Personal Resource Systems Management:

PRSM

A Proposal for Interactive Practice

by

Barbara Skerry McFall

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HOUSING, INTERIOR DESIGN, AND RESOURCE MANAGEMENT

Irene E. Leech, Chair
Joseph Germana
Janet K. Sawyers

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(ABSTRACT)

Personal resource systems define the quality of daily living, shaping personal well-being, societal satisfaction and overall quality of life. This study explores the construct of such systems through the emerging concept of Personal Resource Systems Management (PRSM) and models that concept for future research, consideration and debate. It is a qualitative exercise in grounded theory, a demonstration of integrative, interdisciplinary scholarship and a contribution to interactive practice in resource management, a subject matter specialty of Family and Consumer Sciences (FCS). As such the proposed PRSM model advances the stated goal of FCS practice to "promote optimal well-being of families, individuals and communities." Specifically, a PRSM model within the context of FCS should

- describe person-environment interaction
- as well as aggregates thereof (family and community) and
- identify diverse daily impacts on the quality of living, personal well-being, societal satisfaction and overall quality of life
- by modeling a consistent system of multiple options, each with a clear solution

Twenty-three existing models appearing in resource management texts between 1975 and 1996 were evaluated for the ability to adequately support these assumptions, using the Liebert and Spiegler framework for evaluation of theory. Though most models provided partial support, no existing models fully fit the adopted criteria. Traditional resource management concepts were therefore adapted and extended using interdisciplinary findings to model the Personal Resource Systems Management (PRSM) concept.

DEDICATION

This project is dedicated to my parents

who first shaped my understanding of the system:

to

DAD

whose experiences as a

Prisoner of War in Nazi Germany
framed the problem

and

to
MOM

whose efforts to reclaim
individual and family well-being
suggested the solution.

Thank you!

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mother and dