether, the above variables explained 48% of the variance in residents' food satisfaction.

Application of reliable instruments such as the PFA and FS scales can be used by AL provider to guide food service quality improvement efforts. Residents' PFA and food satisfaction should be periodically measured due to the typical decline in overall health and functional status of AL residents.

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Perceived Food Autonomy: Measurement and Relationships with Food Satisfaction  
among Assisted Living Residents

By  
Hanan A. Jambi

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APPROVED:

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Major Professor, representing Nutrition and Food Management

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Head of the Department of Nutrition and Food Management

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Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

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Hanan A. Jambi, Author

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## CONTRIBUTION OF AUTHORS

Dr. Warren Suzuki assisted with the process of data analysis and analysis interpretation for the first manuscript.

Safaa Amer assisted in the analysis and interpretation of the data in both manuscripts.



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# PERCEIVED FOOD AUTONOMY: MEASUREMENT AND RELATIONSHIPS WITH FOOD SATISFACTION AMONG ASSISTED LIVING RESIDENTS

## CHAPTER I – INTRODUCTION

Independence and security, physical and social well-being, and privacy and companionship are the primary characteristics contributing to the growing popularity of Assisted Living (AL). A relatively recent housing option for older adults, AL was designed to create a unique social environment, complemented by a philosophy of care that seeks to maximize residents' autonomy, independence, dignity, choice, safety, and privacy (Allen, 1999; Citro, 1998; The National Center for Assisted Living [NCAL], 2001; Oregon Administration Rules [OAR]: 411-056-0005, 2000).

The AL industry began in Oregon in the 1980's and is still developing. Despite its recent inception, it is the fastest growing type of housing for older adults in the United States, experiencing an estimated 15-20% annual growth rate and accounting for 75% of new seniors' housing in 1998 (Citro, 1999). A study by the National Academy for State Health Policy, conducted in 2000, reported 32,886 licensed Assisted Living Facilities with 795,391 units in the U.S. (NCAL, 2001).

The value of autonomy provides a unifying theme for the AL philosophy of care and contributes to the residents' quality of life (Carder, 1999; Gamroth, Semradek, & Tornquist, 1995; Oregon Administrative Rules [OAR]: 411-056-0005, 2000; Wilson, 2000). Webster's Dictionary defines autonomy as the quality



or state of being self-governing; it is self-directed freedom and especially moral independence. Advocates and providers of AL have been using the appealing terms of autonomy and independence as major marketing tools to attract older adults and their families (Carder, 1999). Autonomy is a broad concept that has been studied and conceptualized in long-term care from a general perspective of personal autonomy (Baltes & Baltes, 1990; Capitman, 1995; Cohen, 1988; Collopy, 1988; Jameton, 1988; Lidz & Arnold, 1990). Research about autonomy in long-term care has been growing rapidly throughout the last two decades, focusing mostly on nursing home settings. Gradually that research has come to include AL settings as well.

Daily meals in AL, which are provided as a basic element of the care plan, have been identified as an essential element of quality of life for AL residents (Ball et al, 2000; Gesell, 2001; Sikorska, 1999), and suggestions have been made that this could be an area where residents' autonomy may be limited (Ball et al., 2000). Meals and food service have been included in AL research only from the perspective of overall satisfaction with the facility. Few instruments have been developed and validated to measure residents' overall satisfaction with AL (Gesell, 2001; Buelow & Fee, 2000; Mitchell & Kemp, 2000; Sikorska, 1999; Chou, Boldy, & Lee, 2001). However, no studies have been conducted to measure any aspect of residents' autonomy in the AL setting.

This study explored the link between the greatly treasured American value, autonomy (Agich, 1993; Lidz, Fischer, and Arnold, 1992), and the basic human

need for life sustenance and longevity, food, in the social environment of AL. Food autonomy is a new term that was coined and defined for this study and is based on existing theoretical frameworks of personal autonomy in long-term care. The definition of food autonomy, as proposed, is the ability to freely choose and/or make a decision, and to act and be responsible for those decisions about all issues, situations, and activities related to food. Food autonomy was proposed to have three dimensions: Decisional, Executional, and Delegational, on which an instrument to measure perceived food autonomy was based and developed.

## PURPOSE OF THE STUDY

The purpose of this study was to develop a valid and reliable instrument to measure perceived food autonomy and to investigate its influence on food satisfaction after accounting for functional (physical, social, and psychological) status, general health, and demographic characteristics of residents in Assisted Living (AL) facilities.

## RESEARCH OBJECTIVES

1. To develop an instrument that measures Perceived Food Autonomy (PFA) among residents in Assisted Living (AL) settings.
2. To evaluate content and construct validity of the PFA scale.
3. To evaluate the reliability of the PFA scale.
4. To investigate the effect of perceived food autonomy, functional (physical, social and psychological) status, and general health on food satisfaction in the AL setting.

## NULL HYPOTHESES

H<sub>01</sub> – There is no relationship between perceived food autonomy and food satisfaction.

H<sub>02</sub> – Perceived food autonomy, functional (physical, social, and psychological) status, and general health have no effect on perceived food satisfaction in the AL setting.

## APPLICATION OF THE STUDY

The Perceived Food Autonomy (PFA) scale could become a useful tool for Assisted Living providers who are interested in monitoring the nutritional well-being of their residents. An adequate diet for older adults is well recognized as a factor contributing to quality of life and longevity (ADA, 2000). Perceived food autonomy may predict food satisfaction from the resident's perspective. Since Assisted Living (AL) is a consumer-driven industry, the resident's perspective, as may be indicated by the PFA scale, may help in predicting relocation behavior. PFA could provide indications of how well an AL facility promotes residents' autonomy, in congruence with the philosophy of care of Assisted Living: that is, to enhance the autonomy, dignity, and independence of the residents. Knowledge of residents' perceived food autonomy could furnish AL policymakers and providers with base information to enhance residents' satisfaction with their daily meals and food service in general.

## LIMITATIONS OF THE STUDY

Residents who are not cognitively alert were not included in this study, therefore, inferences to all AL populations may not be appropriate. Only residents from the state of Oregon were included in this study, which would prevent the generalization being applied to facilities outside of Oregon, due to differences in state and local policies and differences in regional food preferences.

## DEFINITIONS OF TERMS

The following terms are relevant to the study:

**Assisted Living:** The National Center for Assisted Living (NCAL) defines Assisted Living as “a long term care alternative for seniors who need more assistance than is available in a retirement community, but who do not require the heavy medical and nursing care provided in a nursing facility... [AL facilities are] designed to be operated, staffed, and maintained to best meet the needs and desires of their residents. Security and independence, privacy and companionship, and physical and social well-being are the primary characteristics of an assisted living setting... Individuals receive, as needed, supervision, personal care assistance, and health care services that emphasize their right to control their lives” (NCAL 2001).

**Assisted Living (Oregon):** Oregon Administrative Rule 411-056-0005 defines Assisted Living as “a program approach, within a prescribed physical structure, which provides or coordinates a range of supportive personal and health services, available on a 24-hour basis, for support of resident independence in a residential setting. Assisted living promotes resident self direction and participation in decisions that emphasize choice, dignity, privacy, individuality, independence, and home-like surroundings” (Oregon Administrative Rules, 2000).

**Continuing Care Retirement Community (CCRC):** A senior housing arrangement that usually provides three levels of care: independent living, assisted living, and nursing care. A one-time entrance fee is required plus monthly fees.

**Independent/Congregate living:** Congregate communities that offer independent living in private separate apartments/units. Residents have service options such as centralized dining services, shared living spaces, and access to social and

recreational activities. These apartments/units may rent on a monthly or annual basis

**Combined communities:** A senior housing living arrangement that combines assisted living and independent living.

**Free living:** Individuals living in their own homes in the community.

**Long-term care:** Many different definitions for long-term care are available, each of which is usually based on the population served. In a comprehensive sense, long-term care is defined as “a set of health, personal care, and social services delivered over a sustained period of time to persons who have lost or never acquired some degree of functional capacity” (Kane & Kane, 1987).

**Aging-in-Place:** Aging in place is described as “a transaction between an aging individual and his or her residential environment that is characterized by changes in both person and environment over time, with the physical location of the person being the only constant” (Lawton, 1990).

**Activities of Daily Living (ADL):** are a series of basic self-care activities that include bathing, dressing, eating, walking, transferring, and toileting. The level at which a person performs these activities is used as a measure of functional status (Namazi & Chafetz, 2001).

**Instrumental Activities of Daily Living (IADL):** are a series of more complex skills needed to live independently. These include housekeeping, meal preparation, use of transportation, use of telephone, shopping, managing money, and taking medications. The level at which a person performs these activities is used as an additional measure of functional status (Namazi & Chafetz, 2001).

**Perceived food autonomy:** is defined for this study as the ability to freely choose and/or make decisions, and to act and be responsible for those decisions about all issues, situations, and activities related to food.

**Decisional food autonomy:** is the freedom and ability to make decisions, regarding food, in the absence of restraint or coercion.

**Executorial food autonomy:** is the ability of residents to implement actions, dependently or independently, regarding food, such as preparation, selection according to likes or dislikes, or food acquisition.

**Delegational food autonomy:** is the perception of instructing and authorizing AL facility personnel to make decisions and act on behalf of residents about food issues.

The following definitions are pertinent to instrument development in methodological research.

**Validity:** The extent to which an instrument actually measures what it is supposed to measure.

**Content validity:** Refers to whether the items in an instrument are representative of the concept or dimension they are intended to represent. These concepts are presumed to have theoretical bases (Lester & Bishop, 2000; Nunnally & Bernstein, 1994).

**Construct validity:** “focuses on the extent that a measure (scale or subscale within a larger instrument) performs in accordance with theoretical expectations” (Lester & Bishop, 2000, p.16)

**Constructs:** are concepts or theoretical constructions, abstractions that are aimed at organizing and making sense of our environment (Pedhazur & Schmelkin, 1991). Examples of constructs are food autonomy and food satisfaction.

**Reliability:** is the extent of accuracy with which an instrument measures a set of dimensions, characteristics, or behaviors; with consistency, stability, and dependability, (Lester & Bishop, 2000).

## DISSERTATION ORGANIZATION

Chapter Two presents a review of the literature relevant to the study and begins with an overview of the older adult population in the U.S. and their health and functional status. It is followed by a description of the Assisted Living (AL) industry and its resident population. Current research on AL is discussed next, covering regulation and policy issues, quality of life and well-being of the residents, and resident satisfaction. Residents' satisfaction with food and meal services was consistently found to be an important element in overall satisfaction

with AL. Therefore, studies concerning satisfaction with AL are presented and discussed in detail.

A major portion of the literature review is dedicated to the multifaceted concept of autonomy in long-term care, which includes theoretical frameworks and conceptualizations for defining autonomy, and explains the grounds for formulating a definition of food autonomy for this study. Previously validated instruments, developed to measure older adults' food behavior and autonomy, provided a starting point for developing items for the PFA scale for this study. Those instruments are also referred to in Chapter Two.

Chapter Three is a manuscript, for submission to *The Gerontologist* (Appendix A), that details the process of developing PFA scale including the qualitative and quantitative measures carried out for validation and reliability. Chapter Four is a manuscript for submission to *The Journal of Applied Gerontology* (Appendix B); it reports the relationships between perceived food autonomy and perceived food satisfaction and residents' general health and functional status (physical, social and psychological), and demographic characteristics. Chapter Five concludes the dissertation findings and suggests methods of application of the PFA by AL providers that might help in enhancing the quality of care and quality of life of AL residents. It ends with recommendations for future research.

## CHAPTER II - LITERATURE REVIEW

### DEMOGRAPHICS OF OLDER ADULTS

The population of older adults, age 65 and older, in the U.S. is growing steadily. The 2000 Census estimated the population of those 65 and older to be 35 million individuals, which represented 12.4% of the entire U.S. population. This percentage of older adults represents a 12% increase since the 1990 census. The 2000 Census also estimated the male to female ratio in this age group to be 70 males for every 100 females. The total number of males age 65 and older was estimated at 14.4 million and the total number of females was estimated at 20.6 million (Hetzl & Smith, 2001). Older adults are generally categorized into three age groups: the young-old are those from 65-74 years, the aged or middle-old from 75-84 years, and the oldest-old are 85 years and older, the latter of which is the fastest growing segment of the U.S. population. Furthermore, the ratio of male to female decreases steadily with age. For every 100 females, it was estimated that there are 82, 65, and 41 males respectively in the three age groups (Hetzl & Smith, 2001).

The young-old group (age 65-74) are generally viewed as relatively affluent, healthy, and enjoying a great deal of independence. Members of the remaining two groups are far more likely to be disabled and increasingly dependent (Hetzl & Smith, 2001). The population of individuals 65 years and older is expected to proliferate when the “baby boomers,” who were born between the years



of 1946-1964, reach the age of 65, between 2010 and 2030. The 2000 Census estimated the total number of baby boomers in the U.S. to be 79 million, which represents 28% of the total population. Hence, it is projected that by the year 2030, the older population (over 65) will grow to an estimated 70 million, which will represent 20% of the entire population (Hetzel & Smith, 2001).

## OLDER ADULTS' HEALTH AND FUNCTIONAL STATUS

Advances in medicine throughout the second half of the twentieth century have successfully improved older adults' health and increased their longevity. For the U.S., life expectancy at birth in 1997 was estimated to be 79 years for women and 74 years for men, compared to 70 years for both genders in 1960. And those who survive to age 65 can expect to live an average of 18 more years. For those who survive to age 85, the life expectancy is seven more years for women and six more years for men (Federal Interagency Forum on Aging Related Statistics [FIFARS], 2000). Life expectancy for older Americans continues to rise, especially for the oldest-old (85+ years). During the 1990s, the number of Americans aged 100 and older doubled and the centenarian population is projected to reach 834,000 by 2050 (U.S. Census, 1999).

Older adults (65 years and older) are more likely than the younger population to have chronic illnesses that could negatively affect their well-being and quality of life. The most prevalent chronic diseases among older adults are in descending order: arthritis, hypertension, heart disease, cancer, diabetes, and stroke

(Federal Interagency Forum on Aging Related Statistics [FIFARS], 2000). The normal process of aging and chronic diseases could unfavorably affect older adults' health and functional status. Physical, social and psychological functionalities are significant determinants of older adults' general well-being and quality of life. (Ahmed, 1992; Goodwin, 1989; Horwath, 1991; Linn & Linn, 1984; Locher, Burgio, Yoels, and Ritchie, 1997; Walker & Beauchene, 1991).

Decline in physical functions could be considered the first step toward feelings of dependence. Physical functions are commonly measured by the ability to perform Activities of Daily Living (ADL) such as eating, bathing, grooming, dressing, and transferring; and by Instrumental Activities of Daily Living (IADL) such as shopping, cooking, finance management, medicine administration and household chores. ADL and IADL needs, which gauge physical functional status, have been consistently recognized as affecting older adults' food intake and dietary status (Bianchetti, Rozzini, Carabellese, Zanetti, and Trabucchi, 1990; Hoogenboom, Spangler, and Crose, 1998; Jensen, Kita, Fish, Heydt, and Frey, 1997; Keller, Bright-See, and Campbell, 1999; Pyette, Gray-Donald, Cyr, and Boutier, 1995).

Social functional status, in terms of involvement in social activities, including socializing with other people and engaging in hobbies or activities, has been considered an indicator of well-being for the U.S. elderly population. Individuals who continue to interact with others are more likely to be healthier, both physically and mentally, compared to those who become socially isolated

(FIFARS, 2000). Social functional status also has been consistently shown to influence food intake in older adults (Horwath 1991; Walker & Beauchene, 1991; Weimer, 1998; Vailas, Nitzke, Becker, and Gast, 1998). Additionally, older adults' food intake can be indirectly affected by their psychological functional status (Kane, Caplan, Urv-Wong, Freeman, Aroskar, and Finch, 1997; Kerstetter, Holthausen, and Fitz, 1992; Paquet, St-Arnaud-McKenzie, Kergoat, Ferland, and Dube, 2003; Rosenberg & Miller, 1992, Walker & Beauchene, 1991).

Due to the changes in health and functional status that typically accompany aging, older adults may become less self-reliant and may no longer be able to live independently or take care of their daily needs in their own homes. Therefore, older adults may be faced with the decision to relocate to a more supportive setting. The appropriate type of housing for older adults becomes one that meets their special daily needs as well as provides a secure, comfortable living environment. One viable relocation option for older adults would be AL facilities, which provide personal care, support services, meals, and social activities in a safe, home-like environment (AARP, 1998).

## MEASURING FUNCTIONAL STATUS IN OLDER ADULTS

The Self-Evaluation of Life Function (SELF) is an instrument developed and validated to measure comprehensive health status in older adults, age 60 and over. It is a multidimensional, self-administered, 54-item scale that was developed from a wide collection of existing instruments covering physical, psychological,

and social function indicators. Subjects were screened for cognitive functioning and only those with at least a moderate level of cognitive functioning were eligible.

Multiple tests of factor structure, reliability, validity, and sensitivity to change were conducted using 548 older adults over a four-year period. Of those, 101 subjects were retested for instrument reliability, 139 were reassessed at three months to test the instrument's sensitivity to change, and 520 were successfully followed up one year later to test for predictive validity of SELF (Linn & Linn, 1984).

Six factors emerged from factor analysis representing comprehensive health status for older adults. The first two factors representing the physical functions were Physical Disability and Symptoms of Aging. Three factors reflected the psychological function: Self-esteem, Personal Control, and Depression. The final factor, Social Satisfaction, symbolized the social function. The SELF scale was considered a reliable and valid instrument to measure the overall function of older adults in different settings: institutionalized, independent living, ongoing outpatient, and undergoing psychiatric counseling. It had good predictive ability, particularly for physical health, and reasonable validity for psychological functions (Linn 1984). Items from all sections, except Depression, in the SELF scale were adopted for use in this study to measure physical, social and psychological functions of cognitively alert residents in the AL setting.

## HOUSING OPTIONS FOR OLDER ADULTS

Living in an appropriate housing type that meets and supports older adults' needs is essential to maintaining their optimum quality of life. The majority of older adults prefer to continue living in their own homes. However, changing circumstances such as increasing frailty due to declining health, loss of a spouse, or limited resources raises the need to realistically assess living situations and prompts exploration of other alternatives.

Older adults who no longer can remain in their own homes, but do not need skilled nursing care, have available to them alternative living arrangements that fall in the following general categories: living with family, congregate living, shared group homes, board and care/adult foster care, retirement communities/continuing care centers, or assisted living (AOA electronic source). Factors that could affect the choice of an alternative living arrangement by older adults include cost, comfort of the environment, access to resources and services, and social support availability.

## ASSISTED LIVING

Assisted Living (AL) is a housing option for older adults who are no longer able to live independently in their own homes. The Assisted Living industry started in the 1980's and pioneered in the state of Oregon (Hawes et al., 1999; Kane, 1993; Regnier, 1995). A consensus on a common definition for Assisted Living is yet to be reached (Frank, 2002; Lewin-VHI, 1996; Zimmerman, Sloane, and Eckert,

2001), however, it is generally agreed that AL lies somewhere in the continuum of long-term care between independent living and nursing homes, and that it is a combination of some kind of housing and services (Frank, 2002; Mollica, 1995; Zimmerman et al., 2001).

AL facilities are regulated at state and local levels with minimal federal oversight, a fact that contributes to the variations in definitions and implementation of services among states and among service providers. Each state has a slightly different definition for AL, as do state governmental agencies and the private associations that represent AL. The definition by the Oregon Senior and Disabled Services Division in the Oregon Administrative Rules (2000) was used for this study, and states:

Assisted Living is a program approach, within a prescribed physical structure, which provides or coordinates a range of supportive personal and health services, available on a 24-hour basis, for support of resident independence in a residential setting. Assisted living promotes resident self direction and participation in decisions that emphasize choice, dignity, privacy, individuality, independence, and home-like surroundings (OAR 411-056-0005, 2000, p. 3).

Assisted Living arrangements vary from a free-standing facility to a floor in a multi-level congregate care facility, a part of a Continuing Care Retirement Community (CCRC), or a section of a nursing facility. Continuing Care Retirement Communities provide a continuum of care from independent living to fully-skilled nursing care. Another emerging type of housing for older adults is Retirement Communities, sometimes referred to as congregate housing, which provide meals for the entire day, seven days a week, or meals for only part of the day on specific

days of the week. Congregate housing or a retirement community can also be considered a form of AL (Allen, 1999). Furthermore, AL providers are not required to have a state license and facilities can be run exclusively under private management. However, only state-licensed, free-standing AL facilities that provide three meals a day were considered for this study.

Assisted Living offers a wide range of services to promote residents' quality of life and independence. These services include, but are not limited to, personal care on scheduled and nonscheduled bases, daily meals, social services, limited health care, and 24-hour supervision (Hawes, Rose, and Phillips, 1999; Lewin-VHI, 1996; NCAL, 1999). A potential resident for an AL facility undergoes comprehensive assessment for his/her individually required service needs. An initial service care plan would then be drafted and signed to initiate entry into the facility. The resident, if she/he is able and so desires, can participate in the design of the initial service care plan, providing details about required and desired services. Service plans are then reviewed periodically and modified as needed according to the resident's changing needs (ADA, 2000; Hawes et al., 1999). Three meals a day plus snacks are usually provided as a basic service element for all residents. Upon entry, the resident would be asked about his/her general food likes and dislikes and whether a special/therapeutic diet is required.

Licensed AL facilities in Oregon are required to provide three nutritious meals plus snacks seven days a week, provide modified diets if needed, and encourage residents' involvement in menu development (Hawes et al., 1999). From

these broadly defined food regulations, it appears that the residents may have relinquished the physical act of food preparation to the facility and that their food choices may be limited to the range of choices offered by the facility. As residents continue to live in AL, they gradually increase their focus on daily meals, which occupy a major portion of their daily lives and provide an opportunity for socialization.

### AL resident profile

A typical resident of an AL facility is a female between 75 and 85 years old, who has an average of two chronic health conditions, and who needs assistance with two to three activities of daily living (ADL). Studies show that the most needed ADLs in descending order are: bathing, dressing, transferring, toileting, and eating (NCAL, 2001; ALFA, 2000). The most needed instrumental activities of daily living (IADL) in descending order are: meal preparation, housework, daily medication administration, and money management (Citro, 1999; NCAL, 2001). Forty-eight percent of AL residents were reported to have cognitive impairments (AARP, 1998).

According to a national survey conducted by the National Center of Assisted Living (NCAL) in 2000, the largest group (46%) of AL residents came from their own homes while 20% moved in from another AL facility. Fourteen percent came from a hospital, and 10% moved in from a nursing home. The same survey also indicated that 33% of Assisted Living residents moved to a nursing



home, 28% were deceased, 14% moved to another AL facility, 12% went back home, 11% went to a hospital, and the remaining 2% moved out to other locations (Citro, 1999; NCAL, 2001).

### AL philosophy of care

Assisted Living residences are designed to operate, be staffed, and maintained to best meet the needs and preferences of their residents (NCAL, 2001). AL providers use a consumer model for health care, a hotel model for their hospitality approach, and a residential model for architectural structure, all of which share an emphasis on quality of life of the residents (Wilson, 2000). The underlying philosophy is to maximize residents' autonomy, independence, and dignity by promoting choice and control in their daily lives and delivering services in a home-like environment to maintain a good quality of life (Kane & Wilson, 2001).

The ALFA (2001) summarizes the AL philosophy of care in ten points which state:

1. Offering cost-effective quality care that is personalized for individual needs
2. Fostering independence for each resident
3. Treating each resident with dignity and respect
4. Promoting the individuality of each resident
5. Allowing each resident choice of care and lifestyle
6. Protecting each resident's right to privacy
7. Nurturing the spirit of each resident
8. Involving family and friends, as appropriate, in care planning and implementation
9. Providing a safe, residential environment

## 10. Making the Assisted Living residence a valuable community asset (ALFA, 2001, ¶ 1)

### Meals and Food services in the AL setting

Meals in AL and the quality of dining services provide a marketing tool for potential residents and their family members (Pagan, 2001). The main meals are prepared to ensure meeting the residents' general nutritional needs and personal satisfaction and are served on a fixed schedule (Allen, 1999; Wilson, 1996). At point of entry, residents are asked about their dietary needs and food preferences. Main meals are served in a group dining room, restaurant style, to which the residents walk or roll themselves or are assisted in reaching by staff members. Special efforts are made to provide a pleasant relaxing atmosphere that enhances appetites and promotes socialization (Hotling, 1990). A copy of the weekly menu is made available to each resident and also posted daily on a board. Snacks and beverages are usually made available throughout the day. Many social activities scheduled by the facility include a food component. Residents have an opportunity to voice their opinions about food during the monthly residents' council meeting. Licensed AL facilities in Oregon provide three daily meals as a basic service for all their residents (OAR 411-056-0015, 2000). Residents may obtain, store or prepare food in their own living unit if doing so does not represent a health or safety hazard to others (Wilson, 1996).

## RESEARCH ON ASSISTED LIVING

Since the emergence of AL in the 1980's, the literature on AL facilities has been largely focused on policy development and state regulations (Mollica, 1995); design, management, services, cost, and financial reimbursement (Applebaum, 2000; Hawes et al., 1999; Lewin-VHI, 1996; NCAL, 2001; Regnier, Hamilton, and Yatabe, 1995); performance measurement to assess quality of care (ALQC, 1999) and quality of life (Ball et al., 2000; Mitchell & Kemp, 2000; Chon & Sugar, 1991; Herzberg, 1997; Cummings, 2000). Research about the residents' perceptions and their overall satisfaction with AL is gradually growing (ALQC, 1999), however, studies about residents' perceptions regarding food in AL facilities are rare. The following is a presentation of research and empirical studies in policy and regulations, quality of life, and satisfaction with AL.

### Policy and regulations

Developers and policymakers for AL focus on policy formation and regulations in order to meet quality standards that optimize older adults' well-being and quality of life. Issues about managing residents' changing conditions with respect to functional status change, mental status, and health care needs represent the majority of current interests of providers and policymakers (Hawes et al., 1999; Lewin-VHI, 1996; NACL, 1999).

In 1992 a comprehensive review of the literature on AL was documented in a report called Policy Synthesis on Assisted Living for the Frail Elderly. The report

was sponsored by the Office of the Assistant Secretary for Planning and Evolution (ASPE) of the U.S. Department of Health and Human Services (HHS). The need for baseline descriptive data about AL was inspired by the demographic changes of the growing elderly population, accompanied by rapid cost increases for long-term health care and services (Alexih, 2001), and the rise in older adults' interest in AL, which provided a promising alternative to the highly unpopular nursing home care. Given the young age of the AL industry at the time, most of the literature reviewed in the 1992 report was identified as indirectly related to AL. Therefore, an updated review was conducted in 1996, which consisted of literature acknowledged as directly related to AL (Lewin-VHI, 1996).

The 1996 report, *The National Study of Assisted Living for the Frail Elderly: Literature Review Update* was sponsored by ASPE and the Administration on Aging (AOA) of the U.S. HHS (Lewin-VHI, 1996). This report presented an overall picture of AL and described in great details the demographics, structure, services, staffing pattern, regulation trends, financing, and effectiveness of the AL industry up to the date of the report. The report revealed that the lack of consensus on a common definition for AL was a distinct concern to policymakers and providers, a concern that was linked to the difficulty of identifying specifics about type and method of service delivery. The lack of a common definition was also recognized to be an obstacle to accurately determining the size and scope of the industry, which restricted the ability to project the future of AL. The report concluded that financing, effectiveness, and the future of AL were the main

concerns for providers of AL, and that health care utilization was the main subject for empirical research in AL (Lewin-VHI, 1996).

In 1996, six public and private organizations that represented consumers and providers of AL formed the Assisted Living Quality Coalition (ALQC), the overall goal of which was to provide the optimum level of quality and customer satisfaction in AL. Member organizations in the ALQC are: the American Association of Retired Persons (AARP), American Seniors Housing Association (ASHA), Alzheimer's Association, Assisted Living Federation of America (ALFA), American Association of Homes and Services for the Aging (AAHSA), and American Health Care Association (AHCA). In 1998, ALQC published a report entitled Assisted Living Quality Initiative: Building a Structure that Promotes Quality. In this report, a general framework of quality initiatives was proposed for measuring, promoting, and improving quality in AL, and broad guidelines for states to set minimum standards were established (ALQC, 1998).

Concurrently, in a study funded by the U.S. Department of HHS (Hawes et al., 1999), phone surveys were conducted of AL administrators from a national sample of AL facilities in 1998. The overall objective of the study was to provide a comprehensive descriptive database of the AL industry from the providers' perspective. Specific goals of the survey included identification of trends in demand and supply of AL facilities, identification of barriers to AL development, and examination of the extent to which the provided services matched the philosophical basis of care delivery. Again, the lack of a common definition for

AL was recognized as an obstacle to accurately determining the congruence between the AL philosophy of care and the provided services.

The major challenges acknowledged by AL administrators were meeting residents' unscheduled health-related needs, and applying the concept of "aging in place" (Hawes et al., 1999). Aging in place was described by Lawton (1990) as "a transaction between an aging individual and his or her residential environment that is characterized by changes in both person and environment over time, with the physical location of the person being the only constant" (Lawton, 1990). Implementation of aging in place raised concerns about residents' discharge criteria. Residents requiring increasing health care were prompted to relocate when the facility began to struggle to meet their needs.

The ALQC held an Outcome Measurement Summit in 1999. Attendees were multidisciplinary researchers, AL providers, and AL administrators (ALQC, 1999). Researchers and providers generally came to an agreement that there was a need for standardized tools to measure AL outcomes for residents in four major areas: quality of life, customer satisfaction, overall resident assessment, and clinical/functional status. A standardized tool to measure satisfaction in various service areas was needed to provide baseline information for establishing benchmarking criteria and to serve as guidelines for quality improvement efforts. Tools to measure AL residents' overall status and abilities, particularly cognition status, were needed to accurately describe the AL resident population and to provide resident assessment information. These tools would provide consumer

protection information in “performance reports” and would make available a core set of health measures that could be tracked easily to monitor quality of care (ALQC, 1999).

### Quality of life and well-being in AL populations

Quality of life of residents in long-term care settings was recognized as a component of physical health and was sometimes referred to as Health Related Quality of Life (Cohn-Mansfield, Ejaz, and Werner, 2000). Non-health related quality of life components include psychosocial factors such as personal attributes, attitudes, desires and goals, values and beliefs, and social interactions (Rubinstein 2000). More research projects in long-term care have been focusing on health and physical function in the presence of chronic illness at the expense of the psychosocial aspects of quality of life. However, several studies in AL settings have explored the psychosocial factors, such as autonomy (Ball et al., 2000; Cohn & Sugar, 1991), moral (Cohn & Sugar, 1991), psychological well-being (Cummings, 2002), and social satisfaction (Ball et al., 2000; Cohn & Sugar, 1991; Herzberg, 1997). Social satisfaction in AL settings was manifested by measuring satisfaction with elements that include scheduled and non-scheduled social activities, and social contacts and interactions with family, friends, or staff.

Psychosocial aspects of residents’ lives, from their points of view, was suggested to take precedence over their physical functions (Cohn & Sugar, 1991; Herzberg, 1997; Mitchell & Kemp, 2000). Moreover, the perceptions of quality of

life for residents in long-term care could differ from points of views of care recipients, their advocates, and care providers (Cohn & Sugar, 1991).

Cohn and Sugar (1991) examined the determinant of quality of life of residents across long-term care settings from the perceptions of four groups: the residents, their family members, staff, and nursing aides. One hundred ninety-three individuals, 75 of which were residents, from five long-term care settings ranging from board and care homes (a type of AL) (Namazi & Chafetz, 2001; Morgan, Eckert, and Lyon, 1995; Zimmerman et al., 2001) to skilled nursing facilities in the Los Angeles area, participated in the study. Face-to-face interviews were conducted with residents, staff, and nursing aides, and family members were phone interviewed. The interview survey included open-ended and close-ended questions, which were designed to reflect four primary domains of quality of life: care, social-emotional environment, autonomy, and the physical environment. Content analysis of responses to the open-ended questions revealed two additional domains for quality of life, ability (physical and/or mental) and moral. The six domains defined residents' quality of life and were reflected by all groups in the study. The six quality of life domains were rated according to the frequency of comments made by each group on each domain in a qualitative analysis. Quantitative measures were subsequently applied to test for significance of differences among groups.

Residents commented on the moral domain more than the three remaining groups, who in turn had more comments about care than did the residents. Responses interpreted as moral include statements like "I couldn't ask for better" or



“Nothing makes me happy as long as I’m not home.” Care issues included ADL needs, basic needs such as meals, and activities. The majority of the residents rated their physical ability as “not at all” important to their quality of life. In contrast, the majority of family members, staff, and aides rated the residents’ physical ability as “very important.” The difference in perceptions, in this case, was attributed to the fact that residents could view their physical ability as independent from the facility setting. All groups placed great importance on relationships with relatives compared to outside friends, inside (residence) friends, or staff (Cohn & Sugar, 1991).

Autonomy, the second quality of life domain, was measured by ranking the importance of the opportunity for residents’ decision-making in eleven areas, such as food choices, company at meals, choice of roommates, frequency of bath, and setting schedules. Staff and aides viewed choice of food, followed by choice of roommates, as the top two important areas for residents to have an opportunity in decision-making. Residents ranked “access to phone” followed by “place to be alone” as priorities. And family members ranked choice of roommate followed by access to phone as top decision-making opportunities that affected residents’ quality of life. All groups agreed on ranking last decoration of the living unit.

In response to inquiries about suggestions for improvement, family members and aides made more recommendations about professional care than did the residents. Staff joined family members and aides in recommending hiring additional staff. The residents commented more on basic needs, as did the aides.

Issues regarding food overwhelmingly dominated these comments and recommendations, for example, “we want better food and choice of food,” “let the residents choose the recipes,” and “there is too much chicken.” Other residents’ suggestions for improvement were about staff interaction with them. Similarities in perception of residents and aides were attributed to their amount of contact on a daily basis (Cohn & Sugar, 1991).

Cohn and Sugar (1991) concluded that residents’ perceptions tended to differ from that of the staff more than from family members or aides particularly in the areas of autonomy and social-emotional environment. And since it is the staff that was more likely to influence the daily operations in long-term care settings, their efforts may not be congruent to residents’ needs and preferences. On the other hand, it was argued that differences in perceptions could be justified by relating them to the perceived scope of responsibility. Staff is responsible for all residents’ overall quality of life as a group, while residents focus primarily on their individual needs and preferences (Cohn & Sugar, 1991).

Although these findings apply only in part to a setting similar to AL, had this study been repeated in AL only, autonomy elements such as access to phone, a place to be alone, choice of roommate (ranked among the top four elements for autonomy enhancement for the residents in this group), might have been eliminated since these are standard features available as basic choices to all residents in AL.

Mitchell and Kemp (2000) examined factors that affected AL residents’ quality of life. Overall satisfaction with the facility was considered one of three

components of quality of life. The remaining two components included a measure of depression and a measure of life satisfaction. All three domains were treated as dependent variables in a multivariate analysis.

A ten-item facility satisfaction instrument was developed specifically for the Mitchell and Kemp study; however, no validation results were reported. The ten items addressed satisfaction with cost, comfort, privacy of living units, personal care services, social activities, meals, physical structure, staff, the other residents, and opportunity to be involved in policy decisions. Items in the facility satisfaction instrument were rated on a 7-point Likert scale ranging from 1=very dissatisfied to 7=very satisfied. Internal consistency reliability measured by Cronbach's alpha was .76 (Mitchell & Kemp, 2000).

The remaining variables were measured using multiple existing instruments, the majority of which had been validated and were in use in the field of gerontology. However, no reliability measures were reported for the Mitchell and Kemp study sample. Three hierarchical regression analyses were conducted, one for each domain of quality. Predictor variables were selected based on their significance of bivariate correlations with the quality of life variables. They were: social climate measures (cohesion, conflict, and autonomy), number of chronic health conditions, social activities' involvement, facility characteristics, and monthly family contacts. Regression analyses revealed that the social measures, high cohesion and low conflict, were the strongest predictors for all three domains of quality of life. Other predictors were fewer chronic conditions, social activities'

involvement, family contacts, and an environment low in conflict (Mitchell & Kemp, 2000).

A qualitative study by Ball et al., (2000) explored the perceptions of quality of life in AL facilities from residents' viewpoints. Fifty-five residents from 17 AL facilities in three suburban counties in the state of Georgia were interviewed for the study using open-ended and close-ended questions. Fourteen overlapping domains of quality of life emerged from qualitative analysis of the data using a grounded theory approach. Five of the 14 domains that were discussed were considered most significant: psychological well-being, care from the facility, independence and autonomy, meaningful activities, and social relationships and interactions. Psychological well-being was explained in terms of residents' overall satisfaction with care received, their general attitude toward their lives in the facility, and their self-identified mental health. Residents valued their independence and autonomy, although the meaning of autonomy was adjusted to focus on day-to-day events such as food choices and meal schedules. Autonomy was expressed by their sense of loss of control over these daily events.

Meal preparation was perceived as a meaningful activity even though it was not performed frequently by the residents themselves. The majority of the residents, however, described their lack of choice in the menus and lack of control over the meal schedules, leading the researcher to conclude that food could be an area where autonomy was limited, even though specific measures for autonomy were not addressed. One resident from a small facility (six-bed home) explained that

freedom to access the kitchen was a meaningful choice that made her feel in control. Moreover, “nutritious food” was interpreted by the residents as an element of good care from the facility. The study suggested in summary that an individualized approach to care and congruence between the resident’s unique needs and the facility’s ability to meet those needs were keys to quality of life (Ball et al., 2000).

The social environment of a long-term care facility, characterized in terms of the nature of interactions among residents and staff, which is molded by facility values, policies and practices, was examined for its effects on residents’ quality of life (Herzberg, 1997). Multiple personal interviews, over a period of six months, with 20 residents in one facility, were conducted for data collection. The facility consisted of two units with distinct social environments. Residents in the first -- somewhat independent -- unit were described as “socially intact,” individuals who needed assistance only with personal care, did not require skilled nursing care, and were labeled “residents.” Residents in the second -- nursing -- unit included those with moderate physical and/or cognitive impairments, who required skilled nursing care, and were labeled “patients.” Residents with severe cognitive impairments were not included in the interviews due to difficulty of communications (Herzberg 1997). Therefore, participating “residents” as well as “patients” did not differ greatly in their functional status.

The two units of the facility were similar in structure in the common areas, except for the main dining hall. Half of the dining area in the nursing unit was

utilized for occupational and physical therapy; patients avoided having meals in the dining room. In contrast, the residents' dining area was twice as large and had a pleasant atmosphere; residents ate most their meals there with other residents (Herzberg, 1997).

Content analysis of the transcribed interviews indicated that residents in the more independent setting expressed greater satisfaction with staff interactions, with general experiences of life in the facility, and with the food. Patients in the nursing unit, however, expressed dissatisfaction with all three areas in spite of the fact that both units operated under one management, with the same staff, and served the same food prepared in the same kitchen. The social environment of a long-term care facility was concluded to play an important role in determining the residents' quality of life and their perception of self-worth, autonomy and control, and sense of security (Herzberg, 1997).

A study by Cummings (2002) explored factors affecting AL residents' psychological well-being. Cummings interviewed 57 cognitively alert AL residents in one facility to examine the effect of physical dysfunction, health status, and social support on their psychological well-being. Standardized ADL and IADL measurement scales were used to assess the residents' physical functional abilities. Health status, social support and psychological well-being were measured by multiple existing valid scales, which were slightly modified to account for residents' fatigue. The reliability of these scales, measured by internal consistency

Cronbach's alpha, were reported for the sample and ranged from .77-.83 (Cummings, 2002).

Compared to male residents, female residents in Cummings' sample suffered from significantly higher levels of depression and lower levels of life satisfaction, both of which represented measures of psychological well-being. Physical dysfunction and poor health for both genders was also found to be associated with symptoms of depression. Upon examining the effect of the entire set of variables on psychological well-being, physical dysfunction and poor health were no longer significant, instead, social support measures that included a standardized scale of perceived social support and a single measure of the frequency of activity participation in AL were found to be more powerful predictors of psychological well-being. (Cummings, 2002). The study highlighted the importance of social support in the lives of AL residents.

### Resident satisfaction with AL

Long-term care residents' satisfaction in the context of their daily experiences has been considered to directly shape their quality of life (Rubinstein 2000). Additionally, satisfaction is an indicator of the quality of care, which also affects quality of life. In the AL consumer-driven industry, residents as well as their family members are considered primary consumers (Cohen-Mansfield et al., 2000; Namazi & Chafetz, 2001). It has been recognized in long-term care that it is necessary to understand consumers' perceptions, and that asking consumers for

their opinions is empowering in itself (Applebaum, Straker, and Geron, 2000). Moreover, three reasons were identified for the importance of consumer satisfaction in health care. It is considered a useful indicator of quality of care; it is used as a measure for care evaluation services' provisions; and it is related to consumer growth (Avis, Bond, and Arthur, 1995). Several satisfaction studies explored AL residents' perceptions of the quality of services provided to them, and of those, few included family members' perceptions as well.

The elements of resident satisfaction in AL have been identified from a number of different perspectives, usually based on the two broad defining attributes of AL: services and housing features. Therefore, measurements of satisfaction with AL usually included several areas of services, and a number of structural and administrative features. Additionally, a purely consumer-oriented view focused on temporal distinctions of residents' satisfaction was suggested to be necessary to provide a theoretical framework for residents' satisfaction with AL settings (Moran, White, Eales, Fast and Keating, 2002). Moran (2002) emphasized that residents' feedback was required before they entered the residential setting to measure their "expectations," and ongoing resident input was needed to measure "performance," as well as evaluative measures to assess "confirmation/disconfirmation" of their initial expectations (Moran et al., 2002; Oliver, 1997).

Due to the young age of the AL industry coupled with increasing popularity, it was recognized that standardized tools had to be developed to



measure outcomes and indicators of quality of which customer satisfaction is one aspect (ALQC, 1999). Residents and/or their family members' inputs were used as a way of providing a realistic view of satisfaction elements and corresponding quality of care and services, which can be used as indicators of quality of life. Qualitative methods of research such as focus groups and personal interviews were frequently used to identify elements of satisfaction from consumers' points of view. Table 1 summarizes satisfaction studies in AL settings.

The American Health Care Association, in 1994, sponsored research to identify and rank the importance of services across different settings in long-term care (Case & Gilbert, 1997). Residents and family members from six long-term care consumer groups were interviewed and participated in focus groups to identify, review, and rank elements of care services. The six groups were: 1) AL residents, 2) cognitively alert nursing home residents, 3) their family members, 4) family members of nursing home residents with mild dementia, 5) rehabilitating sub-acute residents, and 6) medically complex sub-acute residents.

Five of the six consumer groups including AL residents consistently identified elements related to meals and dining services as a significant aspect of quality of care. Meals and dining service elements addressed four categories: quality of meals such as taste and variety, individual preferences such as familiar and favorite foods, dining environment such as pleasant atmosphere and responsive staff, and finally, social aspects such acceptable table company and providing special meals for social occasions. Those elements along with many others from

other service areas were translated into an instrument, the Satisfaction Assessment Questionnaire (SAQ), to measure those aspects of service that drive customer satisfaction. Slight modifications were made to represent each consumer group. SAQ is made available for all long-term care settings, free of charge, in an effort to build a national database for consumer satisfaction with long-term care settings (Case & Gilbert, 1997).

Table 1 - Summary of instruments to measure satisfaction in AL settings

Instrument – Author, year	Target population	Rating scale	Dimensions	Items (n)	Report of Reliability <sup>a</sup>	Report of Validity
RSI (Resident Satisfaction Index) - Sikorska-Simmons, 2001	AL residents (n = 156)	4-point scale, “always” to “never”	Health care, social activities, housekeeping services, environment, and relation with staff	27	Entire scale $\alpha = .92$ Subscales' $\alpha$ ranged from .77 to .86	Construct
National Satisfaction Survey - ALFA, 1999	Residents from 3 AL settings: free-standing, combined, and CCRC	5-point expectation scale, “far exceeded” to “not met”	Food services, staff, activities, housekeeping, maintenance, environment, security, administration, personal care, and amenities	75	Entire scale $\alpha > .9$ Subscales' $\alpha$ ranged from .90 to .95	Not reported
RSQ (Resident Satisfaction Questionnaire) Chou, 2001	Residents in Australian settings similar to AL (n = 1,146)	4-point scale, “poor” to “excellent”	Meal service, room, facility, social interactions, staff care, and resident involvement	24	Entire scale $\alpha > .9$ Subscales' $\alpha$ ranged from .85 to .97	Construct
Perception of satisfaction with AL - Beulow, 2000	AL residents in CCRC (n = 87) and their family members	4-point Likert agreement scale	Meals, staff care, recreational activities	Not reported	Not reported	Not reported
Satisfaction survey instrument for AL – Gessel, 2001	AL residents (n = 457) and family members	5-point Likert, “very poor” to “very good”	Dining, activities, personnel, apartment, facility, and management	44	Entire scale $\alpha = .97$ Subscales' $\alpha$ ranged from .85 to .94	Face, content, construct, and predictive

<sup>a</sup> Cronbach's alpha measure of internal consistency was used to measure reliability

A qualitative study by Sikorska (1999) examined AL residents' satisfaction in relation to organizational factors. Satisfaction was analyzed using five dimensions that emerged through factor analysis: health care, housekeeping services, physical environment, relationships with staff, and social life/activities. These dimensions were incorporated into a 27-item satisfaction instrument, the Resident Satisfaction Index (RSI), to measure satisfaction with AL. The instrument was validated through individual interviews with 156 cognitively and physically intact residents from 13 free-standing facilities in Maryland (Silorska-Simmons, 2001). Food was found to be an element of meaningful social activities with other residents as well as an element of relationships with staff. Food was recognized as an essential ingredient in the quality of life of the residents and often influenced their overall satisfaction with the facility (Sikorska, 1999). The more satisfied residents were also happier, more functionally independent, more involved in their housing decisions, although less educated. Organizational factors associated with residents' satisfaction were: smaller facility size, nonprofit ownership, a moderate level of physical amenities, greater availability of personal space, and recreational activities (Sikorska, 1999).

Assisted Living Federation of America (ALFA) conducted a national AL satisfaction survey in 1999 to identify areas pertinent to an overall sense of satisfaction with AL from residents' and their families' points of view and to rank these areas for importance priority (ALFA, 1999). A national sample of AL residents (n = 3250) and their family members (n = 1650) completed the

satisfaction survey. Sixty-eight percent of the residents were from free-standing AL, 18% from CCRC, and 14% from combined AL and independent living facilities (ALFA, 1999). The ten areas identified as contributing to the overall sense of satisfaction, in all types of the above AL settings were: 1) food services, 2) activities, 3) housekeeping, 4) interaction with staff, 5) security, 6) physical environment, including living units and community areas, 7) maintenance and grounds-keeping, 8) administration, 9) amenities, and 10) personal care (ALFA, 1999; Wylde, 2001).

Survey items were formulated as statements inquiring the extent to which expectations were met in each of the ten identified areas. Residents and family members rated their expectations on a four-point scale with categories: far exceeded, met, nearly met, and did not meet. This scale design was argued to reflect a true measure of satisfaction by indirectly relating satisfaction to personal expectation as opposed to a satisfaction scale that uses rating categories ranging from "very satisfied" to "very dissatisfied" (Aday, 1996; ALFA, 1999; Salant & Dillman, 1994). Moreover, it was suggested that it would be relatively easy to say something has not met expectations compared to expressing dissatisfaction with a person or a service (ALFA, 1999). Although the ALFA survey included different types of AL settings, results only from the free-standing AL facilities will be presented in the following.

Family members and residents differed in their ranking of the ten areas. The three areas that most influenced residents' sense of overall satisfaction with their

facility, in descending order were: food services, administration, and security. On the other hand, the three areas that impacted family members' sense of satisfaction were: personal care services, food service, and staff interaction (ALFA, 1999; Harper, 2000; Wylde, 2001). Moreover, food service was the only area that did not quite meet, on average, the residents' expectations, while the remaining areas at least met or slightly exceeded expectations of both residents and family members (ALFA, 1999).

Another national study that was conducted to assess satisfaction with AL recruited 1,146 residents from 70 facilities in Australia (Chou et al., 2001). The Australian model of AL was similar to the AL in U.S. in that residents were provided with personal but not nursing care. The study examined the dimensions of an existing Resident Satisfaction Questionnaire (RSQ), which was designed for use in both AL and nursing homes around Australia. Chou's objective was to provide a valid and reliable shorter version of RSQ for use in AL settings. Six dimensions for AL residents' satisfaction were identified: meal services, social activities, the living unit, the facility, staff care and interactions, and residents' involvement in facility decisions and policy. A shorter 24-item version of RSQ (the original version had 50 items) was found to be a valid and reliable instrument to measure residents' satisfaction with AL using a 4-point evaluative scale (1= poor, 2 = fair, 3 = good, and 4 = excellent). The study included detailed descriptions of the validation process (Chou et al., 2001). The dimensions in the Australian study matched those

in the ALFA study, which may indicate that AL settings in western industrialized countries have similar concerns.

A qualitative study by Buelow and Fee (2000) examined the differences in residents' and their families' perceptions and satisfaction with AL performance and nursing assistance preferences. Eight-seven cognitively alert residents from three AL facilities, that were part of a CCRC, were individually interviewed using closed and open-ended questions, and a survey with the same questions was mailed to 113 residents' family members, although family members were not matched to the residents. Six service domains were rated for satisfaction on a 4-point scale ranging from 1=strongly disagree to 4=strongly agree. The domains were represented by six abstract statements: overall care is good, residents feel comfortable in AL facility, residents generally like staff, staff members are interested in residents, complaints are acted upon, and aspects of care could be improved. The open-ended questions prompted residents and family members to provide more information for consideration of service improvement. Responses were coded to identify areas in need of improvement from residents' and their families' points of view (Buelow & Fee, 2000).

Mealtime experiences in AL along with recreational activities and nursing assistance characteristics were found to be the areas in need of improvement. Responses from residents and family members indicated positive, but not strong, satisfaction with AL care. For mealtime experiences, the most frequent concerns were inappropriate food temperature, lack of variety in the menu, amount of food

seasonings, and fixed meal schedules (Buelow & Fee, 2000). No validation or reliability measures were reported for the study.

In a similar study, overall satisfaction with AL was measured from the residents' points of view as well as their families' (Gesell, 2001). The main focus of Gesell's study, however, was to design a valid and reliable tool to measure residents' overall satisfaction with AL. Twelve AL facilities of different types (free-standing, part of a CCRC, and combined communities) in eight states participated in the study. To develop a satisfaction instrument, first, focus groups consisting of residents and AL administrators were used to identify the most important factors of quality. An advisory council was then formed, consisting of AL administrators and direct care providers from the participating facilities. The council reviewed existing instruments, devised new items, and continually and systematically evaluated items for inclusion. A 55-item survey was mailed to residents in the participating facilities and to their family members.

Six service areas representing the most central features of care and housing were identified from factor analysis: facility, dining, activities, living units, personnel, and management. The result was a valid and reliable 45-item instrument to measure satisfaction by residents and their families. Overall, the results revealed that residents were less satisfied with their AL facility than their families were. A priority index calculation indicated that dining, activities, and management responsiveness were three areas needing quality improvement (Gesell, 2001). The study discussed the particular challenges of designing a standard tool specifically



for AL, of which lack of a common definition for AL and obtaining a representative resident sample were among the most difficult (Gesell, 2001).

## AUTONOMY IN LONG-TERM CARE

Autonomy is an important cultural value in American society. Webster's Dictionary defines autonomy as the quality or state of being self-governing; it is self-directed freedom and especially moral independence. Self-rule is the etymological root of the word autonomy (Agich, 1993; Gamroth et al., 1995; Lidz et al., 1992), from the Greek words "autos" meaning self and "nomos" meaning rule or governance or law; autonomy was first used to refer to self-rule in Greek city states (Lidz et al., 1992). However, in the context of long-term care, it has been suggested that autonomy includes a number of seemingly overlapping concepts such as personal independence, control, free choice, privacy, self-governance, self-regulation, individual liberty, and moral independence (Abeles, 1991; Collopy, 1988; Kane 1991, Lidz et al., 1992; Wetle, 1991). In the general sense, an autonomous individual has control over decision-making and all other activities, is free from any outside imposition, and has direction over his or her life (Collopy, 1988; Gamroth et al., 1995; Lidz et al., 1992; Wetle, 1991).

Autonomy among the elderly has been extensively studied and conceptualized in the context of nursing homes mainly from a biomedical ethics perspective. Residents' personal autonomy in this context has been defined and conceptualized in numerous ways with ongoing rethinking (McCullough & Wilson,

1995), which is an indication of its unresolved complexity. Generally, it has been noted that the highly regulated, medical-model nursing home environment has not been respectful and has endangered residents' autonomy, especially when autonomy promotion was weighed against the physical safety of the residents (Collopy, 1995; Lidz & Arnold, 1990; Lidz et al., 1992; Kane & Caplan, 1990). The medical model assumes a paternalistic approach to care, which places health professionals, guided by rigid policy and regulations, in charge of most decisions regarding treatments and service delivery. This approach does not take into consideration residents' personal history or background, nor does it respect their personal preferences, especially if they are against certain regulations. When nursing homes were studied in comparison to independent living, two social environments that are distinctly different, it has been recognized, generally, that residents' autonomy is more respected and promoted in independent living (Lidz & Arnold, 1990, Lidz et al., 1992).

Autonomy as a separate concern has not been empirically explored in the context of the AL environment from the residents' perceptions, despite the fact that promotion of autonomy represents a central value and a unifying theme in the philosophy of care in AL (Carder, 1999; ALFA 2000, Hawes et al., 1999).

Autonomy in AL has been an important consideration in terms of physical/structural design, where autonomy-enhancing features are represented by single occupancy units, availability of door locks, and the availability of personal appliances such as a refrigerator and a stove (Lewin-VHI, 1996; Kane & Wilson,

1993; Wilson, 1996). In the following presentation of literature on autonomy in long-term care, a brief historical view of conceptualizing development will be provided. Only those related conceptualizations that served the objectives of this research and were seen as leading to justification of the dimensions proposed for food autonomy will be included.

### Autonomy in Assisted Living

Despite the lack of a standardized definition, several attributes clearly distinguish AL from other long-term care residences such as nursing homes or other long-term care housing models. The most prominent attributes are: promotion of residents' autonomy, increase in service flexibility, and provision of a home-like environment (Kane & Wilson, 2001; Wilson, 1996).

Autonomy in terms of residents' personal independence was identified as a central theme and a unifying construct in the unique social world of AL facilities while this residential option was still in the formative stage (Carder, 1999). In her ethnographic study, focused on Oregon's Assisted Living program, Carder (1999) recognized daily operations of service as one area where autonomy would be implemented by helping residents with activities of daily living and allowing them control over their decisions. Two additional areas that incorporate the idea of promoting residents' autonomy were management training and the language used in marketing material (Carder, 1999).

AL providers primarily define residents' autonomy in light of their physical functional abilities, using ADL and IADL measures, and by determining how much assistance would be required for these activities. AL providers advocated promoting independence and providing choice by focusing on distancing themselves from the medical model of the nursing home, depicted as the place for ultimate dependency and the feared/avoided end (Carder, 1999).

### Theoretical frameworks in autonomy

Personal autonomy in long-term care, especially in nursing home settings, was generally considered from three different perspectives. The legal perspective was the first, in which rights and freedoms of patients or residents were the main focus (Hofland, 1988). The second perspective was medical ethics, which focused basically on issues related to informed consent and self-determination involving medical treatments and decisions. The final perspective and the most relevant to the current study is a psychosocial perspective in which concepts such as control, independence, autonomy, and self-direction were emphasized (Hofland, 1988).

In early psychosocial gerontological research among residents in a nursing home setting, loss of personal autonomy or increased dependency was viewed to be the result of three general factors (Hofland, 1988). Physiological deterioration due to the normal process of aging was the main factor. The second factor was the social environment including interactions among residents and staff, frequently studied in the nursing context (Baltes & Baltes, 1990). And the third and final

factor was interactive behavior learned by the residents, which evolved as a result of living in a nursing home environment (Baltes & Baltes, 1990). An extensive observational study revealed that residents in nursing homes learned a new set of interactions that were shaped by the nursing home social environment that encouraged dependency, hence the concept of “learned dependency” (Baltes, 1996). In this observational study, it was found that residents’ dependent behavior was substantially encouraged by staff while independent behavior was punished or received no response (Baltes & Baltes, 1990; Balets, 1996).

The aspect of “control” in personal autonomy was another focus of early psychosocial research in nursing homes (Hofland, 1988). A number of intervention studies, which systematically increased nursing home residents’ control over their daily routine and activities, concluded that these residents had higher self-esteem and engaged more frequently in social activities compared to the control group (Banziger & Roush, 1983; Langer & Rodin, 1976; Mercer & Kane, 1979; Schulz & Hanusa, 1978). There was general agreement among earlier researchers that lack of control negatively affects the physical and psychological well-being, as well as behavioral interactions, of nursing home residents (Baltes, 1996; Langer & Rodin 1976).

A concentrated research effort focusing on personal autonomy in long-term care was initiated in 1986 by the Retirement Research Foundation in a four-year program that funded interdisciplinary projects on ethical issues in autonomy and decision-making for frail and impaired residents in nursing homes. (Gamroth et al.,

1995; Hofland, 1988; Hofland, 1990; Lidz et al., 1992). A supplementary issue of the *Gerontologist* in 1988 and a supplementary issue of *Generations* in 1990 focused on projects in the Retirement Research Foundation's autonomy research program.

Conceptualizing the complex notion of autonomy was one of the main challenges in this program. Therefore, conceptual autonomy frameworks including their role in managing chronically ill and disabled nursing home residents was one of the primary products of the Retirement Research Foundation initiative. Several general theoretical frameworks were developed throughout the research grant period. A multidimensional theoretical autonomy framework was outlined by Collopy (1988), while other theorists expanded on single aspects of personal autonomy in nursing homes (Cohen, 1988; Jameton, 1988; Lidz et al., 1992).

### Autonomy and the Elderly Mystique

The Elderly Mystique characterizes a predominant view of aging in western culture, which maintains that, the "potential for growth, development, and continuing engagement virtually disappear when disabled" (Cohen, 1988). Cohen indicated that the common view of equating autonomy with physical independence masked other aspects of personal autonomy for older adults. In the case of frail elderly, emphasis was too often placed on older adults' ability to carry out activities of daily living, therefore maintaining physical independence in order to avoid

nursing home placement, which was considered the ultimate defeat, even worse than death.

Unfortunately, the elderly themselves subscribe to the idea of Elderly Mystique, which lowers expectations for residents' autonomy by both recipients and providers of services in long-term care, therefore denying older adults' further opportunities for continued personal growth, self-realization, and full participation in the community (Cohen, 1988, 1990; Hofland, 1988). Cohen suggested the need for formulating new, higher goals for nursing homes to enhance residents' autonomy. Such an effort would require inputs from planners, policymakers, and caregivers, as well as the older adults themselves (Cohen, 1988, 1990).

The AL philosophy of care is purported to drive hard against the Elderly Mystique in their claim to promote residents' autonomy, choice, and independence. However, it was found that older adults in AL settings do embrace idea of the Elderly Mystique through relinquishing their autonomy and giving up any sense of empowerment (Frank, 2002). Frank (2002) interviewed residents in two AL facilities. Residents' comments such as: "The useful, productive part of our lives is over" and "We are not independent people anymore" illustrated their perception as dependent and their inclination to surrender all aspects of their autonomy. Moreover, it was suggested that the residents' family members and providers also subscribed to the Elderly Mystique (Frank, 2002).

### Autonomy as responsibility

Jameton (1988) discussed the importance of the concept of “responsibility” to personal autonomy in long-term care. He contended that an autonomous action is a responsible one (Jameton, 1988). However, responsibility in long-term care, as viewed by this framework, could be both enhancing and limiting to a resident’s personal autonomy. Responsibility in this conceptual framework was defined as “positive obligations having to do with specific roles and relationships, not general obligations as human beings, nor such negative obligations as avoiding harm to others” (Jameton, 1988, p. 19). He made a distinction between two types of responsibility in a nursing home setting, “assumed” and “attributed,” and further argued that the emphasis should be on assumed responsibility if autonomy was to be promoted. Nursing home residents were viewed as being stripped of any responsibility, in light of their functional limitations, a situation that is detrimental to their personal autonomy. According to Jameton, residents in nursing homes should be assessed in term of what responsibilities they want to “assume,” in spite of their functional limitations, so they are able to continue being part of a community (Jameton, 1988). This autonomy framework was based on the idea that an individual’s commitment is significant in shaping his or her individuality, and therefore, his or her autonomy. Functional disability should not result in resident disempowerment.

A cautionary note was made, however, that responsibility “attributed” to the residents by staff could risk residents’ autonomy in that vulnerable residents might



be exploited. Staff could take advantage of residents' sense of responsibility to maintain control over them and see residents as blameworthy if they don't carry out certain tasks, for example, coercing a resident to participate in a facility-organized activity that is thought to benefit that resident. Such staff manipulation could be viewed as intended for the resident's best interest. To avoid such a situation, assumed responsibility should be recognized and respected by the staff, so they would actively engage residents in choosing which responsibilities they want to assume in order to promote their autonomy (Collopy, 1988).

### Autonomy as consistency

The conceptualization of personal autonomy as consistency was discussed by Lidz, Fischer, and Arnold (1992) in primarily qualitative, observational research. This framework explored the state of older adults' autonomy in light of their behaviors, decisions, and interactions with others during the course of their daily lives. This view maintains that an autonomous individual is someone who has a strong sense of identity, a coherent self-directed set of commitments and involvements in daily life, a sense of directedness toward future goals, and whose activities are consistent with personal history (Lidz et al., 1992).

To study autonomy as consistency, interactions among residents, staff, and family were observed in two distinct long-term care settings in a single facility in order to describe the enhancement or restriction of the residents' autonomy by the two environments. One setting was a nursing home that included skilled and

intermediate nursing care, in which occupants were referred to as “patients.” Older adults living in the second setting, an independent living section, were referred to as “residents.” Residents and patients shared only the large communal areas of the building, which were a dining court and activity room. Prior to observations of interactions between staff and residents, the “residents” and “patients” were rated, by staff, on their cognitive ability, physical function, and assertiveness (Lidz et al., 1992).

Staff behaved differently toward patients and residents in the two long-term care settings that existed in the same building. In each setting, the more cognitively competent residents received more attention and positive responses from staff, as well as from family. Naturally, the independent living setting had far fewer cognitively impaired residents. Moreover, regulations were more flexible in the independent living section. Residents exercised more control over their personal care schedules and received more positive responses from staff. On the other hand, strict regimens and fixed care schedules in the nursing home environment that focused on patients’ physical well-being and safety undermined their personal autonomy (Lidz et al., 1992). Cognitive ability and physical function seemed the two factors that determined staff behavior towards the residents.

### A contextual model of autonomy

A more recent theoretical framework of autonomy, a contextual model, for community long-term care, was selected to serve as the grounding theory for this

study. The contextual model contends that “where the individual is situated influences both how he or she understands the freedom to make meaningful choices and how his or her autonomy is defined and respected by others” (Capitman & Sciegaj, 1995, p.533). The older adult’s autonomy has been recognized as a complex concept that encompasses physical, social, psychological, and spiritual dimensions (Capitman & Sciegaj, 1995). Relationships among residents and staff within a particular social/institutional context are factors that determines older adults’ autonomy in long-term care (Capitman & Sciegaj, 1995).

Capitman and Sciegaj (1995) argue that the contextual approach to autonomy in long-term care is more appropriate to adequately assess autonomy of individuals in long-term care. The contextual approach is unique in recognizing relationships between residents, other persons in the long-term care setting, and the social institution as a whole. It acknowledges that long-term care residents and care providers are distinctive social, psychological, cultural, and moral individuals who interact and may influence one another. Contextual autonomy raises a primary question for long-term care, which is “Given the individual’s capacity and circumstances and the options available in this delivery system, are the individual’s care choices meaningful and respected by care provider?” (Capitman & Sciegaj, 1995, p. 534). The unique Assisted Living environment was taken into consideration in defining and developing the instrument to measure food autonomy for this study.

### Actual and ideal autonomy

Autonomy in long-term care from the perspective of biomedical ethics often focuses on the decision-making capacity of care recipients in mostly acute situations (Agich, 1993, 1995). These situations are not representative of their daily lives. Since the elderly requiring long-term care were commonly identified in terms of their functional disabilities, it follows that they are dependent on some type of assistance; therefore, they are not autonomous in the ideal sense. Ideal autonomy, as viewed by Agich, refers to functioning independently, with no external influence, and having complete knowledge of one's own desires and preferences. Autonomy is expressed in actions or choices that would be directed at fulfilling those desires and preferences (Agich, 1995). Agich argues that this view of ideal autonomy is abstract and does not reflect the daily experience of older adults in long-term care.

Alternatively, Agich (1993, 1995) proposed the concept of actual autonomy, which he argued was a more engaged and interactive form of autonomy that considered an elderly person a social individual who is engaged in interpersonal interactions on a daily basis (Agich, 1995, p. 116). Actual autonomy is a "more pervasive, though tacit, sense of autonomy that is present as a universal background or horizon for our experiences in the social world" (Agich, 1995), and includes ordinary and routine choices and decisions connected to the various activities and experiences of the residents' everyday lives, such as dietary,

entertainment, and clothing preferences. The focus on actual autonomy respects the individual's autonomy in spite of functional limitations.

### Multidimensional autonomy

Collopy proposed a conceptual map for personal autonomy in long-term care, more specifically, in nursing home settings. This map was composed of six dimensions, each of which is represented by a polarity of autonomy concepts. The first of these dimensions is Decisional autonomy (the freedom to make a decision without external influence) vs. Executional autonomy (the ability to implement the decisions made). The second polarity is Direct (the authority and capacity to act as a self-sufficient individual with strong control over choices and actions) vs. Delegated autonomy (the authority for decision-making is given over to others).

Competent vs. Incompetent is the third autonomy polarity, which refers to legal competence/incompetence of a resident to make a decision, usually in connection to medical issues. The fourth dimension, Authentic vs. Inauthentic autonomy, refers to decisions and choices made by the residents that are consistent with their personal history and unique character. The fifth polarity is Immediate (immediate actions required for choices about current situations) vs. Long Range autonomy (choices made in current situations that affect future freedom in decision-making). And the last binary autonomy dimension is Negative (not wishing outside interference in decision-making) vs. Positive autonomy (preference to involve others in making a decision) (Collopy, 1988, 1990; Mullins & Hartley,

2002). Aspects of autonomy within each polarity could be viewed as a continuum or range of behaviors to indicate the extent autonomy has been promoted by a long-term care facility (Mullins, Moody, Mattiasson, & Andersson, 1998; Mullins & Hartley, 2002). Collopy emphasized that caregivers and care providers should be trained to distinguish and be aware of the implications of each type of autonomy in order to preserve and/or promote a resident's autonomy (Collopy, 1988; Mullins et al. 1998, Mullins & Hartley, 2002).

Collopy's conceptual map was used to describe nursing home residents' autonomy as they became frailer and therefore, more physically or mentally disabled, which is a common occurrence for nursing home residents. To clarify and distinguish between ranges of behavior outcomes within each polarity in this autonomy framework, Collopy presented a case study for each autonomy polarity. In each case study, the potential outcomes were presented according to the range of behaviors chosen by the resident, and then explained in terms of enhanced or diminished autonomy. In a general sense, Collopy's reasoning is in line with the actual autonomy conceptualization argued by Agich (Agich, 1995; Collopy, 1995) that the focus of autonomy should shift from acute situations to the situations of everyday life.

Three individual aspects of autonomy from Collopy's dimensions of autonomy were considered appropriate for this study of cognitively alert older adults in AL settings: Decisional, Executional, and Delegational autonomy. Decisional autonomy was defined by Collopy as the freedom and ability to make

decisions in the absence of restraint or coercion. Executional autonomy, which usually follows Decisional autonomy, was defined as the ability to implement and take responsibility for decisions made. Therefore, the freedom to make a decision in the context of long-term care involves a couple of consecutive steps: the first is to freely make a decision without coercion or restraint; the second is to act on or execute that decision. The third aspect of autonomy from Collopy's framework that was considered suitable for AL settings was Delegational autonomy, which was defined as the uncoerced acceptance of activities and decisions supplied by others on one's behalf (Collopy, 1988). The definitions of these three autonomy concepts were slightly modified for this study to represent residents in an AL environment.

Recognizing the distinction between Decisional and Executional autonomy is important to avoid discounting a residents' Decisional autonomy in light of their physical disabilities that limits autonomous execution. Since older adults in institutional settings are usually burdened with chronic health conditions and increasing frailty that results in physical limitations, it follows that their Executional autonomy is often diminished. Older adults in long-term care may be intellectually able to make decisions independently but may be unable to carry out those decisions by themselves because of increasing frailty and compromised physical health, which may pose restraints to autonomy. In such cases, older adults should still be considered autonomous (Collopy, 1988; Gamroth et al., 1995). A caregiver, in light of a resident's compromised physical ability, may mistakenly assign a non-autonomous label to the resident's decisional capacity. This would

diminish a final and most crucial preserve of a resident's self-determination.

Therefore, it is critical for care providers to distinguish between Executional and Decisional autonomy.

The ability of residents to make a decision about preparing a favorite food in their apartment may exemplify Decisional autonomy. However, due to increasing frailty or lack of resources, the resident may not be able to implement this decision about preparing food in their own unit. In the case when a facility supports the resident's autonomy by providing the resources needed, i.e. staff to assist, Executional autonomy would be supported. Decisions such as having a late breakfast or deviating from a prescribed diet may seem like small decisions to us; however, in the context of long-term care, such small decisions may represent an important element in maintaining autonomy and therefore enhancing the quality of life (Collopy, 1988).

### Research on measuring autonomy in long-term care

Autonomy in terms of choice and control in long-term care was examined by 135 cognitively competent residents and nursing assistants from 45 facilities who participated in a study to assess the importance of choice and control over ten areas of the residents' daily lives (Kane, Caplan, Urv-Wong, Freeman, Aroskar, & Finch, 1997). Residents rated ten areas of everyday life for importance in having choice and control over them. These ten examined areas were: 1) getting up in the morning, 2) going to bed, 3) food, 4) care routines, 5) activities, 6) seeing visitors,



7) phone or mail contacts, 8) roommates, 9) leaving the facility for a short time, and 10) spending money. Importance of the ten areas was rated on a three-category scale (very important, somewhat important, or not important). Nursing assistants from the same nursing homes also provided their perceptions about the extent to which they perceived it possible for residents to achieve choice and control over the ten areas.

Additionally, residents rated their satisfaction with the amount of control and choices they had over these ten areas on a 4-point scale (very satisfied, satisfied, unsatisfied, and very unsatisfied). Residents' ratings of importance differed from those of nursing assistants' ratings. Nursing assistants placed slightly greater importance on food (ranked 4 out of 10) than did the resident (ranked 6 out of 10). The most striking differences in importance ranking were in two of the ten areas of control. One was "access to phone or mail contact," which the residents ranked second while nursing assistants ranked it last. The other area was "seeing visitors," which residents ranked last while nursing assistants ranked second (Kane et al., 1977).

However, only 23% of the residents were very satisfied with their choice and control over food, which was the lowest satisfaction rating. Bedtime schedule had the highest satisfaction rating in which 44% of the residents were very satisfied (Kane et al., 1997).

The study revealed that both residents and nursing assistants attached significant importance to everyday issues, however, the relative weights assigned to

individual areas were not similar. Residents expressed low satisfaction with the amount of choice and control available to them. Likewise, nursing assistants perceived decreased choice and control opportunities for the residents. The study suggested that AL facilities could be an alternative living arrangement for cognitively alert residents of nursing homes and could promote more autonomy in terms of choice and control over important everyday life issues (Kane et al., 1997).

Mullins, Moody, Mattiasson, and Andersson (1998) and Mullins and Hartley (2002) examined nursing home staff for their perceptions of the extent that their nursing homes supported residents' autonomy. Autonomy in Mullins study was defined according to the six polarities outlined by Collopy (1988) (defined earlier): Decisional vs. Executional, Direct vs. Delegated, Competent vs. Incapacitated, Authentic vs. Inauthentic, Immediate vs. Long-Range, and Negative vs. Positive. Six hypothetical situations (one for each autonomy polarity) were used for the staff to rate, on an 8-point continuum, their nursing homes' extent of autonomy support by answering the question: "If Mr. or Mrs. X were at your facility, what would have been decided?" The left end of the continuum indicated that Mr. or Mrs. X decided for him or herself, and the right end indicated that the staff at the facility decided on behalf of Mr. or Mrs. X in each hypothetical situation. For analysis, the ends of the continuum were replaced by Collopy's autonomy polarities, one for each corresponding hypothetical case. Therefore, ratings closer to Decisional, Direct, Competent, Incapacitated, Authentic, Immediate, or Negative ends would indicate promotion of residents' autonomy,

while ratings closer to the opposite ends would indicate residents' autonomy was not promoted (Mullins, Moody, Mattiasson, & Andersson 1998; Mullins & Hartley, 2002)..

Four sets of independent variables were proposed to influence staff perception of autonomy: staff-related structural characteristics of the nursing home, nursing home (Medicaid /Medicare) and resident (physically/chemically restrained) characteristics, staff demographics (age, race, and education), and staff attitudes towards older adults and attitudes towards their job satisfaction.

Findings supported autonomy's complex nature. Staff education and race were the two variables that most influenced their opinions of the extent that their facility supported residents' autonomy. Staff perceived that their facility supported the Decisional, Authentic, and Competent aspects of autonomy in the six dimensions (Mullins et al., 1998; Mullins & Hartley, 2002). The use of hypothetical situations confined the broad scope of the theoretical framework. The study treated each autonomy polarity dimension as two extreme outcomes of either a resident deciding or facility deciding on a specific situation. However, in the original theory, specific residents' situations, usually related to acute conditions, required individual judgments and sometimes each end of an autonomy polarity could be interpreted as supporting a resident's autonomy, depending on the particular situation.

Autonomy as self-care enactment was measured by Hertz (1999) in a nursing related field. This was the only study that developed, tested, and produced

an instrument that directly measures autonomy in the elderly. The Perceived Enactment of Autonomy instrument for non-institutionalized older adults was developed and validated by Hertz (1991) in a methodological study. Autonomy was defined by Hertz as “the human response of freely choosing behaviors and courses of action on one’s own behalf and in accordance with one’s own needs and goals” (Hertz, 1991, p.20). Three dimensions were identified to represent older adults’ autonomy: voluntariness, individuality, and self-direction. The voluntariness dimension implied that both dependent and independent behaviors may be voluntarily chosen, based on the presence of uncoerced choices and unconstrained decisions. The individuality dimension recognized a person as a unique/distinct individual who is able to recognize his/her own need for maintaining social bonds as well as for privacy. The final dimension, self-direction, included the ability to “control one’s own destiny, moving toward self-determined goals, and conducting one’s own affairs” (Hertz, 1991).

Hertz’s objective was to gain an understanding of the theoretical relationships between enactment of autonomy, self-care, and health, all of which could contribute to health improvement in older adults. The study was theoretically based on the Modeling and Role-Modeling theory by Erickson, which provided a paradigm for nursing practice. “Self-care action” was one major concept in the Modeling and Role-Modeling theory, and was the main focus of the study. The researcher contended that in order to initiate self-care action, an autonomous decision had to precede, which required certain perceptions of one’s ability,

willingness, and social environment. Therefore, the older adult who would score high on the instrument would be more likely to initiate self-care action. The Perceived Enactment of Autonomy instrument was used as a springboard for designing the Perceived Food Autonomy (PFA) scale for this study.

### Autonomy in Relation to Food in Assisted Living

Food and meals in long-term care has been identified as everyday matter that is subject to subtle autonomy restrictions (Kane et al., 1997), but also as an important element that contributes to residents' quality of life (Ball et al., 2000; Kane, 1991; Mitchell & Kemp, 2000). In this study, the focus was not only on mealtime experiences, but on how residents perceive themselves within the context of AL as regards food as well. Residents' perceptions about the extent of autonomy that they have regarding food could indirectly indicate quality of life.

A definition of food autonomy within Assisted Living was formulated based on theoretical frameworks of autonomy in long-term care, the great majority of which were conceptualized for the nursing home setting. Three dimensions (Decisional, Executional, and Delegational) were proposed to the definition of food autonomy from applying autonomy frameworks that seemed appropriate to Assisted Living.

## CHAPTER III- MEASURING PERCEIVED FOOD AUTONOMY AMONG RESIDENTS IN ASSISTED LIVING FACILITIES

### ABSTRACT

**Purpose:** The purpose of this methodological study was to develop and evaluate an instrument to measure Assisted Living (AL) residents' perceptions of their own autonomy regarding food. The instrument was called the Perceived Food Autonomy (PFA) scale. **Design and Methods:** Food autonomy is a new concept derived from theoretical frameworks of personal autonomy in long-term care. Three dimensions (Decisional, Executional, and Delegational autonomy) were proposed and items for the PFA scale were developed accordingly. A panel of experts evaluated the instrument for content validity. Data from cognitively alert AL residents (n =120) were used in factor analysis to test the construct validity and dimensional structure of the PFA scale. **Results:** The valid PFA scale consisted of 11 statements, rated on a 5-point Likert type agreement scale, with internal consistency reliability (Cronbach's alpha = .71). **Implications:** The PFA scale could be used by AL providers as a tool to assess the effectiveness of their support for residents' autonomy regarding food and to guide food service quality improvement efforts.

## INTRODUCTION

Autonomy in Assisted Living (AL) settings has been found to be an important element contributing to residents' quality of life (Ball et al., 2000; Kane & Wilson, 2001; Mitchell & Kemp 2000). The etymological meaning of autonomy is "self-rule." It is a broad concept that commonly implies other overlapping values such as independence, personal control, and freedom of choice, self-governance, and self-determination (Gamroth, Semradek, & Tornquist, 1995; Collopy, 1988). Autonomy has been recognized as a central theme in the AL philosophy of care (Carder, 1999; Gamroth et al., 1995; Oregon Administration Rules [OAR]: 411-056-0005, 1999; Wilson, 2000).

Assisted Living (AL) is a residential option for older adults that pioneered in the state of Oregon in early 1980's (Hawes, Rose, & Phillips, 1999; Kane, 1993; Regnier, 1995). It is designed to provide care services in a safe, home-like, social environment where residents are considered consumers (Allen, 1999; Citro, 1998; Frank, 2002; Kane & Wilson, 1993; Namazi & Chafetz, 2001). Autonomy, independence, dignity, choice, and privacy are central values emphasized in the philosophy of care in AL. Autonomy in AL residents has been also identified as an essential element of residents' overall satisfaction with AL (Assisted Living Federation of America [ALFA] & ServiceTRAC, 1999). However, no studies are available to identify dimensions of residents' autonomy in AL settings.

The Assisted Living Quality Coalition (ALQC), formed in early 1996 to address issues of quality improvement in AL, has identified food as one quality area in need of investigation and improvement. The ALQC also recognized the importance of including the residents' point of view about all quality concerns (Assisted Living Quality Coalition [ALQC], 1999). This compels researchers to identify components of quality and to develop instruments to measure residents' perceptions and opinions in a valid and reliable fashion. Several research-based attempts have been made to identify dimensions of satisfaction in AL in which food has been consistently identified as a key element.

Food plays significant roles in AL residents' daily routines and ultimately in their quality of life. Consumption of professionally planned daily meals sustains a good nutritional status that is necessary to maintain optimum health and well-being (The American Dietetic Association [ADA], 2000). Additionally, meals in AL that are served in a main dining area in a social setting give residents something to look forward to throughout the day (Wylde, 2001). The majority of current AL residents are females who previously prepared meals for themselves and their families, therefore, food brings memories of family, comfort, and "home" to them. Residents in AL are likely to perceive available food choices and how they feel about them as one of their few remaining freedoms. Consequently, providers of AL are constantly challenged to design and maintain a healthy, exciting, and affordable food program to satisfy their residents.



A national AL satisfaction survey sponsored by the Assisted Living Federation of America (ALFA) rated food service as the first among nine areas to contribute to residents' overall sense of satisfaction in AL (ALFA, 1999). Meal service and food quality in AL were identified by residents and family members as two of several areas in need of improvement (Buelow & Fee, 2000; Gesell, 2001). Furthermore, AL residents interviewed in qualitative studies have identified eating meals in the main dining area as a source of meaningful activity and an opportunity for socialization, contributing to their overall satisfaction with AL and their quality of life (Ball et al., 2000; Sikorska, 1999).

## AUTONOMY FRAMEWORK

Autonomy in the elderly population has usually been addressed and considered in the light of medical ethics and/or legal rights when formulating policy for long-term care institutions, especially nursing homes (Collopy, 1990; Lidz & Arnold, 1990; Lidz, Fischer, & Arnold, 1992). During the past two decades the subject of autonomy has become more prevalent in the literature on aging and has been expanded to include a psychosocial perspective. A growing body of research in autonomy from a psychosocial perspective (Baltes & Baltes, 1990; Baltes, 1996; Birren & Dileckmann, 1991; Hofland, 1988; Langer & Rodin, 1976; Schulz & Hanusa, 1978; Slivinske & Fitch, 1987) suggests that enhancement of nursing home residents' autonomy has favorable effects on behavioral, physical, and emotional well-being, increases happiness and participation in social activities,

and in some cases decreases mortality (Birren, Lubben Rowe, & Deutchman, 1991; Gamroth et al., 1995; Kan, 1991; Langer & Rodin, 1976; Lidz et al., 1992).

Due to the complex nature of the concept of autonomy in long-term care, constructing a global definition remains a continuing challenge. However, case and observational studies, mainly in nursing homes, have led to several frameworks and conceptualizations of autonomy (Agich, 1993; Capitman & Sciegaj, 1995; Collopy, 1988; Forbes & Hoffart, 1998; Jameton, 1988). Two of these established frameworks serve as the theoretical backdrop for this study.

One conceptualization is a contextual model of autonomy which recognizes the effect of relationships and circumstances on the older individual's autonomy (Capitman & Sciegaj, 1995). This model contends that "where the individual is situated influences both how he or she understands the freedom to make meaningful choices and how his or her autonomy is defined and respected by others" (Capitman & Sciegaj, 1995, p. 533). Living in an AL community may reshape perceptions of autonomy by older adults. Assisted Living providers pledge support for residents' autonomy by providing choices, allowing significant resident control and promoting the idea of aging in place (Frank, 2002; Zimmerman, Sloane, & Eckert, 2001). However, empirical data are still lacking on how well the philosophy of autonomy is implemented in the process of care.

A second framework of autonomy in long-term care conceptualized different types of autonomy in six polarities: Decisional vs. Executional, Competent vs. Incompetent, Direct vs. Delegated, Authentic vs. Inauthentic,

Immediate vs. Long Range, and Negative vs. Positive (Collopy, 1988). Collopy based his argument on case studies, mainly in nursing home settings, and largely involved residents with considerable cognitive and physical disabilities. He emphasized that care providers must recognize and distinguish between types of autonomy to identify conditions that need to be corrected or modified to achieve greater autonomy for residents. For example, if a resident's autonomy is judged based only on the physical ability to carry out an action (Executorial autonomy), such as dressing herself then, in light of gradually shrinking physical ability, a resident may be labeled non-autonomous and therefore, Decisional autonomy (such as choosing which garment to wear) may be overlooked or denied.

However, for this study, the individual concepts of the types of autonomy, as defined by Collopy, were examined for their applicability to the study's population in which alert cognition status was the main inclusion criteria, and for applicability to the focus of the research, which was the residents' perceptions about issues related to food in AL settings. Only Decisional, Executorial, and Delegational types of autonomy were considered appropriate for the study.

Autonomy in this study was considered in the context of food and will be referred to as food autonomy. It encompasses daily served meals and dining experiences in AL, as well as foods that might be prepared or consumed inside a resident's living unit. Food autonomy of AL residents was defined for this study as the ability to freely choose and/or make decisions, and to act and be responsible for those decisions, about all issues, situations, and activities related to food. The

proposed definition consists of three underlying dimensions: 1) Decisional autonomy is the freedom and ability of residents to make decisions regarding food choice and other food issues in the absence of restraint or coercion; 2) Executorial autonomy is the ability and freedom of residents to carry out actions, dependently or independently, regarding personal food choices and decisions, (for example, personal food preparation or food acquisition from outside the facility); and, 3) Delegational autonomy is the perception of instructing and authorizing AL facility personnel to make decisions and act on behalf of residents about food issues.

Licensed AL facilities in Oregon are required to provide three nutritious meals and snacks seven days a week, to provide modified diets if needed, and to encourage residents' involvement in menu development (OAR-411-056, 2000). These broadly defined food regulations indicate that residents have delegated the physical act of food preparation to the facility's personnel and, by definition, limited their food choices to those offered by the facility. Such delegation does not necessarily mean that residents have relinquished their Decisional or Executorial autonomy about food related issues.

The main purpose of this study was to develop a valid and reliable instrument to measure the perceived food autonomy of Assisted Living residents and to test the validity of three proposed underlying dimensions of food autonomy: Decisional, Executorial, and Delegational autonomy.

## DESIGN AND METHODS

This exploratory methodological study used a cross-sectional design and was conducted in two stages, a pilot stage followed by a main stage. Thirty seven residents from licensed AL facilities in Oregon were recruited for the pilot stage and a separate sample of 120 residents participated in the main stage. An instrument to measure food autonomy was developed and called the Perceived Food Autonomy (PFA) scale. This scale was based on theoretical frameworks of personal autonomy in long-term care. A panel of experts was used to establish content validity. The PFA instrument was pilot tested and modified accordingly. The pilot test also included qualitative data collection and analysis to test the integrity of the proposed dimensionality of PFA. In the main stage, the modified PFA scale was tested for reliability and construct validity.

### DEVELOPMENT OF THE PERCEIVED FOOD AUTONOMY (PFA) SCALE – PILOT STAGE

The definitions of food autonomy and each of its three underlying dimensions based on the theoretical autonomy frameworks (Collopy, 1988; Capitman & Sciegaj, 1995) guided the item development process for the Perceived Food Autonomy (PFA) scale. A pool of potential scale items was developed, drawing mainly from three instruments that were validated for use in three populations of older adults. The first of these was the Perceived Enactment of Autonomy scale that addressed issues directly related to autonomy in relation to potential for self-care actions in independently living older adults (Hertz 1991).

The second instrument was the Geriatric Food Behavior Instrument developed by Fey-Yensan (1995), which was designed to identify dimensions of food behavior among seniors living in their own homes (Fey-Yensan 1995). The last instrument was a food choice model for older adults that addressed factors influencing food choice among free-living older adults (Furst, 1996; Winter Falk, Bisogni, & Sobal, 1996). The pool of items developed for this study was refined and reduced to a preliminary 12-item PFA scale with each of the three proposed dimensions represented by four items (Table 2). Each item was a statement designed to be rated on a 5-point agreement scale ranging from “strongly Agree” to “strongly disagree.”

Table 2 - Original 12-item PFA Scale and Corresponding Dimensions

Item	Dimension
- I choose from a wide variety of foods for my meals	Decisional
- I decide what the best foods are for me at this stage of my life	Decisional
- I feel my personal suggestions for the weekly menu would be	Decisional
- I know the foods I like	Decisional
- I am not bashful about asking to have my food the way I like	Executorial
- The staff is usually willing to make the special food changes that	Executorial
- My present health allows me to eat what I want	Executorial
- I am in control of what I eat at my meals	Executorial
- Other people decide what I will eat	Delegational
- At this stage of my life, I want other people to be in charge of	Delegational
- Other people help me with my food at the table	Delegational
- Other people serve me what they think is best for me rather than the food I think is best	Delegational

### Content validity

Five expert panelists were invited (Appendix C) to evaluate and comment on the 12-item preliminary PFA scale to establish content validity; two of the

panelists were experts on gerontology, two were Registered Dietitians with experience in long-term care institutions, and one was an RD/PhD food service manager in a long-term care retirement facility. The panelists were invited to provide feedback on the content and relevance of items developed for the three proposed dimensions of food autonomy and to provide general feedback on the wording, design, and appropriateness of the PFA instrument for the study population.

Most panelists' comments suggested modified wording of items to better apply to older adults. All five panelists generally agreed on the relevance of items developed for each of the three dimensions for the PFA scale. The preliminary PFA scale was revised as recommended, and consisted of 12 items representing three underlying dimensions.

### Pilot test

A pilot study was conducted to test the proposed method of contacting and communicating with the AL residents and to examine the clarity of the PFA scale. Ten open-ended questions were added to the preliminary PFA instrument to stimulate identification of possible additional dimensions for food autonomy. The open-ended questions inquired about the residents' general opinions, feelings, expectations, and concerns about food in AL as compared to food when living in their own homes. Also included were questions about the characteristics of food served during special occasions such as holidays, and the type of actions taken by

the resident and facility management regarding food in specific situations such as during a period of acute illness. The pilot study protocol was approved by the Oregon State University Institutional Review Board (IRB) (Appendix D.5).

A convenience sample of thirty-seven residents from three licensed AL facilities (Appendix D.1 & D.2) in three Oregon counties participated in the pilot study (Appendix D.3). Resident selection criteria included sound cognitive functioning for effective communication and willingness to participate in a 30-40 minute interview. Residents who agreed to participate provided informed consent (Appendix D.4) after the study protocol was explained to them in an initial group meeting. At the end of the group meeting, individual interview times were scheduled and reminder slips were provided to each participant. Individual interviews were conducted in each resident's apartment. Residents completed the survey in writing and verbally answered the open-ended questions. They were encouraged to provide suggestions on how their food enjoyment could be enhanced in the AL setting.

Thirty-seven residents from three AL facilities participated in the pilot test. One-third of the residents in the pilot test had lived up to one year in AL, one-third from one to three years, and one-third for more than three years. Residents' ages ranged from 68-101 years. Eighty-three percent of the residents were females. Seventy-eight percent were widows. Fifty percent of the residents had a high school education or less and fifty percent had some college or a professional degree, which indicated a relatively highly educated sample for their age group.



## Modifying the PFA scale

The content of transcribed notes from the open-ended questions was qualitatively analyzed. Data were examined and reduced by assigning codes to similar responses. The coding process began as an organizational tool and progressively became interpretive as patterns and relationships in the data emerged, as described by Berg (2001) and Lofland and Lofland (1995). The codes were revised, subdivided, and refined to identify common themes. The Winmax qualitative data analysis software (Udo Kuckartz, BSS, Berlin, 1998) was used to manage the data for analysis. The coded segments and corresponding themes were checked with three professionals in the nutrition field to ensure a common understanding of the codes' meanings and emerging themes. Residents' comments from each interview were used in modifying the wording of items in the PFA scale.

Three of the emerging themes more clearly defined the Delegational and Executional dimensions of food autonomy. As a result, four items were added to the 12-item PFA instrument. The first theme, named "positive food perceptions," indicated relief from cooking as a favorable feature of AL, and represented the Delegational dimension of PFA. As one female resident explained, "When I was at home, I would think about and plan out meals more, here (in AL) I don't have to plan it so I don't think about it, I like that." The second theme, named "empathy with AL facility," was considered dichotomous. Residents criticized their facility yet were sympathetic with the staff. As one resident remarked, "They (AL providers) don't have enough staff, they hurry to serve, there is no individual

attention, they are on a time schedule, they try their best.” Another sympathetic resident contended, “I know they try their best to prepare good, healthy meals.” These comments also represented the Delegational autonomy dimension.

Accordingly, two statements were added to the PFA scale, one about the residents’ expectation of the nutritive value of the served meals and the other about their perceived relief from cooking.

The third emerging theme named, “food preparation inside AL apartment,” was related to circumstances and requirements for using the small kitchen inside the residents’ apartments. Comments on this theme were made by a few residents with special dietary needs. These residents were more likely to use the kitchen facilities in their apartments to prepare or consume meals, and they were more vocal in expressing their frustration with the lack of accommodation to their dietary needs. Therefore, the third added statement to the PFA was about the frequency of in-apartment kitchen use, and represented Executional autonomy.

Grocery acquisition was another issue related to in-apartment food preparation, which sometimes required additional resources such as family/friends or waiting for a facility-organized trip to a grocery store. The last statement added to the PFA scale addressed the extent to which family/friends were asked to bring food to the resident, and also represented Executional autonomy.

The modified 16-item PFA scale (Table 3) included four items intended to represent the Decisional autonomy dimension, six items intended to represent the Executional autonomy dimension and six items intended to represent the

Delegational autonomy dimension. Response categories for all items in the PFA scale were a 5-point Likert type scale (agree, somewhat agree, neither agree nor disagree, somewhat disagree, and disagree).

Table 3 - Items in the Modified 16-item Perceived Food Autonomy (PFA) Scale

Item	Dimension
-I choose from a variety of foods for my meals	Decisional
-I decide what the best foods are for me at this stage of my life	Decisional
-I feel my personal suggestions for the weekly menu would bring a change	Decisional
-Food is an important part of my daily life	Decisional
-I am willing to speak up about having my food the way I like it	Executional
-The staff is usually willing to make the personal food changes I like	Executional
-My present health allows me to eat what I want	Executional
-I am in control of what I eat for my meals	Executional
*-I use the kitchen in my apartment to prepare the food I miss	Executional
*-I sometimes ask family/friends to bring me a food I like	Executional
-Other people usually decide what I will eat	Delegational
-At this stage of my life, I want other people to be in charge of what I eat	Delegational
-Other people help me with my food at the table	Delegational
*-I have confidence that the meals here are well balanced	Delegational
-I have as much control as I want over what I eat	Delegational
*-I am glad that I don't need to cook anymore	Delegational

\* Items added after the pilot test

## PFA SCALE RELIABILITY AND VALIDITY – MAIN STAGE

### Sample selection

A list of the 163 licensed AL facilities with a capacity of 10,510 residents operating in Oregon as of June 2001 was obtained from the state's Senior and Disabled Services Division (SDSD). A two-stage sampling design was applied to facility selection and residents within facilities. In the first stage, all licensed AL

facilities in seven designated Oregon counties (located along the Willamette River) were considered for participation. Thirty-six facilities were eligible after excluding three facilities that participated in the pilot test. One-third of AL facilities in each of the seven counties were randomly selected to participate (Appendix E.1, E.2, E.3, & E.4). In the case of participation decline, an alternate AL facility was randomly selected from the same county until one-third of the facilities in each county agreed to participate. However, the one-third ratio could not be achieved in two of the seven counties due to the small number of total licensed AL facilities. A total of 11 facilities from five counties agreed to participate (Table 4).

In the second sampling stage, a sample of volunteer residents was recruited from each participating facility. Eligibility criteria were having intact cognitive status and willingness to participate in a face-to face interview. All resident volunteers who met these criteria were considered for participation. Residents' cognition status was evaluated by each AL facility's manager/administrator. Thirty-five resident invitations (Appendix E.5) were sent to each facility except two that requested only 15. Table 4 shows the resident sample from each county.

AL administrators distributed individual invitations to cognitively alert residents, collected them, and mailed them to the researcher. Phone arrangements were made to visit each facility to meet with the potential participants, explain the study, attain their informed consent (Appendix E.6), and set an individual interview time with each participant. The researcher met with each subject in his or her apartment and gave them the choice of reading the survey him or herself or having

the researcher read it aloud and assist in marking responses. Roughly two-thirds of the residents preferred that the researcher read and assist in marking responses.

Table 4 - Licensed AL Facilities and Resident Participant Sample Distribution

Oregon county	Licensed facilities available	Facilities contacted	Facilities that declined	Facilities participating	Total no. of residents participating
County #1	1	1	1	0	0
County #2	10	5	1	4	10
					4
					10
					6
Count #3	5	3	1	2	9
					20
County #4	11	8	5	3	17
					9
					6
County #5	3	2	1	1	16
County #6	3	3	3	0	0
County #7	3	2	1	1	13
			Total	11	120

## Data analysis

A statistician was consulted in analysis design and results' interpretations. The Statistical Package for Social Sciences (SPSS ver.11.5.0, 2002) was used for data analysis. The PFA scale items' response categories were recoded, as needed, for scoring. A higher value on an item indicated more favorable perception and greater autonomy. Values for the recoded response categories were: Agree = 5,

Somewhat agree = 4, Neither agree nor disagree = 3, Somewhat disagree = 2, and Disagree = 1. A total score for PFA was calculated by adding response values of all 16 items for each resident. Also, response values of items within each of the three dimensions were added to compute a separate sub-scale score for each.

Bivariate correlations, to test for the internal structure of the PFA scale, were computed including individual items in the PFA scale, the total PFA score, and scores for the three dimensions' subscales, using Spearman's correlation coefficient. All 16 items were expected to significantly correlate with the total score to indicate the same construct (perceived food autonomy) was being measured by each item in the scale. Items within each of the three proposed dimensions for food autonomy represented three separate sub-scale. Items within one sub-scale were expected to highly correlate with each other but not with item(s) from another sub-scale to indicate three independent dimensions.

Cronbach's alpha measure of internal consistency was used to evaluate reliability of the entire 16-item PFA instrument and of each dimension's sub-scale. Factor analysis was used to examine the construct validity of the PFA scale. Finally, the validated scale was analyzed for final reliability.

## Results

### Residents' characteristics

One hundred and twenty AL residents participated in the PFA scale evaluation: 84% females and 16% males. The ages of the residents ranged from 34

to 96 years with an average of  $81.4 \pm 9.6$  years. The majority (63%) of the residents were widowed. Fifty-five percent of the residents had a high school education or less and 45% had education above high school, indicating a relatively highly educated sample for the age group. These demographic findings were consistent with the national profile of AL residents (The National Center for Assisted Living [NCAL], 2001). Residency ranged from one to 72 months with an average residency of  $21 \pm 17$  months.

### Initial reliability

Initial reliability for the 16-item PFA scale was .63 as computed using Cronbach's alpha-coefficient, a test of internal consistency. Cronbach's alpha for the four items intended for Decisional autonomy dimension was .39, for the six items intended for Delegational autonomy dimension, .47, and for the six items intended for Executional autonomy, .39. Low values in these initial reliability results for the proposed dimensions suggested the need to improve the frame of the items in each dimension.

### Internal structure

Bivariate correlations showed that all items in the PFA scale except three were highly correlated with the total score of PFA with correlations ranging from  $r = .24$  to  $r = .62$  ( $p < .01$ ). This suggested that these three items in the scale may not be measuring the construct of food autonomy and need further consideration. Additionally, four items from the Delegational sub-scale cross-correlated with

items from the Decisional sub-scale indicating these two proposed dimensions could be intercorrelated. These correlation findings indicated, at this point, that the integrity of the original scale dimensions were not totally confirmed and suggested the need for revisions.

### Construct validity

Construct validity indicates how well an instrument conforms to its theoretical formulation and is statistically established by factor analysis (Lester & Bishop, 2000; Nunnally & Bernstein, 1994; Pedhazur & Schmelkin, 1991). In factor analysis, items in the instrument that were designed to measure a specific construct/dimension are expected to load on one factor, and items designed to measure a different construct/dimension are expected to load on a different factor (Lester & Bishop, 2000).

The first principal component analysis on the 16-item PFA scale extracted six factors with Eigen values greater than 1.0 and accounted for 65% of the total item variance. Table 5 shows loadings of items on the six factors and percentage of variance explained. A cutoff value of  $\geq .5$  was used as the loading criterion to retain items in the PFA scale. The six extracted factors were as follows: The first factor accounting for 23.83% of the variance included eight items that loaded .5 and above and mainly combined intended items from both the Decisional and Delegational dimensions. The second factor, accounting for 10.09% of the variance, had three items loading .5 and above, and they all represented intended



items from the Executional autonomy dimension (Table 5). The remaining four factors were dropped for lack of compatibility with the study's theoretical framework.

This factor analysis reduced the 16-item PFA to 11 items in two retained factors, which accounted for 33.92% of the variance in PFA. One of these retained factors was clearly Executional autonomy, since all three items that met the loading criteria were items intended for that dimension. No further analysis was needed for the Executional autonomy factor.

The second retained factor had eight items meeting the loading criterion of .5, and was a combination of items from the Decisional and Delegational dimensions. A subsequent factor analysis was conducted including only these eight items. A varimax rotation solution was used to extract two factors (Table 6). These two rotated factors were interpretable according to the study's theoretical frame. The first rotated factor improved the intended frame for the Decisional autonomy dimension on which five of the items had loading values ranging from .55 to .8, and the second rotated factor improved the intended frame for the Delegational autonomy dimension on which three of the items had loading values that ranged from .69 to .75.

Table 5 - Components of the 16-item Perceived Food Autonomy Scale (PFA)

Item	Factor					
	1 <sup>a</sup>	2 <sup>b</sup>	3	4	5	6
<sup>d</sup> -I am in control of what I eat for my meals	<u>.789</u>					
<sup>e</sup> -I have as much control as I want over what I eat	<u>.773</u>					
<sup>e</sup> -I have confidence that the meals here are well balanced	<u>.751</u>					
<sup>c</sup> -I choose from a variety of foods for my meals	<u>.691</u>				-0.356	
<sup>c</sup> -I decide what the best foods are for me at this stage of my life	<u>.604</u>					
<sup>e</sup> -I am glad I don't need to cook anymore	<u>.577</u>		.341			
<sup>d</sup> -The staff is usually willing to make the personal food changes I like	<u>.550</u>		.394		.412	
<sup>d</sup> -I use the kitchen in my apartment to prepare the food I miss having		<u>.646</u>	-0.377			
<sup>d</sup> -I am willing to speak up about having my food to way I like it		<u>.632</u>	.483			
<sup>d</sup> -I sometimes ask family/friends to bring a food I like		<u>.565</u>				.303
<sup>c</sup> -I feel my personal suggestions for the weekly menu would bring a change			.439	.366		
<sup>e</sup> -Other people help me with my food at the table			.493	.381	.430	
<sup>e</sup> -At this stage of my life, I want other people to be in charge of what I eat				.707		
<sup>e</sup> -Other people usually decide what I will eat	<u>.525</u>		-0.330	.552		
<sup>d</sup> -My present health allows me to eat what I want	.310		-0.370		.570	-0.336
<sup>c</sup> -Food is an important part of daily life		.301		.380		-.774
% variance explained	23.83	10.08	9.25	8.55	6.81	6.46
Cumulative %	23.83	33.91	43.17	51.73	58.54	65.00
Notes: Extraction method: Principal Component Analysis						
-Only loading $\geq .3$ are shown for clarity and simplicity						
-Underline indicates items retained for PFA						
<sup>a</sup> Factor 1= Combination (Decisional and Delegational autonomy)						
<sup>b</sup> Factor 2=Executorial Autonomy						
<sup>c</sup> Items intended for Decisional autonomy						
<sup>d</sup> Items intended for Executorial autonomy						
<sup>e</sup> Items intended for Delegational autonomy						

Five items loaded on the improved Decisional autonomy dimension from this factor solution (Table 6). The first and second of these items (I choose from a variety of food for my meals; I decide what the best foods are for me at this stage of my life) were initially intended for Decisional autonomy. The third and fourth of these items (Other people usually decide what I will eat; I have as much control as I want over what I eat), were initially intended for Delegational autonomy. These four were found to better represent the Decisional dimension which included concepts of decision-making used in the study. The last item (I am in control of what I eat for my meals) was initially intended as Executional autonomy but was apparently perceived by respondents as having more in common with Decisional items.

Two of the three items that loaded on the improved Delegational autonomy dimension were items (I am glad that I don't need to cook anymore; I have confidence that the meals here are well balanced) were initially intended for that dimension. The remaining item (The staff is usually willing to make the personal changes I like) was initially intended for Executional autonomy but apparently was perceived as Delegational in nature. The final valid PFA scale included 11 items with three underlying dimensions.

Table 6 - Components of Combined Decisional Autonomy and Delegational Autonomy Dimensions

Item	Factor	
	1 (Decisional)	2 (Delegational)
<sup>a</sup> -I choose from a variety of foods for my meals	<b>.641</b>	.335
<sup>a</sup> -I decide what the best foods are for me at this stage of my life	<b>.555</b>	
<sup>c</sup> -Other people usually decide what I will eat	<b>.824</b>	
<sup>c</sup> -I have as much control as I want over what I eat	<b>.632</b>	.477
<sup>b</sup> -I am in control of what I eat for my meals	<b>.775</b>	.307
<sup>c</sup> -I am glad I don't need to cook anymore		<b>.752</b>
<sup>c</sup> -I have confidence that the meals here are well balanced	.369	<b>.732</b>
<sup>b</sup> -The staff is usually willing to make the personal food changes I like		<b>.698</b>
% variance explained	45.07	13.25
Cumulative %	45.07	58.33
Note: Extraction method: Principal Component Analysis with Varimax Rotation Factor 1= improved Decisional Autonomy, Factor 2 = improved Delegational Autonomy -Only loading $\geq .3$ are shown for clarity and simplicity <sup>a</sup> Items intended for Decisional Autonomy <sup>b</sup> Items intended for Executional Autonomy <sup>c</sup> Items intended for Delegational Autonomy		

### Final reliability

The final PFA scale included 11 items with three underlying dimensions. Reliability as measured by the internal consistency test, Cronbach's Alpha, for the revised Decisional autonomy subscale was .79, for the revised Executional autonomy sub-scale .44, and for the revised Delegational autonomy subscale .66. Cronbach's Alpha for the entire 11-item scale was .71. Therefore, all three hypothesized dimensions were validated by the data after revising the intended initial PFA theoretical framework. These revisions of the theoretical framework

improved the reliability of the sub-scales for each of the three dimensions as well as the entire PFA scale.

## DISCUSSION

This study is the first to report development of a valid and reliable instrument to measure perceived food autonomy (PFA) among cognitively alert residents in licensed AL facilities in Oregon. The 11-item PFA instrument is composed of three underlying dimensions: the first dimension, Decisional autonomy, measures residents' perceived freedom and ability to make choices and decisions about food; the second dimension, Executional autonomy, measures perceived ability to implement actions regarding food related issues; and the final dimension, Delegational autonomy, measures the perception of delegating food authority to facility providers. Until further testing has been done on the three dimensions, it is recommended to apply the 11-item PFA scale using only total PFA scores, not dimensions' sub-scale scores, therefore, measuring the perceived food autonomy.

Factor analysis results suggested that two of the proposed dimensions for food autonomy, Decisional (freedom to make uncoerced decisions regarding food issues) and Delegational (feelings about delegating food authority to AL providers), were intertwined in meaning, whereas the concept of Executional (ability to carry out actions to implement personal food decisions) autonomy was distinctly independent. Further testing may find that only two dimensions, Decisional and

Executorial, are relevant for food autonomy in the AL setting. In Collopy's autonomy conceptualization (Collopy 1988), these two types of autonomy were part of one polarity, in which Executorial autonomy was contingent upon Decisional autonomy. In other words, in long-term care, residents must demonstrate Decisional autonomy in order to have Executorial autonomy. However, providers and policymakers must make a distinction between the two types of autonomy to prevent the risk of disregarding a resident's Decisional autonomy whenever his or her Executorial autonomy is diminished due to increasing physical dependency (Collopy, 1988). Nevertheless, factor analysis results established construct validity for the three proposed dimensions and for the final 11-item PFA scale.

Dining experiences in long-term care, among other daily life events, have been proposed to be an integral part of residents' "actual" autonomy (Agich, 1993). This type of autonomy views the elderly resident in long-term care as a social individual who is engaged in interpersonal interactions, and focuses on respecting residents' personal autonomy in spite of their functional limitations (Agich, 1995). By placing greater emphasis on residents' actual autonomy, providers would be engaged in effective means of enhancing residents' quality of life (Agich, 1993, 1995).

Since the early stages of the AL industry's emergence, issues related to food such as limited choice and fixed meal schedules have been recognized by the residents as a daily activity in which their autonomy has been reduced (Slivinske &

Fitch, 1987). Additionally, food service has been established as a dimension to be considered in overall satisfaction with AL (ALFA, 1999; Chou, Boldy, & Lee, 2001; Gesell, 2001) and as an element that contributes to quality of life (Ball et al., 2000). Residents' sense of autonomy was also identified to be an element of quality of life (Mitchell & Kemp, 2000; Ball et al., 2000).

Dining in the main dining room has been designated by residents as a meaningful activity (Ball et al., 2000; Sikorska-Simmons, 2001) and as an element of relationships with staff (Herzberg, 1997; Sikorska-Simmons, 2001), therefore highlighting the social component of dining. AL residents also identified the quality of the food served as an element of good care (Ball et al., 2000; Zgola & Bordillon, 2001). Residents' feelings about their daily meals, the environment of the dining area, and social interactions contribute to their general psychosocial well-being. Psychosocial aspects of residents' lives, from their points of view, were suggested to take precedence over their physical functions (Cohn & Sugar, 1991; Herzberg, 1997; Mitchell & Kemp, 2000).

This study complements previous research in that it focused on a vital aspect of AL residents' quality of life, food, and linked it to the concept of autonomy, which is also an essential element of residents' quality of life. Moreover, this study directly involved service recipients (AL residents), who are the best judges of their quality of life. The information gathered from the residents in this study was believed to reflect the residents' honest perceptions, since the interviewer (researcher) was unconnected with either the facility or the residents.

Having neutral interviewers not associated with the facility or family members was recommended to prevent risk of producing biased results (Gesell, 2001).

Assisted Living facilities that declined to participate may have introduced self-selection bias at the facility level. Residents from these facilities might have had different perspectives than those in the current sample. Out of the three facilities that declined participation, one facility administrator commented, after the nature of the study was explained to her, "I'll pass on this one, this is an issue that my residents get really worked up about, and I don't want unnecessary negativity." A second manager stated, "Our population does not meet your needs; they don't want to be engaged in the community." And the third manager who declined her facility's participation said she was new on the job and that it was not a good time.

Recruitment of subjects to obtain quality information for this study posed a unique, although expected, challenge (Namazi & Chafetz, 2001). The reluctance of AL facility administrators to provide any type of information about residents without their consent made a random sample unattainable. Moreover, the distribution of resident invitations was at the discretion of each facility's administration, which may have introduced resident selection bias since it was not known if all potential subjects had an equal opportunity to participate.

The face-to-face interviews method of survey administration provided completed surveys with no missing data and increased the rate of response and accuracy compared to a mailed survey (Peterson, 2000; Salant & Dillman, 1994). The residents got direct feedback when they had questions and help was provided



in reading and marking the chosen responses. However, accuracy and completeness were achieved at the expense of modest sample size.

Inference to a larger AL resident population using the PFA instrument may be limited since the study included only cognitively alert residents from one state. Moreover, validation data from further use of the scale on different AL resident samples would be useful. It is recommended that the PFA instrument be administered to a national random sample of AL residents to further test its reliability and validity.

## APPLICATION

The PFA scale is a unique, simple, and concise tool that measures an important aspect of AL residents' autonomy. It can be used by AL facilities to monitor residents' perceptions about the degree of independence they exercise over their own meals and dining experience. Maintaining a close watch on residents' perceptions and promoting their food autonomy enhances their quality of life and positively influences their overall satisfaction with AL.

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## CHAPTER IV - PERCEIVED FOOD AUTONOMY IS A VITAL PREDICTOR OF FOOD SATISFACTION AMONG RESIDENTS IN ASSISTED LIVING

### ABSTRACT

Autonomy is a central value in the philosophy of care in Assisted Living (AL) facilities that contributes to residents' overall satisfaction. Assisted Living residents' perceived food autonomy (PFA), functional (physical, social, and psychological) status, and general health were tested for their influence on their food satisfaction. A total of 119 cognitively alert residents from 11 free-standing licensed AL facilities completed a survey that included a valid and reliable PFA scale and a reliable food satisfaction scale in addition to existing valid and reliable scales to measure older adults' functional and health status. Multiple regression analysis revealed that perceived food autonomy was a significant (Adjusted  $R^2 = .37$ ) predictor of food satisfaction. An additional 11% of the variance was explained by a combination of perceived pain and the two-way interaction effect between physical ability to perform ADLs and denture status. Monitoring AL residents' food autonomy perceptions provides information on the extent of their satisfaction with food during the period of their residence. Application of PFA and food satisfaction scales could guide AL providers' quality improvements efforts.

## INTRODUCTION

Promotion of residents' autonomy is a central theme in the philosophy of care in Assisted Living (AL) settings. Assisted Living is a fast growing residential option for older adults who no longer can live independently in their own homes, an option which began in the state of Oregon in the 1980s (Hawes, Rose, & Phillips, 1999; Kane & Wilson, 2001). Assisted living exists in a free-standing structure or as part of a continuum of care. The AL industry's general philosophy of care is based on maximizing residents' autonomy, independence, and dignity by promoting choice and control in their daily lives and delivering services in a home-like environment to maintain a good quality of life (Kane & Wilson 2001; Wilson, 1996). Many overlapping definitions exist for AL due to the fact that the majority of AL facilities are currently regulated at the state and local level. The lack of a common definition allows for more variation in standards for performance and quality of care among AL facilities (Zimmerman, Sloane, & Eckert, 2001). Most AL facilities are privately operated and more than two-thirds are paid for by private funds (The National Center for Assisted Living [NCAL], 2001), which makes the AL industry competitive and sensitive to market changes.

Unlike the heavily regulated medical model of nursing homes, AL operates according to a social model, providing mostly personalized services in a social, home-like environment. AL is a consumer-driven industry in which residents as well as their family members are considered customers (Cohen-Mansfield, Ejaz, & Werner, 2000; Kane & Wilson, 1993; Wylde, 2000; Wilson, 1996; Zimmerman et



al., 2001). Providers of AL are constantly seeking ways to improve and upgrade the quality of services to keep their existing customers and to appeal to a growing number of elderly individuals, hence the increasing number of research projects concerned with residents' satisfaction with AL (Applebaum, Straker, and Geron, 2000; Ginn & Young, 2003).

Customer satisfaction is an outcome measure of care quality for which the Assisted Living Quality Coalition emphasized the need to develop standardized tools of measurement (The Assisted Living Quality Coalition [ALQC], 1998). The components of resident satisfaction in AL have been identified based on the two broad defining attributes of AL: services provision and housing characteristics. Therefore, existing instruments designed to measure satisfaction with AL usually included several areas of service with a particular focus on organizational and structural components (Hawes, Rose, & Phillips, 1999). Residents as well as their family members have been involved in empirical research, using qualitative and quantitative means, to provide their views of satisfaction with AL (ALFA, 1999; Buelow & Fee, 2000; Chou, Boldy, and Lee, 2001; Gesell, 2001; Moran, White, Eales, Fast, and Keating, 2002; Sikorska-Simmons, 2001).

Meals and the overall dining experience have been repeatedly identified as integral components of overall satisfaction with AL (ALFA, 1999; Gesell, 2001), and in some situations, these have been determined to need improvement (Buelow & Fee, 2000). Dining experience includes all those variables in the physical and social eating environment (Meiselman & MacFie, 1996), such as the layout of the

dining room and social interactions with other residents and staff during dining. A few studies were designed to measure residents' satisfaction with AL and provided instruments that were tested for reliability and validity (Gesell, 2001; Sikorska-Simmons, 2001; ALFA, 1999). However, these validated instruments aggregate many areas of service to yield a broad measure of overall satisfaction with AL. Although such instruments are useful in providing information to assess priority of directed attention, they don't provide detailed information about any specific area. Therefore, once a service domain has been identified as needing attention, a corresponding instrument is needed to provide more detailed information about that particular area to better guide quality improvement efforts (ALQA, 1999). One such area that has been consistently recognized as needing attention is food service including meals and the dining experience.

Autonomy has been a core value in the AL philosophy of care. A complex concept, autonomy has been attracting growing interest in the long-term care context. Residents' autonomy in long-term care has been extensively studied from a biomedical ethics perspective, mainly in nursing home settings (Agich, 1993; Collopy, 1988; Hofland, 1988). Autonomy in the AL context has been described in terms of choice, control, or decision-making (Kane, Caplan, Urv-Wong, Freeman, Aroskar, and Finch, 1997; Langer & Rodin, 1976; Agich, 1995; McCullough & Wilson, 1995; Kapp & Wilosn, 1995). The more choice residents had about services offered, the more control residents exercised, and the more residents were

involved in policy decisions, the greater the degree of resident autonomy (Zimmerman et al., 2001, Kane et al., 1997).

Residents' autonomy in terms of control and choice, and decision-making, was empirically identified as an important domain of quality of life for residents in AL settings (Ball et al., 2000; Cummings, 2002; Mitchell & Kemp, 2000). Two separate qualitative studies compared quality of life of residents in long-term care residences that offered two distinct levels of care in the same building: one for those who needed nursing care and one for more functionally independent residents (Lidz, Fischer, and Arnold, 1992; Herzberg, 1997). In each of these studies, both care levels were served by the same staff and operated under the same management. However, residents in the independent level were offered more choices and allowed to exercise more control over daily care decisions. These residents were considered to have more autonomy and therefore, a superior quality of life (Lidz et al., 1992; Herzberg 1997). Moreover, autonomy was considered an element of the AL organizational structure and was identified as the extent of residents' decision-making involvement in facility operations. It was suggested that this autonomy influenced residents' overall satisfaction with AL (Sikorska, 1999).

In this study, autonomy was considered relative to food and given the name Food Autonomy. Food autonomy was defined as the ability to freely choose and/or make decisions, and to act and be responsible for those decisions, about all issues, situations, and activities related to food while living in AL. An instrument was developed and validated to measure perceived food autonomy (Jambi, 2004).

The intention of this study was to explore variables that affect AL residents' food satisfaction. The influence of residents' perceived food autonomy on food satisfaction, as well as the effects of their overall health status (including physical, psychological, and social functions), and demographic characteristics were investigated.

## METHODS

### Sample selection

The sampling frame for this cross-sectional exploratory study included all (n=39) licensed AL facilities in seven Oregon counties. Names and contact information of the operating facilities (June 2001) were obtained from the state's Senior and Disabled Services Division (SDSD). Three of these facilities were excluded due to their involvement, with a separate sample, in a pilot study, therefore, a total of 36 facilities were eligible for participation. One-third of the AL facilities in each of the seven counties were randomly selected to participate. In the case of participation decline, an alternate AL facility was randomly selected from the same county until one-third of the facilities in each county agreed to participate. Forty-six percent of the contacted facilities in five out of the seven counties agreed to participate. The Institutional Review Board (IRB) at Oregon State University approved the study protocol prior to data collection (Appendix E.7).

Thirty-five individual resident invitations were sent to nine of the participating facilities. Only fifteen invitations were sent to the remaining two by

facility request. Resident eligibility criteria included being cognitively alert and willing to participate in a face-to-face interview to complete the study survey. During phone contact with the facility, each facility manager was requested to nominate a coordinator to help in distributing invitations to eligible residents and to provide a location for an initial group meeting between the researcher and potential resident participants. The purpose of this initial group meeting was to explain the study to the potential subjects, attain their informed consent, and set an individual interview time with each participant. A reminder slip was provided to each consenting resident with the date and time of his or her interview. Each subject was interviewed in the privacy of his or her living unit or in a quiet area on the facility premises.

One hundred and twenty AL residents agreed to participate and were interviewed, although data from one subject were excluded from analysis due to age (below 35 years old), resulting in a total sample of 119 residents. Table 7 shows the residents' response rate from participating facilities in each county. At the start of each interview, each resident was given the choice of reading the survey him or herself or having the researcher read it aloud and assist in marking responses. Roughly two-thirds of the residents preferred that the researcher read and assist in marking responses.

Table 7 - Resident Response Rate from Participating AL Facilities

	Cognitively alert residents available (administration's estimate)	No. of invitations sent	Respondents completing invitations	Response rate
Facility #1-County A	35	35	10	29%
Facility #2-County A	37	35	4	11%
Facility #3-County A	15	15	10	67%
Facility #4-County A	65	35	6	17%
Facility #5-County B	50	35	9	26%
Facility #6-County B	38	35	20	57%
Facility #7-County C	44	35	17	49%
Facility #8-County C	50	35	9	26%
Facility #9-County C	44	35	6	17%
Facility #10-County D	15	15	16 <sup>a</sup>	100%
Facility #11-County E	63	35	13	37%
<b>Total</b>	<b>456</b>	<b>345</b>	<b>120</b>	<b>40%</b>

<sup>a</sup> one extra volunteer expressed interest in participation in the study, and was welcomed

## Measures

Satisfaction with food in AL settings was measured by a Food Satisfaction (FS) scale that was developed for this study (Appendix F). Food satisfaction was the dependent variable of interest in this study.

The independent variables that were explored for their influence on food satisfaction included perceived food autonomy and residents' functional status (physical, social, and psychological), general health, and demographic characteristics. These variables were expressed by several scales that were bound in one survey (Appendix F). The study survey was pilot tested for clarity by thirty-seven residents from three AL facilities. All items were written in first-person statements, printed in large font, and bound in a saddle stitch format for ease of

handling. Efforts were made to make the survey as concise as possible to prevent residents' fatigue due to long interviews (Aday, 1996; Streiner & Norman, 1995). Wording of the items was modified as needed according to residents' comments from the pilot test.

### Food Satisfaction (FS) scale

A 16-item Food Satisfaction (FS) scale was designed for this study and was used to measure AL residents' satisfaction with factors directly related to the served meals and dining experiences. Items in the FS scale were adapted from existing reliable and valid overall satisfaction instruments developed for AL settings (ALFA, 1999; Chou et al., 2001; Gesell, 2001; Sikorska-Simmons, 2001), and were modified after expert input and the pilot study. Statements in the FS instrument were rated on a 5-point Likert type agreement scale (agree, somewhat agree, neither agree nor disagree, somewhat disagree, and disagree). A score for food satisfaction was calculated for each resident by adding responses on all 16 items. A higher score indicated higher food satisfaction with a possible range of 16-80 points.

The food satisfaction scale items assessed residents' personal evaluation of the quality of served meals and general dining experience. Food quality items included food's physical properties such as appearance, taste, and temperature. Residents' overall dining experience included dining room atmosphere, service quality, and the social setting of the dining area. Examples of food satisfaction statements are: "Hot menu items are hot enough for me" and "I like the company at

my table at mealtime.” The internal consistency reliability of the FS scale was found to be high (Cronbach’s alpha = .87).

### Perceived Food Autonomy (PFA) scale

Food autonomy, defined earlier, was measured by an 11-item Perceived Food Autonomy (PFA) scale (Appendix G). Items in the PFA scale were rated on a 5-point Likert type agreement scale, similar to the FS scale, ranging from “agree” to “disagree.” Responses for all 11 items were added for each resident to yield a score for perceived food autonomy in which higher total scores represented higher perceived food autonomy. The range of possible scores was 11-55 points.

Statements in the PFA scale covered perceived availability of food choices, perceived control of food selections, decisions made regarding chosen or desired foods, the extent to which a resident would initiate an action to fulfill food needs or desires, and the extent to which a resident was comfortable about delegating food decisions to the facility management and staff. Examples of items in the PFA scale are: “I decide what the best foods are for me at this stage of life,” “I am willing to speak up about having my food the way I like it,” “I have as much control as I want over what I eat,” and “I have confidence that the meals here are well balanced.” Reliability was affirmed by the internal consistency measure Cronbach’s alpha (alpha=.71) for the validated PFA scale.



### Resident characteristics' measures

Resident characteristics measured were functional and health status and demographic characteristics. The functional status measure included physical, social, and psychological function scales, which were adapted from the Self-Evolution of Life Function (SELF) developed and validated by Linn and Linn (1984). The SELF instrument was validated for use in the field of gerontology as a comprehensive measure of health and functional status for older adults in different living arrangements (Linn & Linn, 1984). General health status measures included a general health perception statement, a perceived pain scale, number of daily medications used, whether or not dentures were used, and whether or not a therapeutic diet was required.

Physical function was measured by an Activities of Daily Living (ADL) scale and an Instrumental Activities of Daily Living (IADL) scale. The ADL scale consisted of six ADL items related to dressing, grooming, walking, eating, bathing, and toileting on which residents rated the extent of help they needed. The IADL scale had five IADL items related to telephone use, shopping, traveling, housekeeping, and managing finances for residents to rate the extent of help needed. ADL and IADL items were rated on a 4-point scale ranging from "no help needed" to "considerable help needed." Residents' physical function status was expressed as an ADL score and an IADL score in which a higher score represented a higher level of physical function or the perception that less help was needed.

Social function was represented by a total score from six social function items. Four items were about participation in social activities and were rated on a 4-point scale ranging from “most frequently” to “least frequently.” These items covered the frequency of family and/or friends’ visits, phone calls made by a resident, participation in facility-organized activities, involvement in personal hobbies, and attendance of periodic meetings. The remaining two social function items about satisfaction with daily activities were rated on a 5-point Likert scale ranging from “agree” to “disagree.” These items were: “I have enough activities during the day” and “I get a sense of satisfaction out of work activities or chores I do.”

Psychological function status was initially measured by self-esteem and personal control scales. However, the personal control scale was not reliable (Cronbach’s alpha measure of internal consistency = .35) for this sample and was subsequently dropped. The self-esteem scale consisted of seven items rated on a 5-point Likert scale ranging from “agree” to “disagree.” Psychological function was represented by the total score obtained from the sum of responses for self-esteem items in which a higher score reflected greater self-esteem. Examples of these items are: “I feel I have a number of good qualities,” “I wish I could have more respect for myself,” and “In almost every respect I’m very glad to be the person I am.” Reliability, measured by Cronbach’s alpha of internal consistency, was calculated for each functional status scale and ranged from alpha = .57 for the social satisfaction scale to alpha = .87 for the FS scale (Table 8).

Table 8 - Survey Scales and Corresponding Scores Obtained (n = 119)

Survey scale	No. of items	Mean score (SD)	Possible range of score	Cronbach's alpha
Food satisfaction	16	66.10 (11.52)	16 - 80	.87
Perceived food autonomy	11	38.51 (8.76)	11 - 55	.71
Physical function (ADL)	6	20.97 (2.47)	6 - 24	.71
Physical function (IADL)	5	15.84 (3.37)	5 - 20	.65
Psychological function (Self-esteem)	7	30.39 (4.94)	7 - 35	.73
Social function <sup>a</sup>	6	.05 (3.37)	(-8)to(7)	.57

<sup>a</sup>Data for social function were standardized prior to calculating the total score.

Health variables included a statement about describing general health rated on a 5-point scale (1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor, 6 = don't know), which was recoded prior to analysis so that a higher value reflects better general health. The degree of perceived daily pain measured on a continuum of 0 (no pain) to 10 (considerable pain), and the number of daily medications. Two additional questions were whether or not a therapeutic diet was required, and whether or not some type of dentures were used. The final section of the survey included demographic items. Interviews lasted from 15 to 45 minutes with residents who required assistance needing more time.

## DATA ANALYSIS

Descriptive statistics of means, standard deviations, and percentages were calculated using SPSS (SPSS for Windows ver.11.5.0, 2002). Items in all measurement scales in the survey were recoded, as needed, prior to analysis so that

all responses would have the same direction: a higher response value represented a more positive response and a lower response value represented a less positive response. Total scores were computed for each scale: PFA, FS, ADL, IADL, social function, and self-esteem. The social function status items' response categories included both 5-point and 4-point Likert scales, therefore, responses for this section were standardized by calculating a z-score for each item prior to calculating a total social function score. A statistician was consulted in the analysis design and interpretations.

Bivariate correlations among pairs of variables were measured by computing Spearman's coefficient to test for the strength and direction of the relationship between pairs of variables. Description of ratings on individual items in the FS scale were reported after collapsing into one the "agree" and "somewhat agree" response categories. Similarly the "disagree" and "somewhat disagree" categories were collapsed into one category.

To test for the influence of the independent variables on food satisfaction, a multiple linear regression analysis (Myers, 1989) was conducted with food satisfaction as the dependent variable. The independent variables were the perceived food autonomy score, functional status (physical, social, psychological) scores, health (perceived daily pain, daily medication used, dentures use, and whether or not a therapeutic diet was required), and demographic characteristics. General health perception was not included in the regression analysis because the health variable of perceived daily pain was considered sufficient.

## RESULTS

### Subject characteristics

One hundred and nineteen AL residents, ages ranging from 67 - 96 years and with a mean of  $83 \pm 9$  years, participated in this study. The majority (85%) were females. Sixty-three percent of all residents were widowed. The mean length of residency was  $21 \pm 17$  months. Sixty-five percent had a high school education and 54% had an education above high school indicating a relatively high education level for this age group.

### Bivariate correlations

Food satisfaction scores had a positive moderate correlation with PFA scores ( $r = .623, p < .01$ ), and had a low correlation with perceived general health and age ( $r = .296, .257, p < .01$  respectively) indicating that older residents who perceived themselves having better general health were more satisfied with food in AL. A negative moderate to low correlation was found between the food satisfaction score and perceived daily pain ( $r = -.319, p < .01$ ) indicating that residents who experienced greater physical pain on a daily basis were less satisfied with their food in AL (Table 9).

Table 9 - Spearman's Correlations of food satisfaction scores and the explanatory variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1-Food Satisfaction	1.000												
2-PFA	.623**	1.000											
3-ADL	.044	-.045	1.000										
4-IADL	-.027	-.076	.643**	1.000									
5-Social function	.160	.295**	.288**	.178	1.000								
6-Self-esteem	.071	-.054	.089	.011	.042	1.000							
7-General health	.296**	.066	.255**	.219*	.023	-.006	1.000						
8-Pain	-.319**	-.112	-.196*	-.171	.113	-.102	-.398**	1.000					
9-Daily medication	-.156	-.050	-.146	-.139	.071	.006	-.304**	.216*	1.000				
10-Dentures use	.116	-.053	-.071	.064	-.016	-.142	.030	.070	-.129	1.000			
11-Therapeutic diet	.034	.139	-.097	-.150	.016	.055	-.219*	-.052	.169	.121	1.000		
12-Age	.257**	.156	.095	-.098	.225*	.126	.053	-.043	-.015	-.034	-.018	1.000	
13-Education	-.174	-.144	-.007	-.040	-.118	.077	-.046	.149	.116	-.133	-.050	-.124	1.000

\*\* p < 0.01

\* p < 0.05

### Food satisfaction (FA): Individual item ratings

Residents who agreed or somewhat agreed with food satisfaction scale statements represented positive views about food in the AL facility (Table 10). Eighty-five percent to 99% of the residents provided positive responses to statements related to aspects of dining room atmosphere and the dining service staff. These items were: "The people who serve the food are nice and courteous," "I feel I have plenty to eat at meals," "I enjoy having my meals in the dining room," "I like the company at my table at mealtime," and "I like the times at which meals are served." A somewhat smaller proportion (71%-75%) of the residents agreed or somewhat agreed with positive statements about the quality of the served foods. These items were: "The foods served at this residence look appealing," "I like the quality of most foods in the served meals," and "Hot menu items are hot enough for me." An even smaller proportion (59%-68%) of residents agreed with positive statements related to other food quality statements. These statements were: "I like the taste of most of the foods," "The meals and snacks provide me with all my nutrition needs at this stage of my life," "I have food choices that I enjoy for meals and snacks," "The printed menu is the same as the actual foods served at meals," and "I like the way foods are prepared."

Table 10 - Percentage of Responses on Food Satisfaction Scale Items

FS scale statements	Disagree and Somewhat disagree (%)	Neither agree nor Disagree (%)	Agree and Somewhat agree (%)
The people who serve the food here are nice and courteous	0	1	99
I feel that I have plenty to eat	6	3	91
I enjoy having my meals in the dining room	6	4	90
I like the company at my table at mealtime	5	8	87
I feel, in general, the staff is trying to serve meals that please residents	8	5	87
I like the times at which meals are served	13	2	85
I usually have a good appetite during meals	12	7	81
The foods served at this residence look appealing	12	13	75
I look forward to meal times	19	8	73
I like the quality of most foods in the served meals	23	5	72
Hot menu items are hot enough for me	27	2	71
I like the taste of most of the foods	26	6	68
The meals and snacks provide me with all my nutrition needs at this stage of my life	26	7	67
I have food choices that I enjoy for meals and snacks	24	11	65
The printed menu is the same as the actual foods served at meals	19	8	63
I like the way foods are prepared	29	12	59

## Functional status and health

### Physical function

Thirty-four percent of the residents in this study indicated bathing to be the ADL they needed most assistance with, followed by toileting (12%). Ten percent needed significant help with walking. The overwhelming majority (98%) reported needing no help in eating (Figure 1-A). The IADLs that the residents needed



significant help with were shopping (42%), traveling short distances from the facility (28%), managing finances (27%), and performing household chores inside the apartment (23%).

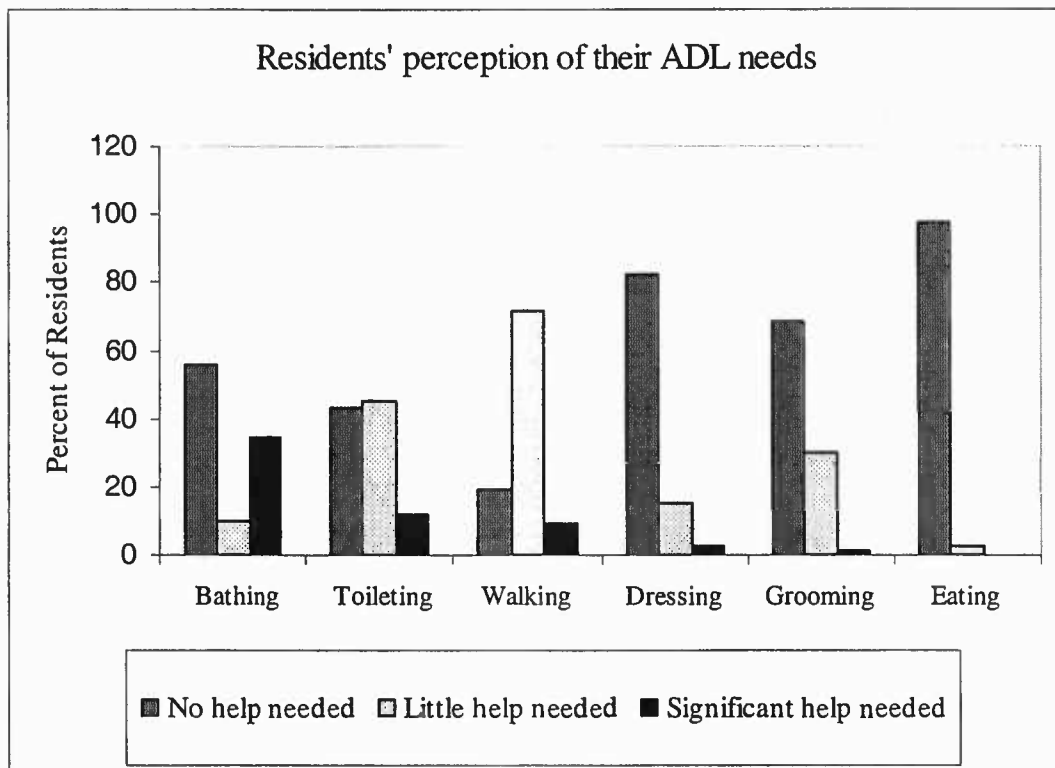


Figure 1 - Residents' Perceived ADL Needs

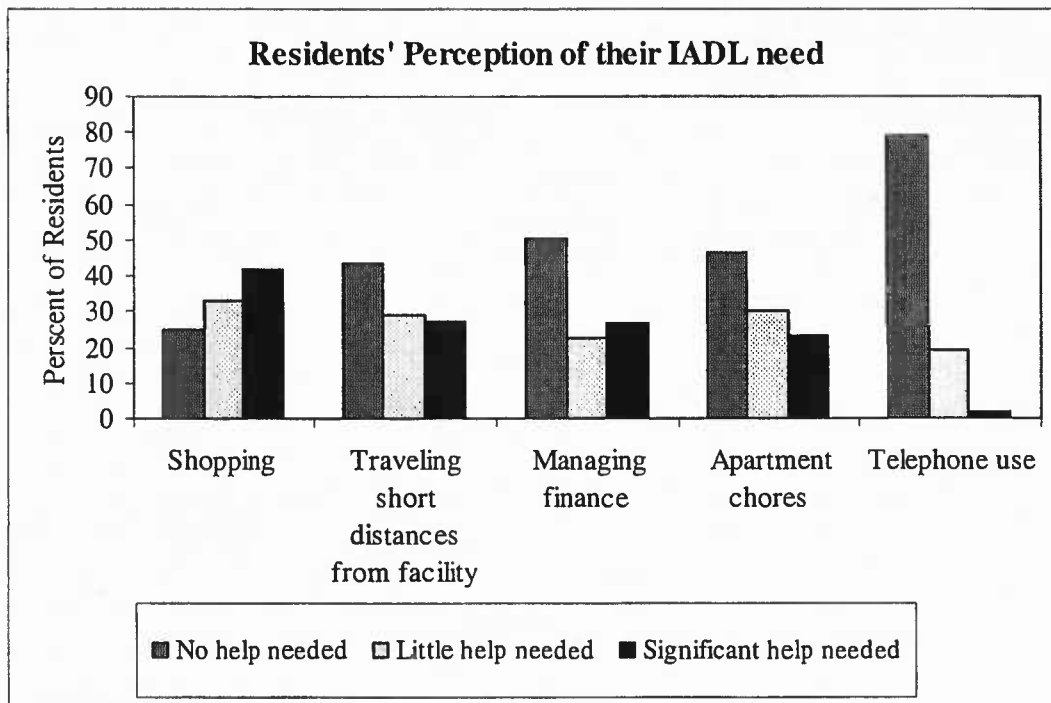


Figure 2 - Residents' Perceived IADL Needs

### Social and psychological functions

The social function standardized scores were normally distributed with a mean of .05 and SD = 3.37 and a possible score range from -8 to 7 points.

Psychological function, which was represented by scores on a 7-item self-esteem scale, was distributed towards higher self-esteem scores (mean = 30, SD = 5, possible range 7-35 points) (Table 8) indicating that the residents had a high degree of self-esteem.

## Health status

The mean number of daily prescription medications used by this sample was  $6 \pm 4$ . Seventy-one percent used some type of dentures. Only 22% of residents required a therapeutic diet, half of which were diabetic diets. Residents' perceptions of their daily pain averaged a rating of  $4 \pm 3$  on a scale from 0 to 10.

Residents' perception of general health was positively correlated with food satisfaction ( $r = .298, p < .01$ ), ADL score of physical function ( $r = .263, p < .01$ ), and IADL scores ( $r = .209, p < .05$ ). Also it was negatively correlated with the number of daily prescription medications used, perception of daily pain ( $r = -.302, -.403, p < .01$ ), and requiring a therapeutic diet ( $r = -.214, p < .05$ ) (Table 9), indicating that residents who perceived themselves in better general health, were more physically functional, and those who experienced less daily pain were more satisfied with their food in their AL facility.

## Predictors of food satisfaction

A multiple linear regression analysis was conducted with the food satisfaction score as the dependent variable. The independent variables were the perceived food autonomy score, physical function scores (ADL and IADL), the social function score, the self-esteem score, and health variables. Also included as independent variables are health measures of perceived pain, number of daily prescription medications, denture use, use of therapeutic diet, and demographic variables of age and education level. The full regression model explored all

possible two-way interaction effects between all possible pairs of independent variables. Using a backward elimination procedure, a reduced model was reached. The final reduced regression model explained 48% of the variance in food satisfaction, 37% from perceived food autonomy and the remaining 11% from a combination of perceived pain and a two-way interaction effect of the ADL score and denture status. Perceived food autonomy was positively associated with food satisfaction, whereas perceived pain was negatively associated with food satisfaction. Table 11 shows the regression coefficients.

A one unit increase in the score of perceived food autonomy was associated with a .814 unit increase in the score of food satisfaction after accounting for physical, social, and psychological functions, perceived pain, special diet status, number of daily prescribed medications, length of residency, denture status, age, and level of education.

Wearing dentures and being able to perform ADLs seemed to be mediating factors in predicting food satisfaction as follows: For residents who didn't wear dentures, food satisfaction and ADL scores were inversely related, where a one unit increase in ADL score was associated with a .79 unit decrease in the food satisfaction score. On the other hand, food satisfaction was positively related to the ADL score for residents who did wear some type of dentures, where an increase of one unit in ADL score was associated with an increase of .662 units in the food satisfaction score.

Table 11 - Perceived Food Autonomy, ADL, Pain, Dentures, and Interaction Effects between ADL and Dentures as Predictors of Food Satisfaction (n=119)

	Unstandardized Coefficient		t	Sig.
	B	Std. Error		
(Constant)	52.645	11.4565	4.592	.000
PFA score	.814	.089	9.147	.000
ADL score	-.782	.501	-1.559	.122
Perceived pain level	-1.118	.279	-4.005	.000
Presence of dentures	-26.613	13.485	-1.974	.051
ADL* Presence of dentures	1.443	.639	2.258	.026

If Presence of dentures = No:

$$FS = 52.904 + 0.814 (\text{PFA score}) - 0.793 (\text{ADL score}) - 1.116 (\text{pain})$$

If Presence of dentures = Yes:

$$FS = 26.026 + 0.814 (\text{PFA score}) + 0.66 (\text{ADL score}) - 1.116 (\text{pain})$$

## DISCUSSION

This study is unique in showing that perceived food autonomy is positively associated with food satisfaction in cognitively alert residents in licensed AL facilities. Multiple regressions with backward elimination, including interaction effects between all possible pairs of variables, indicated that perceived food autonomy was a strong and significant predictor of food satisfaction, explaining 37% of the variance in the food satisfaction scores. And to a lesser but significant

degree, residents' perceptions of daily pain accounted for 7% of the explained variance in food satisfaction. The joint effect of the ADL score and denture status had a minor, but significant, contribution to the prediction of food satisfaction. All together, the above variables explained 48% of the variance in the residents' food satisfaction scores. Pain perception and denture status were considered measures of overall health in this study. This study complements previous research in providing a specific instrument for measuring satisfaction related to food in AL. Food service has been consistently recognized as an important dimension of overall satisfaction with AL (ALFA, 1999; Gesell, 2001; Buelow & Fee, 2000; Sikorska-Simmons, 2001; Wylde, 2000; Moran et al., 2002).

Research in the AL setting has also suggested that residents' sense of autonomy, in terms of choice and decision-making, contributes to their quality of life (Ball et al., 2000; Mitchell & Kemp, 2000; Cummings, 2002). In long-term care, residents' satisfaction with their living environment was suggested to be an outcome measure of the quality of care, which in turn is an indicator of quality of life. In this study, autonomy and satisfaction were defined in terms of food, and the results suggest that an adequate measure of food autonomy could help predict satisfaction with food, and could be an indicator of quality of life for AL residents as well.

In terms of specific elements of food satisfaction, residents were most satisfied with the dining room staff, the dining room environment, and the amount of food served, and they were least satisfied with the availability of food choices.

These results are consistent with findings from a national sample of AL residents that considered satisfaction with food to be a domain of overall satisfaction (ALFA, 1999). Only two-thirds of the residents gave positive perceptions to an item about the printed menu matching the actual foods served at meals. Being consistent in providing foods that have been promised is an element of respect when planning food programs for the elderly (Staton, 1973) and is an important factor that enhances the dining experience in long-term care (Zgola & Bordillon, 2001). Frequent menu substitutions, especially those affecting particular menu items residents have looked forward to having, might lower their expectations about foods in general. This may result in reduced food intake.

The residents' denture status and their perceived ADL needs, combined, had a minor but significant contribution in predicting their food satisfaction. Food satisfaction scores for residents who did not wear dentures increased as their ADL scores (needed less help with ADL) increased. Conversely, for residents who wore some type of dentures, their food satisfaction scores decreased as their physical function scores increased. It was not known, however, whether residents who reported not wearing some type of dentures had naturally functional teeth or not. Assuming they have functionally adequate natural dental status, a possible explanation may be that residents who don't wear dentures felt they were at an advantage of having better health; therefore they were more vocal about specific concerns with their meals.

An alternative explanation might be that if residents don't have an adequately functional natural dental status, they might need dentures to enhance food enjoyment. Food enjoyment has been shown as significantly related to dental status in community-living elderly (Mersel, Babayof, Berkey, and Mann, 1995) as well as nursing home residents (Lamy, Mojon, Kalykakis, Legrand, and Butz-Jorgensen, 1999). Adequate dental status was also suggested to positively influence older adults' quality of life (Apollonio, Carabellese, Frattola, and Trabucchi, 1997; Vailas et al., 1998).

Moreover, maintenance of ability to perform ADLs has been associated with adequate nutrient/dietary intake (Ahmed, 1992; Horwath, 1991; Shardey 2002). Functional limitations (impairment in performing ADL) and decreased food enjoyment were found to be negatively associated with quality of life in community-living elderly who are participants in the federal meal program (Vailas et al. 1998). This finding could suggest to the facility management that providing high quality care with ADLs and monitoring residents' oral health could increase satisfaction with food.

Other researchers have found that self-reported health and eating problems were associated with and predicted risk for hospitalization in community-living elderly. These older adults were more likely to require a therapeutic diet and had more ADL functional limitations (Jensen, Kita, Fish, Heydt, and Frey, 1997).

The PFA scale and the FS scale are credible measures of perceived food autonomy and food satisfaction. The validity and reliability of the PFA scale has



been established and reported in an earlier study (Jambi, 2004). The food satisfaction scale was also found to be highly reliable (Cronbach's alpha = .81). This is believed to be the first report of a connection between perceived food autonomy and food satisfaction in the AL setting.

The noticeable variations in response rate between facilities (Table 6) might have introduced a bias in resident selection. Due to facility restrictions related to concerns about protecting residents' privacy, a random sample was not attainable. Recruitment of subjects from AL settings has been recognized as one of the challenges of research in this area (Namazi & Chafetz, 2001, Gesell, 2001).

The relationship between perceived food autonomy and food satisfaction is useful for evaluating and improving the dining experience for AL residents. Residents' perceived food autonomy and satisfaction with food should be periodically measured due to the typical decline in overall health and functional status during the period of residence in AL. Validation of instruments is an ongoing process (Nunnally & Bernstein, 1994; Reis, 2000), therefore, validity and reliability of the PFA and FS scales should be established each time either of these instruments is used with a different resident sample. Inference to a larger population can't be ascertained due to a non-representative sample. Therefore, generalization of findings from this study should be made with caution.

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## CHAPTER V - CONCLUSIONS

### CONCLUSIONS

The purpose of this exploratory study was to develop an instrument to measure perceived food autonomy (PFA) and to investigate its influence on food satisfaction, while controlling for functional (physical, social, and psychological) status, overall health, and demographic characteristics of residents in licensed Assisted Living (AL) facilities. The study was designed to achieve four specific objectives: 1) to define a theoretical framework for food autonomy among residents in Assisted Living (AL) settings and to develop an instrument accordingly; 2) to evaluate the content and construct validity of the PFA scale; 3) to evaluate the reliability of the PFA scale; and 4) to investigate the effect of perceived food autonomy, functional (physical, social and psychological) status, and overall health on food satisfaction in the AL setting.

#### Objective 1- Food autonomy theoretical framework and scale item generation

Food autonomy is a new concept originated during this study and it has been defined as the ability to freely choose and/or make decisions, and to act and be responsible for those decisions, about all issues, situations, and activities related to food. Three dimensions were proposed for food autonomy: 1) Decisional, defined as the freedom and ability to make decisions regarding food in the absence of restraint or coercion; 2) Executional, defined as the ability of residents to initiate

actions, as needed, regarding food, such as independent meal preparation or food acquisition; and 3) Delegational, defined as the perception of instructing and authorizing AL facility personnel to make decisions and act on behalf of residents about food issues. The definitions of food autonomy and its dimensions were based on theoretical frameworks of personal autonomy in long-term care, which were mostly developed for the nursing home settings.

Autonomy in AL has been referred to in terms of choice and control, mainly implemented through provision of service options that enable residents to exercise greater control over their lives (OAR 411-056-0005, 2000). Residents are given the opportunity to voice their concerns during a periodic (usually monthly) residents' council meeting. Additionally, residents may be involved to a certain extent in policy decision-making (Zimmerman et al., 2001), such as developing the menu. In achieving the above choice, control, and decision-making measures, an AL facility would be considered to be promoting residents' autonomy. Even though autonomy is a core value in the AL philosophy of care, it has not been defined in the context of AL.

Licensed AL facilities are required to provide three nutritious daily meals plus snacks seven days a week (OAR 411-056-0015, 2000). Meals, designed to meet residents' general nutrition needs, are served in a main dining area at a fixed schedule and served mostly by the caregiving staff. The previous description could indicate that residents have little control over elements of food service such as food selections at meals or their dining experience.



### Objective 2: Content validity and construct validity of PFA scale

The first version of the PFA scale was tested for content validity by a panel of five experts to confirm whether the items in the scale represented the construct of food autonomy as defined for this study, and including the three proposed dimensions. Open-ended questions were added in the pilot study to test for the possible presence of other dimensions of food autonomy. Qualitative analysis of responses from the open-ended questions and general residents' comments helped in modifying the wordings to make items more clearly understood. Four additional items were added to the 12-item scale to better represent two of the dimensions, Executional and Delegational. No additional dimensions were detected. Expert panel feedback and the pilot test's findings resulted in a 16-item PFA scale to be tested for construct validity.

To establish construct validity, two separate factor analyses were conducted. The first factor analysis included all 16 items in the PFA scale. Three out of five items that were intended for the Executional dimension loaded (loadings  $\geq .5$ ) discriminately on one factor, while eight items loaded on a second factor that combined items intended for both Decisional and Delegational autonomy. This factor was temporarily called the combination factor. The remaining five items were dropped for lack of sufficient loadings and for cross loading on more than one factor.

The second factor analysis with varimax rotation included only the eight items in the combination factor. Two factors emerged that were interpretable according to the theoretical framework. The final validated scale consisted of 11 items within the three underlying dimensions, and the arrangement of the intended items for the different dimensions was slightly modified. This is considered a natural process in the early stages of instrument development (Nunnally & Bernstein, 1994).

Factor analysis results suggested that two of the proposed dimensions for food autonomy, Decisional and Delegational, were intertwined in meaning, whereas the concept of Executional autonomy was distinctly independent. Further testing may find that only two dimensions, Decisional and Executional, are relevant for food autonomy in the AL setting. In Collopy's autonomy conceptualization (Collopy, 1988), these two types of autonomy were part of one polarity, in which Executional autonomy was contingent upon Decisional autonomy. In other words, in long-term care, residents must demonstrate Decisional autonomy in order to have Executional autonomy. However, providers and policymakers must make a distinction between the two types of autonomy to prevent the risk of disregarding a resident's decisional autonomy whenever his or her Executional autonomy is diminished due to increasing frailty (Collopy, 1988). Nevertheless, factor analysis results established construct validity for the three proposed dimensions and for the final 11-item PFA scale.

### Objective 3: PFA scale reliability

Reliability of the PFA scale was assessed using Cronbach's alpha coefficient of internal consistency for the entire scale as well as the subscales for each of the three underlying dimensions. A reliability alpha coefficient of .7 was considered sufficient, given the length of the scale and the exploratory nature of the study (Lester & Bishop, 2000; 2000; Nunnally & Bernstein, 1994). The initial reliability test was conducted for the 16-item scale and the intended subscales for each dimension. Cronbach's alpha = .63 for the entire scale. Cronbach's alpha for the four items intended for Decisional autonomy dimension was .39; for the six items intended for Delegational autonomy dimension, .47; and for the six items intended for Executional autonomy, .39. Low reliability was evident in these results.

A second reliability test was conducted for the final 11-item PFA scale, which resulted from factor analysis and after revising the dimensions. Cronbach's alpha for the entire 11-item scale was .71; for the Decisional subscale was .79, for the Executional subscale .44; and for the revised Delegational subscale it was .66. Since the reliability on the Executional and Delegational subscales were low (Cronbach's alpha > .7), results only from scoring the entire PFA scale (not from individual dimensions) should be used until further evidence for construct validity has been provided with other samples of AL residents.

Objective 4: Effect of perceived food autonomy, functional (physical, social and psychological) status, and overall health on food satisfaction in the AL setting.

Existing instruments that were designed to measure satisfaction with AL have included several service areas in addition to administrative factors in order to yield an overall satisfaction measure of AL (Sikorska-Simmons, 2001; Chou et al., 2001, Gesell, 2001; ALFA, 1999). These existing instruments were practical in identifying problem areas that needed more attention so that high quality services that satisfied residents and their families were maintained. Food service and dining experience were consistently identified as areas needing attention (ALFA, 1999; Buelow & Fee 2000).

Items for a food satisfaction scale were extracted from these existing overall satisfaction instruments. A 16-item food satisfaction (FS) scale was designed, pilot tested for clarity, and evaluated for reliability using Cronbach's coefficient alpha of internal consistency. The FS scale demonstrated high reliability at  $\alpha = .87$ .

Multiple regression with backward elimination revealed that perceived food autonomy is an important predictor of food satisfaction. Perceived pain was the second most important predictor, as was, to a lesser extent, the combined effect of the ability to perform ADLs and whether or not some type of dentures were used.

In this study the survey statement about dentures was "I wear some type of dentures" with a yes or no answer option. For residents ( $n=34/ 28\%$ ) that responded no to this statement, it was not known if they had naturally functioning teeth or edentulous. It has been demonstrated that long-term care residents with complete

dentures enjoyed their food more and had better nutritional status when compared with edentulous residents or those with partial dentures (Lamy 1999, Marshall, Warren, Hand, Xie, & Stumbo, 2002).

Residents entering AL settings are judged based on their ADL needs and services required to maintain their health and safety. Implementation of facility regulations to ensure health and safety may conflict with residents' personal preferences, especially in the face of naturally deteriorating health. Expansion of consumer choices and autonomy as well as promoting their health and safety are important aspects of residents' well-being and quality of life and require a delicate balance.

It is essential for AL providers and policymakers to have information about residents' perceptions of the quality of received services in order to maintain a high quality of life for those residents. Typical deterioration of physical functions in residents should motivate AL providers to maximize residents' satisfaction with vital everyday matters such as food. Since little can be done to reverse chronic health conditions, the focus should be shifted to social and psychological aspects of well-being to ensure that residents receive optimum satisfaction and have the highest quality of life possible.

## IMPLICATIONS

This study addresses the great need for valid and reliable instruments to measure quality outcomes in AL settings (ALQC, 1999). It also provides starting

grounds for autonomy research, which could be essential to ensure service quality that is compatible with the AL philosophy of care. Measuring residents' perceptions increases the sensitivity of AL providers to human needs and shifts the focus from concentrating on health outcomes. Use of the PFA scale developed in this study indicated that perceived food autonomy is an important predictor of food satisfaction for cognitively alert residents in AL facilities in Oregon. Providers and policymakers of AL could use this information to monitor the residents' satisfaction with the vital area of food service, which could contribute to a resident's decision regarding relocation. The development of the relatively new AL industry is still taking shape, and providers are challenged to provide quality services to attract potential residents and their families in a competitive marketplace. Applying the simple PFA scale periodically can help in directing quality improvement efforts.

## RECOMMENDATIONS FOR FUTURE RESEARCH

The 11-item PFA scale could be applied to a larger population of AL residents to further confirm its reliability and validity to use as a standard tool to monitor nutritional well-being in AL settings. An alternative version could be devised to apply to the estimated 52 % of AL residents with some type of cognitive impairment (ALFA, 2001).

Aspects of autonomy related to service areas other than food may be explored following a similar study design to produce valid and reliable instruments

of measurement in AL. An example would be measuring residents' perceptions of ADL autonomy, which could provide information on how to promote and maintain greater physical function that supports the goal of aging in place.

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## APPENDICES

## Appendix A – Instructions for Authors; The Gerontologist (2002)

<http://www.geron.org/journals/tginstructions.htm>

The Gerontologist  
General Information and Instructions to Authors

(Revised July 2002)

*The Gerontologist* is a bimonthly journal of The Gerontological Society of America that provides a multidisciplinary perspective on human aging through the publication of research and analysis in gerontology, including social policy, program development, and service delivery. It reflects and informs the broad community of disciplines and professions involved in understanding the aging process and providing service to older people. Articles, including those in applied research, should report concepts and research findings, with implications for policy or practice. Contributions from social and psychological sciences, biomedical and health sciences, political science and public policy, economics, education, law, and the humanities are welcome. Brief descriptions of innovative practices and programs are appropriate in the Practice Concepts section.

### **1. Submission and Acceptance of Manuscripts**

All manuscripts (except those for Practice Concepts) should be addressed to Linda S. Noelker, Editor-in-Chief, The Gerontologist, Benjamin Rose, 850 Euclid Avenue, Suite 1100, Cleveland, OH 44114-3301. Phone: (216) 621-7201. Email submissions are strongly encouraged and should be sent to [tg@benrose.org](mailto:tg@benrose.org). If submitting paper manuscripts, authors are required to include the article on disk (see 2b).

*Practice Concepts manuscripts should be sent directly to the Practice Concepts editor (see below).*

Submission of a manuscript to The Gerontologist implies that it has not been published or is not under consideration elsewhere. If accepted for this journal, it is not to be published elsewhere without permission. As a further condition of publication, the corresponding author will be responsible, where appropriate, for certifying that permission has been received to use copyrighted instruments or software employed in the research and that human or animal subjects approval has been obtained. In the case of co-authored manuscripts, the corresponding author will also be responsible for submitting a letter, signed by all authors, indicating that they actively participated in the collaborative work leading to the publication and

agree to be listed as an author on the paper. These assurances will be requested at the time a paper has been formally accepted for publication.

The journal uses blind peer review, with the Editor making the final decision. Authors are responsible for sending the complete version of the article and a second version in which all identifying information has been removed (e.g., title page, acknowledgements, sampling locations, citations of authors' previous work). This applies to both paper and e-mail submissions.

## 2. Manuscript Preparation

- Preparing the manuscript. Format pages double-spaced, including references and tables, on 8-1/2" x 11" white paper using 1" margins. Number pages consecutively for the abstract, text and references.
- Submitting the manuscript. The manuscript may be submitted on paper with an accompanying disk or via e-mail. If the manuscript is submitted in printed form, a total of four (4) copies must be submitted, three (3) blinded (see 2d; this applies to submissions to all sections of *The Gerontologist*). Manuscript files supplied on disk or via e-mail attachment must be compatible with the programs of the Microsoft Office suite. Please specify the software used and the version. We encourage e-mail submissions.
- Title page. Include the title of the manuscript and the full name and (with footnotes) affiliation, address, telephone number, fax number, and e-mail address of each author.
- Author anonymity. The title page that identifies authors and any other identifying reference to the authors (e.g., acknowledgements, funding source, sampling locations, citations of authors' work) should be omitted from three (3) of the four (4) copies when a paper manuscript is submitted. Include the complete and blinded versions on the disk that accompanies the manuscript. Manuscripts submitted via e-mail attachment should include both a complete version and a blinded version to send to reviewers.
- Abstract and key words. On a separate page, each article should include a brief structured abstract (approx. 150 words) typed double-spaced. The abstract *must* have the headings *Purpose* of the study, *Design* and *Methods*, *Results*, and *Implications*. Below the abstract, author should supply 3-5 key words that are not in the title.
- Type acknowledgments and complete contact information for the corresponding author on a separate page and place before the abstract.
- Text references. Refer to the *Publication Manual of the American Psychological Association* (5th ed.) for style. References in text are shown by citing in parentheses the author's surname and the year of publication. Example: ". . . a recent study (Jones, 1987) has shown. . . ." If a reference has 2 authors, the citation includes the surnames of both authors each time



the citation appears in the text. When a reference has more than 2 authors and fewer than 6 authors, cite all authors the first time the reference occurs. In subsequent citations, and for all citations having 6 or more authors, include only the surname of the first author followed by "et al." Multiple references cited at the same point in the text are in alphabetical order by author's surname.

- Reference list. Type double-spaced and arrange alphabetically by author's surname; do not number. The reference list includes only references cited in the text and in most cases should not exceed 50 entries. Do not include references to private communications or submitted work. Consult the *Publication Manual of the American Psychological Association* (5th ed.) for correct form.

Examples:

Journals: Binstock, R. H. (1983). The aged as scapegoat. *The Gerontologist*, 23, 136-143.

Books: Quadagno, J. S. (1982). *Aging in early industrial societies*. New York: Academic Press.

- Tables. Prepare tables on separate pages, double-spaced; number consecutively with Arabic numbers and supply a brief title for each. Place table footnotes immediately below the table, using superscript letters (a, b, c) as reference marks. Asterisks are used only for probability levels of tests of significance (\*p < .05). Indicate preferred placement for each table in the text.
- Illustrations. Photographs must be black-and-white. Figures must be professionally lettered in a sans-serif type (e.g., Universe or Helvetica) or from a laser printer or computer. Typewritten or dot matrix lettering is not acceptable. Do not send original illustrations with a manuscript submitted for review; include a photocopy of each with each copy of the manuscript. Place figure legends double-spaced on a separate page. In the case of submissions by file, submit graphics as files in a suitable common graphic format. Upon acceptance of article, originals must be submitted.

### 3. Types of Manuscripts Considered for Publication

- Research Articles. Most articles present the results of original research. These manuscripts should be no longer than 22 pages, double-spaced, for the abstract, text and references. The text is usually divided into sections with the headings: Introduction, Design and Methods, Results, and Discussion. Subheads may also be needed to clarify content.
- The Forum. Timely scholarly review articles or well-documented arguments presenting a viewpoint on a topical issue are published in this section. Total length should be no more than 18 pages.

- Practice Concepts. Practice Concepts are manuscripts of no more than 10 pages that critically review the state-of-the-art in a major area of professional practice or that describe an innovative practice amenable to replication. Authors reporting on practice innovations should clearly specify what is unique about the practice, why it is theoretically expected to work, its essential features, and the outcomes it is believed to have. *Submissions should be sent directly to David E. Biegel, PhD, MSASS/CWRU, 11235 Bellflower Road, Cleveland, OH 44106. E-mail submissions are strongly encouraged and should be sent to [deb@po.cwru.edu](mailto:deb@po.cwru.edu). If submitting paper manuscripts, authors are required to include the article on disk (see 2b).*
- Letters to the Editor. Letters related to content in recent issues are published as space permits. Letters should be no more than 2-3 double-spaced pages. Letters are subject to review, editing, and rebuttal.
- Book Reviews. Book reviews are published in essay form. Reviews are prepared at the request of the Book Review Editor and are not guaranteed acceptance prior to submission. Unsolicited book review essays are not accepted. Books for review should be sent to Robert H. Binstock, PhD, Book Review Editor, Henry R. Luce Professor of Aging, Health and Society, School of Medicine, Case Western Reserve University, Cleveland, OH 44106.
- Audiovisual Reviews. Audiovisual reviews are prepared at the invitation of the Audiovisual Review Editor. Unsolicited reviews are not accepted. Materials for review should be sent to Robert E. Yahnke, PhD, University of Minnesota, 254 Appleby Hall, 128 Pleasant St. S. E., Minneapolis, MN 55455.
- Guest Editorials. Upon occasion, the Editor-in-Chief will invite guest editorials. Unsolicited editorials are not accepted.
- Brief Reports. Reports of research, descriptive data with broad implications, work in progress, or innovations in pedagogy or education are examples of articles published in this section. Manuscripts should be no more than 8 pages double-spaced.
- *The Gerontologist* does not publish obituaries, speeches, poems, announcements of programs, or new product information.

#### **4. Copyright**

Authors of accepted manuscripts must transfer copyright to The Gerontological Society of America. However, authors have unlimited rights to republish their articles in volumes they write or edit and to duplicate the material for their own use in classroom activities. When articles are republished or duplicated under these circumstances, a citation to the previous publication in *The Gerontologist* and approval from the GSA Permissions Editor are required.

Appendix B - Instructions for Authors; Journal of Applied Gerontology  
(2003)

<http://www.sagepub.com/journalManuscript.aspx?pid=1&sc=1>

**Journal of Applied Gerontology**

**Published in Association with:**

Southern Gerontological Society

**Submission Manuscript Guidelines:**

Manuscripts should be submitted in quadruplicate (copies on one side only) to Graham D Rowles, Editor, Journal of Applied Gerontology, Sanders-Brown Center on Ageing, 101 Sanders-Brown Building, University of Kentucky, Lexington, KY 40536-0230, USA. Manuscripts should be typed double-spaced with one-inch margins, with references, tables, and abstracts typed on separate pages, and should not exceed 20 pages. Original figures should be photo-ready for publication. The format outlined in the Publication Manual of the American Psychological Association, Fourth Edition, should be employed and each manuscript may be reviewed anonymously, authors are requested to place no form of identification either upon the body of text or upon the required abstract of 150 words. Manuscripts are accepted for publication subject to stylistic editing; a copy of the edited draft is sent to the author for final review. Submission of a manuscript implies that it has not been published elsewhere, that it is not under consideration by another journal, and, if accepted, that it is not to be published elsewhere without permission.

## Appendix C – Expert Panel Documents

Appendix C.1- Letter to Panelist

Appendix C.2- General Evaluation Sheet

Appendix C.3- Perceived Food Autonomy (PFA) scale: Explanatory version

Appendix C.4- Evaluation Sheet for PFA Scale

Appendix C.5- Evaluation Sheet for Food Satisfaction Questionnaire

## Appendix C.1- Letter to Panelist

Department of Nutrition and Food Management

**OREGON STATE  
UNIVERSITY**Milam Hall 108 • Corvallis, Oregon 97331-5103  
Telephone 503-737-3561

November 20, 2001

Dear [Name],

Thank you for agreeing to participate as an expert panelist for the Perceived Food Autonomy study. The main objective of the study is to validate an instrument, Perceived Food Autonomy Scale (PFA), which I have developed to measure residents' perception of their food autonomy in Assisted Living facilities in Oregon for my dissertation research in the department of Nutrition and Food Management at Oregon State University. The PFA scale was developed based on a validated instrument of perceived enactment of autonomy and food behavior instruments for older adults. The literature on autonomy in long-term care provided the bases for the three hypothesized constructs for PFA scale. Additional instruments that will be used in the study for analytical and descriptive purposes include a food satisfaction questionnaire, a validated life functions scale (physical, social, psychological), and a demographic questionnaire.

I have enclosed a compiled copy of all survey questions in the expected format that will be used during the pilot test in the first phase of the study. I have also enclosed a separate explanatory version of the PFA scale including related conceptual definitions.

Please evaluate PFA scale items as to whether they reflect the hypothesized constructs as defined. Also please evaluate all items in the compiled instrument for their relevance to cognitively alert older adults residing in AL and note any ambiguous wording. You may write your comments on the enclosed Evaluation Sheets. Furthermore, please provide feedback regarding the format of all items, appropriateness of answer categories, and relevance as to the ability of older adults to complete these forms. Your comments will contribute to the face and content

validity of the compiled instrument and particularly to the PFA scale and food satisfaction sections (section A, B). Please note that I have enclosed in the attached General Evaluation Sheet a checklist that outlines the instruction to assist you.

I will be contacting you by phone in about one week to answer any questions you may have about instruments or instructions. Please feel free to contact me at any time by phone or E-mail (contact information below) so I can answer any questions you may have. You may also contact my major advisor Dr. Connie Georgiou at the phones below.

I would appreciate very much if you would return your comments and suggestions to me in the enclosed, pre-addressed, stamped envelope by November 30, 2001. Thank you in advance for assisting me with this phase of my research.

Sincerely,

Hanan A. Jambi, PhD candidate

Hanan Jambi  
Research Investigator  
Nutrition and Food Management  
Oregon State University  
Phone: (541) 752-1199 or (541) 908-9990  
E-mail: [jambih@onid.orst.edu](mailto:jambih@onid.orst.edu)

Dr. Connie Georgiou, Ph.D., R.D.  
Research Supervisor  
Associate Professor  
Nutrition and Food Management  
Oregon State University  
Phone: (541) 737-0965

## Appendix C.2: General Evaluation Sheet

**Instructions checklist**

1. Please use the Evaluation Sheet for PFA scale to evaluate items in the PFA scale (Section A) for agreement with the hypothesized constructs as defined for this study. Definitions are included in the separate explanatory version of PFA scale.
2. Please use the Evaluation Sheet for Food Satisfaction to evaluate items in food satisfaction questionnaire (Section B) for relevance to cognitively alert older adults residing in Assisted Living Facilities, note any ambiguous wording.
3. Please evaluate the format of all items in terms of the ability of older adults to complete these forms in the space below.

Thank you very much, your help is invaluable.

---

**General Comments and suggestions (Format, clarity, answer categories, ...)**

### Appendix C.3: Perceived Food Autonomy (PFA) scale: Explanatory version

#### **Definitions:**

**Perceived food autonomy:** is defined for this study as the ability to freely choose and/or make a decision, and to act and be responsible for those decisions about all issues, situations, and activities related to food.

The underlying constructs for perceived food autonomy are the following:

**Decisional autonomy (hypothesized dimension #1):** is the freedom and ability to make decisions, regarding food, in the absence of restraint or coercion.

**Executorial autonomy (hypothesized dimension #2):** follows decisional autonomy and it is the ability to implement, dependently or independently, and take responsibility of the decisions made.

**Delegational Autonomy (hypothesized dimension #3):** the perception of being dependent, willingly or unwillingly, on others regarding food. Dependence on others is hypothesized as limiting food autonomy.

#### **Answer categories:**

1= Strongly agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly disagree

#### **Questions/ statements for Decisional autonomy**

- 1- I have a wide variety of food choices to choose from for my meals here
- 2- I decide what is the best food for me to have at this stage of my life
- 3- I participate in planning the menu here
- 4- I feel that I deserve to eat the food I like

#### **Questions/ statements for Executorial autonomy**

- 5- I am persistent in asking to have my food the way I like it
- 6- There are enough people on the staff here to help me have my food the way I like
- 7- My present health allows me to eat what I want
- 8- I am in control of what I eat and drink at my meals

#### **Questions/ statements for Dependence on others**

- 9- Other people decide what I will eat when I don't want them to
- 10- At this stage of my life, other people take care of what I eat
- 11- Other people help me with food even when I would rather they didn't
- 12- Other people serve me what they think is best for me rather than the food I think is best



## Appendix C.4: Evaluation Sheet for PFA Scale

Item #	Agree with construct? (Yes/No)	Relevance to older adults?	Wording?	Comments/Suggestions
A1				
A2				
A3				
A4				
A5				
A6				
A7				
A8				
A9				
A10				
A11				
A12				

## Appendix C.5- Evaluation Sheet for Food Satisfaction Questionnaire

Item #	Relevance to older adults?	Wording?	Comments/Suggestions
B1			
B2			
B3			
B4			
B5			
B6			
B7			
B8			
B9			
B10			
B11			
B12			

## Appendix D – Pilot Stage Documents

Appendix D.1- Phone Call Script to Invite Facility in the Pilot Study

Appendix D.2- Facility Recruitment Letter- Pilot Stage

Appendix D.3- Resident Recruitment Letter- Pilot Stage

Appendix D.4- Informed Consent form for Resident Interview- Pilot Stage

Appendix D.5- IRB Approval Form- Pilot Stage

### Appendix D.1- Phone Call Script to Invite Facility in the Pilot Study

Three licensed Assisted Living Facilities would be chosen in Corvallis and Albany between December 2001 and January 2002. The list of all licensed Assisted Living Facilities in Oregon was obtained from Oregon Senior and Disabled Services Division (SDSD), which include the address of each facility and names of head administrator. The call script would be as follows:

Hello, may I speak to Mr./Ms. [name of administrator]; I am a doctoral graduate student in the department of nutrition and food management at Oregon State University. I am interested in interviewing residents in your facility to ask them about their food behavior. My research interest is to explore residents' perception of how independent they feel about their own food decisions and their food behavior while residing in Assisted Living and I am now in the pilot stage of my research. I would appreciate your help in selecting 15 of your residents who are cognitively alert and willing to participate in a person-to-person interview for about 45 minutes to talk about their perception of their food behaviors. I would like to meet with all potential residents as a group in an initial meeting to explain my study, what is expected from them for participation, and to obtain individual consent for participation. The consent I will be getting during the initial group meeting is absolutely voluntary and the residents may withdraw at any point in the process. At the end of the initial group meeting, an interview time would be set at each resident's convenience to be conducted in his/her apartment. During the interview with each resident, I will be asking open ended questions about his/her personal food behavior and attitudes as well facilitating the completion of a survey about their health functions. The survey is NOT an evaluation of the food served in your facility, but is about how independent residents feel about their own food decisions.

If possible, I would like to interview residents who have been at [name of facility] for varying lengths of time.

Additionally, I am requesting that you provide a suitable location at your facility for the initial group meeting with the potential resident participants.

All information obtained will be treated in a strictly confidential manner and will be used only for the purpose of research. Residents who choose to participate do not have to answer every question and may withdraw entirely at any time if they wish.

Upon your initial approval, I will be sending you a formal request letter as well as a letter addressed to the residents to invite participation.

Thank you.

## Appendix D.2- Facility Recruitment Letter- Pilot Stage

[Date]

[Name of Administrator]

[Name and address of facility]

Dear \_\_\_\_\_,

Thank you for your letter of approval to consider participation in my doctoral research about Perceived Food Autonomy Among Residents in Assisted Living Facilities. The main purpose of the research is to develop and validate an instrument to assess food autonomy from residents' perception. The intent of the research is to explore residents' perceptions regarding issues, situations, and activities related to food while residing in Assisted Living. This project is not an evaluation of the food served in your facility, but is about how independent residents feel about their own food decisions. Food autonomy may contribute to personal autonomy, which may ultimately optimize the residents' well-being and quality of life. I am requesting your cooperation in the following:

- Completing and returning the attached facility background questionnaire.
- Distributing copies of the enclosed letter addressed to the residents to invite their participation. I am interested in interviewing residents who are cognitively alert and have been in the facility for a variety of lengths of times.
- Providing a list 15 residents who would be interested in participating and willing to be interviewed at a time of their convenience in their own apartment.
- Facilitating the researcher to meet with the potential participants, as a group, for the initial meeting only.

All information will be treated in a strictly confidential manner and will be used only for the purpose of research. Residents who choose to participate do not have to answer every question and may withdraw entirely at any time if they wish.

I will be calling you within the next week to further explain the project and answer any questions you may have. Please indicate, in bottom portion of this letter, your decision about participating in the research. And please complete and return the attached questionnaire in the enclosed pre-addressed postage-paid envelope along with your decision note. If you prefer not to participate, please send the questionnaire back blank.

If you have any questions at this point, please call the numbers provided at the end of this letter.

I appreciate very much your time and consideration.

Best regards,

Hanan A. Jambi, PhD candidate

Hanan Jambi  
Research investigator  
Nutrition and Food Management Dept.  
Oregon State University  
Phone (541) 752-1199 or (541) 908-3886  
E-mail: [jambih@onid.orst.edu](mailto:jambih@onid.orst.edu)

Dr. Connie Georgiou, Ph.D., R.D.  
Research supervisor  
Associate professor  
Nutrition and Food Management Dept  
Oregon State University  
Phone: (541) 737-0965.

## Appendix D.3- Resident Recruitment Letter- Pilot Stage

[Date]

[Name and address of facility]

Dear Resident,

I am writing to invite your participation in an interview to learn about your personal opinion regarding food issues while residing in Assisted Living. I am a doctoral graduate student in the Department of Nutrition and Food Management at Oregon State University. My research interest is perceived food independence among residents in Assisted Living. This project is not an evaluation of the food served in the residence, but is about how independent you feel about your own food decisions

I would like your cooperation the following:

- 1- Participate in an introductory group meeting with all the residents that express interest in participation. In this group meeting I would be explaining the nature of the research and answer any questions you may have. I would also request your signature on an Informed Consent Form if you were interested in participation. Finally I would schedule an interview time with each participant to be held at his/her apartment for 30-45 minutes.
- 2- Participate in a one-to-one interview in your apartment or in a common room at your residence where I would be requesting that you complete a food behavior and health survey. Additionally I would be asking general questions about your personal opinions about food while residing in Assisted Living.

Any information you would share will be treated in a strictly confidential manner and will be used only for the purpose of research. You may decline to answer any specific question for any reason or may

withdraw entirely at any time if you wish. I am looking forward to meeting with you.

If you have any questions about the study or specific procedures, please contact Hanan Jambi, Researcher, Department of Nutrition and Food Management at Oregon State University (541) 752-1199 or Dr. Constance Georgiou, Principal Investigator, Department of Nutrition and Food Management at Oregon State University (541) 737-0965. If you have any questions concerning your rights as a research participant, please contact the Institutional Review Board (IRB) coordinator at Oregon State University at (541) 737-3437.

Please check one the following options below and return this letter to the administration

\_\_\_\_\_ **YES**, I agree to participate in this research, which will be done in mid December 2001.

\_\_\_\_\_ **NO**, I prefer not to participate in this research

I appreciate very much your time and consideration.

Thank you,

Hanan A. Jambi, PhD candidate  
Department of Nutrition and Food Management  
Oregon State University



## Appendix D.4- Informed Consent Form for Resident Interview- Pilot Stage

**Research Project:** Food Autonomy Among Residents in Assisted Living

**Principal Investigator:** Dr. Constance Georgiou.

**Student Researcher:** Hanan Jambi

**Purpose of the research project:**

The purpose of this person-to-person interview is to explore residents' perceptions regarding issues, situations, and activities related to food while residing in Assisted Living. Health questions will be added for descriptive and analytical purposes. Perceptions about food are important to nutritional well-being and quality of life for older adults.

**Procedure:**

I understand that as a participant in this interview

- I would share my personal thoughts about my food habits while in living in Assisted Living and contribute my opinion about the quality of my diet in response to questions asked by the researcher.
- I may decline to answer any question for any reason and may withdraw entirely from the interview at any time if I wish.
- I would also complete a survey, which contains questions about my health and demographic profile.
- The interview should not last more than 45 minutes.

**Confidentiality:**

Any information obtained in connection with this study that can be identified with me will be kept strictly confidential and will only be used for the purpose of research. Any written description of this project will refer to me and to the facility by pseudonyms. The researcher will destroy any files that may reveal my identity after the results of the research have been completed.

If you have any questions about the study or specific procedures, please contact Hanan Jambi, Researcher, Department of Nutrition and Food Management at Oregon State University (541) 752-1199 or Dr. Constance Georgiou, Principal Investigator, Department of Nutrition and Food Management at Oregon State University (541) 737-0965. If you have any questions concerning your rights as a research participant, please contact the Institutional Review Board (IRB) coordinator at Oregon State University at (541) 737-3437.

**My signature below indicates that I have read and that I understand the procedures described above and give my informed and voluntary consent to participate in this study. I understand that I will receive a signed copy of this consent form.**

---

Signature of participant

---

Name of Participant

---

Signature of student researcher

---

Date Signed

## Appendix D.5- IRB Approval Form- Pilot Stage

INSTITUTIONAL REVIEW  
BOARD

OREGON  
STATE  
UNIVERSITY

312 Kerr Administration Building  
Corvallis, Oregon  
97331-2140

Telephone  
541-737-3437  
Fax  
541-737-3093  
IRB@orst.edu

December 21, 2001

Principal Investigator:

The following project has been approved for exemption under the guidelines of Oregon State University's Institutional Review Board (IRB) and the U.S. Department of Health and Human Services.

Principal Investigator(s): Constance Georgiou  
 Student's Name (if any): Hanan Jambi  
 Department: Nutrition and Food Management  
 Source of Funding: None  
 Project Title: Perceived Food Autonomy Among Assisted Living Residents  
 Protocol Number: 1753

Comments:

**This approval is valid for one year from the date of this letter.** A copy of this information will be provided to the Institutional Review Board. If questions arise, you may be contacted further. Please use the included forms as needed.

- The original stamped informed consent document is to be used to enroll new participants in this study. Please make copies of this original as needed.
- The ADVERSE EVENT FORM is to be used to report any happening not connected with routine expected outcomes that result in bodily injury and/or psychological, emotional, or physical harm or stress.
- The MODIFICATION REQUEST FORM must be submitted for review and approval prior to implementation of any changes to the approved protocol.

Sincerely,

*Laura K. Lincoln*  
 Laura K. Lincoln  
 IRB Coordinator

## Appendix E – Main Stage Documents

Appendix E.1- Phone Script- Main Study

Appendix E.2- Facility Approval Request

Appendix E.3- Facility Background Questionnaire

Appendix E.4- Facility Letter to Invite Residents

Appendix E.5- Resident Recruitment Letter

Appendix E.6- Informed Consent Form for Resident Interview

Appendix E.7- IRB approval form

### Appendix E.1- Phone Script- Main Stage

A total of twenty-six licensed Assisted Living Facilities would be contacted in different Oregon counties between April 2002 and May 2002. Only 10-15 of those facilities will be visited for data collection. The list of all licensed Assisted Living Facilities in Oregon was obtained from Oregon Senior and Disabled Services Division (SDSD), which included the address of each facility and names of head administrator. The call script would be as follows:

Hello, may I speak to Mr./Ms. [name of administrator]; I am a doctoral graduate student in the department of nutrition and food management at Oregon State University. I am interested in interviewing residents in your facility to ask them about their food behavior. My research interest is to explore residents' perception of how independent they feel about their own food decisions and their food behavior while residing in Assisted Living. I would like your cooperation in extending an invitation to all residents who are cognitively alert and willing to participate in a person-to-person interview for about 30 minutes to complete a survey about their food behaviors.

I would like to meet with all potential residents as a group in an initial meeting to explain my study, what is expected from them for participation, and to obtain individual consent for participation. The consent I will be getting during the initial group meeting is absolutely voluntary and the residents may withdraw at any point in the process. At the end of the initial group meeting, an interview time would be set at each resident's convenience to be conducted in his/her apartment or a common area on the facility premises. During the interview with each resident, I would be facilitating the completion of a survey about his or her food behavior and health functions. The survey is NOT an evaluation of the food served in your facility, but is about how independent residents feel about their own food decisions.

If possible, I would like to interview residents who have been at [name of facility] for varying lengths of time.

Additionally, I am requesting that you provide a suitable location at your facility for the initial group meeting with the potential resident participants.

All information obtained will be treated in a strictly confidential manner and will be used only for the purpose of research. Residents who choose to participate do not have to answer every question and may withdraw entirely at any time if they wish.

Upon your initial approval, I will be sending you a formal request letter as well as a letter addressed to the residents to invite participation.

Thank you.

## Appendix E.2- Facility Approval Request

Date

Name

Address

Dear ,

Thank you for your initial phone agreement to consider participation in my doctoral research entitled Perceived Food Autonomy Among Residents in Assisted Living Facilities. The main purpose of the research is to develop and validate an instrument to assess Food Autonomy of Assisted Living residents. My intent is to explore residents' perceptions regarding issues, situations, and activities related to food while residing in Assisted Living. This project is NOT an evaluation of the food served in your facility, but is about how independent residents feel about their own food decisions.

At this point today I am requesting that you send me the following:

- A simple letter indicating your initial approval to conduct interviews with residents in your facility for my research project. I need your approval letter to finalize the process for The Oregon State University Institutional Review Board (IRB) who has tentatively approved my research protocol. Upon receiving the final IRB approval, I will be sending you a follow-up letter to further explain the procedure of my research.
- An estimated number of all cognitively alert residents in your facility so I can send the appropriate number of invitations
- The completed attached facility background questionnaire

Please send your approval letter and facility background questionnaire in the enclosed pre-addressed postage-paid envelope to 444 NW Hemlock Ave. Corvallis, OR. 97730.

I appreciate very much your time and consideration.

Best regards,

Hanan A. Jambi, PhD candidate  
Department of Nutrition and Food Management  
Oregon State University

## Appendix E.3- Facility Background Questionnaire

*(To be completed by administrator)*

1- What is the total number of residents living in your facility at the present time: \_

Total number of male residents: \_\_\_\_\_

Total number of female residents: \_\_\_\_\_

2- Do you provide special diets for residents? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what kind (s): \_\_\_\_\_

3- Do you serve meals in the resident's units? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what would be the reasons? \_\_\_\_\_

4- What is the designated time of the day for?

Breakfast \_\_\_\_\_

Lunch \_\_\_\_\_

Dinner \_\_\_\_\_

Snacks \_\_\_\_\_

Other \_\_\_\_\_

5- To what extent are staff/administration or residents involved in planning menus?

Staff/administration basically decide by themselves \_\_\_\_\_

Staff/administration decide but residents have input \_\_\_\_\_

Residents decide but staff has input \_\_\_\_\_

Residents basically decide by themselves \_\_\_\_\_

6- To what extent are staff/administration or residents involved in setting mealtime?

Staff/administration basically decide by themselves \_\_\_\_\_

Staff/administration decide but residents have input \_\_\_\_\_

Residents decide but staff has input \_\_\_\_\_

Residents basically decide by themselves \_\_\_\_\_

7- What are the usual equipment(s)/appliance(s) in the residents apartment that could be used for storing or preparing food? (Please check all that apply)

Refrigerator \_\_\_\_\_

Range top \_\_\_\_\_

Microwave \_\_\_\_\_

Toaster \_\_\_\_\_

Cupboards \_\_\_\_\_

Other \_\_\_\_\_

8- Is there a grocery store located within easy walking distance of the facility (~1/4 mile)? Yes \_\_\_\_\_ No \_\_\_\_\_

9-What are the policies and procedures in your facility regarding residents skipping meals in the dining room?

\_\_\_\_\_

\_\_\_\_\_

10- Does the facility provide/make available assistance with preparing meals inside the resident's apartment/unit? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what is the approximate number of residents who use this service at least once in a typical week? \_\_\_\_\_

11- Is there a resident food committee/council or any other resident committee where food is discussed? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what is the name of the committee/council? \_\_\_\_\_

How frequent does the committee/council meet? \_\_\_\_\_

How many residents usually attend? \_\_\_\_\_

Additional comments: \_\_\_\_\_

Your Name: \_\_\_\_\_

Your Position: \_\_\_\_\_

Name of facility: \_\_\_\_\_

**Estimated number of all cognitively alert residents:** \_\_\_\_\_

Thank you very much for your time and cooperation.



## Appendix E.4- Facility Letter to Invite Residents

[Date]

[Name of Administrator]

[Name and address of facility]

Dear \_\_\_\_\_,

Thank you for your letter of approval to consider participation in my doctoral research about Perceived Food Autonomy Among Residents in Assisted Living Facilities. The main purpose of the research is to develop and validate an instrument to assess food autonomy from residents' perception. The intent of the research is to explore residents' perceptions regarding issues, situations, and activities related to food while residing in Assisted Living. This project is NOT an evaluation of the food served in your facility, but is about how independent residents feel about their own food decisions. Food autonomy may contribute to personal autonomy, which may ultimately optimize the residents' well-being and quality of life. I am requesting your cooperation in the following:

- Distributing copies of the enclosed letter addressed to the cognitively alert residents to invite their participation and returning the answer for those who express interest in the enclosed postage-paid envelope.
- Facilitating a room to meet with the potential participants, as a group, for the initial meeting only.

All shared information will be treated in a strictly confidential manner and will be used only for the purpose of research. Residents who choose to participate do not have to answer every question and may withdraw entirely at any time if they wish.

I will be calling you within the next week to answer any questions you may have. If you have any questions at this point, please call the numbers provided at the end of this letter.

I appreciate very much your time and consideration.

Best regards,

Hanan A. Jambi, PhD candidate

Hanan Jambi  
 Research investigator  
 Nutrition and Food Management Dept.  
 Oregon State University  
 Phone (541) 752-1199 or (541) 908-3886  
 E-mail: [jambih@onid.orst.edu](mailto:jambih@onid.orst.edu)

Dr. Connie Georgiou, Ph.D., R.D.  
 Research supervisor  
 Associate professor  
 Nutrition and Food Management Dept  
 Oregon State University  
 Phone: (541) 737-0965

## Appendix E.5- Resident Recruitment Letter

[Date]

[Name and address of facility]

Dear Resident,

I am writing to invite your participation in an interview to learn about your personal opinion regarding food issues while residing in Assisted Living. I am a doctoral graduate student in the Department of Nutrition and Food Management at Oregon State University. My research interest is perceived food independence among residents in Assisted Living. This project is not an evaluation of the food served in the residence, but is about how independent you feel about your own food decisions

I would like your cooperation in the following:

- 1- Participate in an introductory group meeting for only 10 minutes with all the residents that express interest in participation. In this group meeting I would be explaining the nature of the research and answer any questions you may have. I would also request your signature on an Informed Consent Form if you were interested in participation. Finally I would schedule an interview time at your convenience to be held at your apartment or a common room in the facility.
- 2- Participate in the pre-scheduled interview in your apartment or in a common room at your residence to complete a food behavior and health survey for about 20 minutes.

Any information you would share will be treated in a strictly confidential manner and will be used only for the purpose of research. You may decline to answer any specific question for any reason or may withdraw entirely at any time if you wish. I am looking forward to meeting with you.

If you have any questions about the study or specific procedures, please contact Hanan Jambi, Researcher, Department of Nutrition and Food Management at Oregon State University (541) 752-1199 or Dr. Constance Georgiou, Principal Investigator, Department of Nutrition and Food Management at Oregon State University (541) 737-0965. If you have any questions concerning your rights as a research participant, please contact the Institutional Review Board (IRB) coordinator at Oregon State University at (541) 737-3437.

---

Please check one the following options below and return this letter to the administration

\_\_\_\_\_ **NO**, I prefer not to participate in this research

\_\_\_\_\_ **YES**, I agree to participate in this research, which will be done between April and June of 2002.

---

If your chose “**YES**” to participate, I am requesting the following information:

**Your Name:** \_\_\_\_\_

**Your Apartment No.** \_\_\_\_\_

**How long have you been a resident here:** \_\_\_\_\_ year(s) and \_\_\_\_\_ month(s)

I very much appreciate your time and consideration.

Thank you,

Hanan A. Jambi, PhD candidate  
Department of Nutrition and Food Management  
Oregon State University

## Appendix E.6- Informed Consent Form for Resident Interview

Department of Nutrition and Food Management

OREGON STATE  
UNIVERSITY

Milam Hall 108 • Corvallis, Oregon 97331-5103

Telephone 541-737-3561**Food Autonomy Among Residents in Assisted Living Facilities****Informed Consent Form For Resident Interview****Research Project:** Food Autonomy Among Residents in Assisted Living**Principal Investigator:** Dr. Constance Georgiou.**Student Researcher:** Hanan Jambi**Purpose of the research project:**

The purpose of this person-to-person interview is to explore residents' perceptions regarding issues, situations, and activities related to food while residing in Assisted Living. Health questions will be added for descriptive and analytical purposes. Perceptions about food are important to nutritional well-being and quality of life for older adults.

**Procedure:**

I understand that as a participant in this interview

- I would complete a survey, which contains questions about my food behavior, health, and demographic profile.
- I may decline to answer any question for any reason and may withdraw entirely from the interview at any time if I wish.
- The interview should not last more than 30 minutes.

**Risks and benefits:**

The only foreseeable risks to me as a participant in this research project are the possibilities of slight discomfort in answering some personal health questions and minimal physical fatigue from the length of the interview. The expected benefits to me as a participant are to voice my opinion about food and the possibility of considering the interview a social call.

**Confidentiality:**

Any information obtained in connection with this study that can be identified with me will be kept strictly confidential and will only be used for the purpose of research. Any written description of this project will refer to me and to the facility by pseudonyms. The researcher will destroy any files that may reveal my identity after the results of the research have been completed.

If you have any questions about the study or specific procedures, please contact Hanan Jambi, Researcher, Department of Nutrition and Food Management at Oregon State University (541) 752-1199 or Dr. Constance Georgiou, Principal Investigator, Department of Nutrition and Food Management at Oregon State University (541) 737-0965. If you have any questions concerning your rights as a research participant, please contact the Institutional Review Board (IRB) coordinator at Oregon State University at (541) 737-3437.

My signature below indicates that I have read and that I understand the procedures described above and give my informed and voluntary consent to participate in this study. I understand that I will receive a signed copy of this consent form.

---

 Signature of participant

---

 Name of Participant

---

 Signature of student researcher

---

 Date Signed

## Appendix E.7- IRB Approval Form

INSTITUTIONAL REVIEW  
BOARD

April 16, 2002

Principal Investigator:

The following project has been approved for exemption under the guidelines of Oregon State University's Institutional Review Board (IRB) and the U.S. Department of Health and Human Services.

OREGON  
STATE  
UNIVERSITY312 Kerr Administration Building  
Corvallis, Oregon  
97331-2140

Principal Investigator(s): Constance Georgiou  
 Student's Name (if any): Hanan Jambi  
 Department: Nutrition and Food Science  
 Source of Funding: None  
 Project Title: Perceived Food Autonomy Among Assisted Living Residents  
 Protocol Number: 1878

Comments:

**This approval expires on 4/15/03.** A copy of this information will be provided to the Institutional Review Board. If questions arise, you may be contacted further. Please use the included forms as needed.

- The original stamped informed consent document is to be used to enroll new participants in this study. Please make copies of this original as needed.
- The ADVERSE EVENT FORM is to be used to report any happening not connected with routine expected outcomes that result in bodily injury and/or psychological, emotional, or physical harm or stress.
- The MODIFICATION REQUEST FORM must be submitted for review and approval prior to implementation of any changes to the approved protocol.

Sincerely,

*Laura K. Lincoln*  
 Laura K. Lincoln  
 IRB Coordinator

Telephone  
541-737-3437  
Fax  
541-737-3093

IRB@oregonstate.edu

Appendix F – Study Survey

OREGON STATE  
U n i v e r s i t y

**Survey of Food Behavior and Health  
for Assisted Living Residents**



Department of Nutrition and Food Management  
Spring 2002

**Section A:** Please read the statements below and indicate whether you Agree, Somewhat Agree, Feel Neutral, Somewhat Disagree, or Disagree by circling the appropriate number to the right of each. (*Please note that ALL statements below concern the foods and meals in your Assisted Living Residence.*)

	Agree	Somewhat Agree	Feel Neutral	Somewhat Disagree	Disagree
<b><i>At my Assisted Living Residence:</i></b>					
<b>1</b>					
I choose from a variety of foods for my meals.	1	2	3	4	5
<b>2</b>					
I decide what the best foods are for me at this stage of my life...	1	2	3	4	5
<b>3</b>					
I feel my personal suggestions for the weekly menu would bring a change.....	1	2	3	4	5
<b>4</b>					
Food is an important part of my daily life...	1	2	3	4	5
<b>5</b>					
I am willing to speak up about having my food the way I like it..	1	2	3	4	5
<b>6</b>					
The staff is usually willing to make the personal food changes I like.....	1	2	3	4	5
<b>7</b>					
My present health allows me to eat what I want.....	1	2	3	4	5
<b>8</b>					
I am in control of what I eat for my meals.....	1	2	3	4	5
<b>9</b>					
Other people usually decide what I will eat..	1	2	3	4	5
<b>10</b>					
At this stage of my life, I want other people to be in charge of what I eat.....	1	2	3	4	5
<b>11</b>					
Other people help me with my food at the table.....	1	2	3	4	5
<b>12</b>					
I have confidence that the meals here are well balanced.....	1	2	3	4	5



	Agree	Somewhat Agree	Feel Neutral	Somewhat Disagree	Disagree
<b><i>At my Assisted Living Residence:</i></b>					
<b>13</b>	I have as much control as I want over what I eat.....				
	1	2	3	4	5
<b>14</b>	I use the kitchen in my apartment to prepare the foods I miss having.....				
	1	2	3	4	5
<b>15</b>	I sometimes ask family/friends to bring me a food I like.....				
	1	2	3	4	5
<b>16</b>	I am glad that I don't need to cook anymore..				
	1	2	3	4	5
<b>17</b>	I enjoy having my meals in the dining room.....				
	1	2	3	4	5
<b>18</b>	I usually have a good appetite for meals.....				
	1	2	3	4	5
<b>19</b>	The meals and snacks provide me with all my nutrition needs at this stage of my life.....				
	1	2	3	4	5
<b>20</b>	I like the taste of most of the foods.....				
	1	2	3	4	5
<b>21</b>	I have food choices that I enjoy for meals and snacks.....				
	1	2	3	4	5
<b>22</b>	I like the company at my table at mealtime...				
	1	2	3	4	5
<b>23</b>	The people who serve the food here are nice and courteous.....				
	1	2	3	4	5
<b>24</b>	I like the way foods are prepared.....				
	1	2	3	4	5
<b>25</b>	I feel that I have plenty to eat.....				
	1	2	3	4	5

	Agree	Somewhat Agree	Feel Neutral	Somewhat Disagree	Disagree	
<b><i>At my Assisted Living Residence:</i></b>						
<b>26</b>	I look forward to meal times.....	1	2	3	4	5
<b>27</b>	Hot menu items are hot enough for me.....	1	2	3	4	5
<b>28</b>	The foods served at this residence look appealing.....	1	2	3	4	5
<b>29</b>	I like the times at which meals are served	1	2	3	4	5
<b>30</b>	I feel, in general, the staff is trying to serve meals that please residents.....	1	2	3	4	5
<b>31</b>	I like the quality of most foods in the meals served.....	1	2	3	4	5
<b>32</b>	The printed menu is the same as the actual foods served at meals	1	2	3	4	5
<b>33</b>	I have enough activities during the day .....	1	2	3	4	5
<b>34</b>	I get a sense of satisfaction out of work activities or chores I do	1	2	3	4	5
<b>35</b>	I feel that I have a number of good qualities.....	1	2	3	4	5
<b>36</b>	When I think about the kind of person I have been in the past, it doesn't make me feel very happy or proud.....	1	2	3	4	5
<b>37</b>	I take a positive attitude toward myself	1	2	3	4	5
<b>38</b>	In almost every respect, I'm very glad to be the person I am.....	1	2	3	4	5

	Agree	Somewhat Agree	Feel Neutral	Somewhat Disagree	Disagree
<b>39</b> Thinking back, in a good many ways I don't think I have liked myself very much.....	1	2	3	4	5
<b>40</b> I wish I could have more respect for myself	1	2	3	4	5
<b>41</b> I feel that I am a person of worth, at least on an equal basis with others.	1	2	3	4	5
<b>42</b> Becoming a success is a matter of hard work; luck has little or nothing to do with it...	1	2	3	4	5
<b>43</b> What happens to me is my own doing.....	1	2	3	4	5
<b>44</b> Most people don't realize the extent to which their lives are controlled by accidental happenings	1	2	3	4	5
<b>45</b> Many times I feel that I have little influence over the things that happen to me.....	1	2	3	4	5

**Section B:** Please complete the following statements by circling the number that best applies to you.

**46- I am able to use the telephone...**

- 1 Without help, including looking up numbers
- 2 With a little help
- 3 With quite a bit of help
- 4 I am unable to use the phone

**47- I am able to get to places that are not within walking distance from the facility...**

- 1 Without help, using a bus, taxi, car, etc
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot travel even with help

**48- I am able to go shopping for groceries or clothes...**

- 1 Without help, by myself
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot go shopping at all

**49- I am able to do some chores around my apartment, for example, bed making, dusting, food preparation, laundry, etc ...**

- 1 Without help
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot do chores at all

**50- I am able to manage my own finances, for example, write my own checks, pay bills...**

- 1 Without help
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot manage at all

**51- I am able to dress myself, for example, picking out my own clothes, buttoning, and zipping them...**

- 1 Without help
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot manage at all

**52- I am able to take care of my appearance, such as comb my hair, shave, or cut my nails...**

- 1 Without help
- 2 With a little help
- 3 With quite a bit of help
- 4 I cannot take care of my appearance at all

**53- I am able to walk...**

- 1 Without help
- 2 With some help, such as using a cane, walker, or wheelchair
- 3 With quite a bit of help, such as from another person
- 4 I cannot walk at all

**54- I have difficulty getting to the bathroom on time...**

- 1 Never
- 2 Occasionally
- 3 Frequently
- 4 I cannot get to the bathroom by myself at all

**55- I am able to shower or bathe...**

- 1 Without help
- 2 With special devices to help me
- 3 With someone to help me get in and out of the tub/shower
- 4 I cannot bathe or shower by myself at all

**56- I am able to eat my meals...**

- 1 Without help
- 2 With little help
- 3 With quite a bit of help
- 4 I cannot feed myself

**57- I get to eat a meal outside the facility...**

- 1 Occasionally
- 2 Infrequently (few times a month)
- 3 Mainly on holidays
- 4 Rarely or never

**58- I see my friends and relatives...**

- 1 Often (daily or several times a week)
- 2 Occasionally (about once a week)
- 3 Infrequently (few times a month)
- 4 Rarely or never

**59- Over the past month, I made telephone calls...**

- 1 Several times a day
- 2 Daily
- 3 Not every day, but at least weekly
- 4 Rarely or never used the phone

**60- Over the last month, I worked on a hobby or some activity of interest...**

- 1 Often (several times a week)
- 2 Occasionally (weekly)
- 3 Infrequently (once during a month)
- 4 Not at all

**61- Over the past month, I attended meetings, council, church, organizations, or clubs away from the residence...**

- 1 Often (several times a week)
- 2 Occasionally (weekly)
- 3 Seldom (once during a month)
- 4 Rarely or never

**62- I would describe my health as...**

- 1 Excellent
- 2 Very good
- 3 Good
- 4 Fair
- 5 Poor
- 6 Don't know

**63- I am on a special diet (s)...**

- 1 No
- 2 Yes

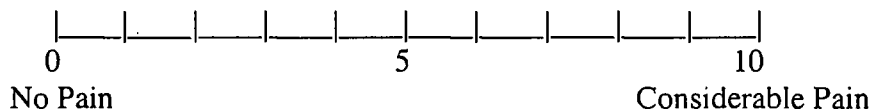
If yes, please specify diet type(s) \_\_\_\_\_  
 If yes, who recommended the diet(s)? \_\_\_\_\_

**64- I wear some type of dentures...**

- 1 Yes
- 2 No

**65- I take \_\_\_\_\_ different prescription medications daily. (Please state number of medications in the space provided)**

**66- On a scale from zero (No Pain) to ten (Considerable Pain) I would rate the amount of pain that I have on a usual day as... (Please place a check mark)**



**67 – The highest level of education I have completed is...**

- 1 8<sup>th</sup> grade or less
- 2 9<sup>th</sup>-11<sup>th</sup> grade
- 3 High school
- 4 Some post-high school education
- 5 Some College education
- 6 College degree
- 7 Graduate or professional degree

**68 – My age on my last birthday was \_\_\_\_\_ Years.**

**69- I am...**

- 1 Now Married
  - 2 Widowed
  - 3 Separated
  - 4 Divorced
  - 5 Never married
- 

**70- What suggestions do you have that could make your meals here more enjoyable?**

*Thank you very much for your time and opinions.*

## Appendix G – Valid version of PFA scale

Please read the statements below and indicate whether you Agree, Somewhat Agree, Feel Neutral, Somewhat Disagree, or Disagree by circling the appropriate number to the right of each. (*Please note that ALL statements below concern the foods and meals in your Assisted Living Residence*).

	Agree	Somewhat Agree	Feel Neutral	Somewhat Disagree	Disagree	
<b><i>At my Assisted Living Residence:</i></b>						
1	I choose from a variety of foods for my meals.	1	2	3	4	5
2	I decide what the best foods are for me at this stage of my life...	1	2	3	4	5
3	I am willing to speak up about having my food the way I like it..	1	2	3	4	5
4	The staff is usually willing to make the personal food changes I like.....	1	2	3	4	5
5	I am in control of what I eat for my meals.....	1	2	3	4	5
6	Other people usually decide what I will eat..	1	2	3	4	5
7	I have confidence that the meals here are well balanced.....	1	2	3	4	5
8	I have as much control as I want over what I eat.....	1	2	3	4	5
9	I use the kitchen in my apartment to prepare the foods I miss having.....	1	2	3	4	5
10	I sometimes ask family/friends to bring me a food I like.....	1	2	3	4	5
11	I am glad that I don't need to cook anymore..	1	2	3	4	5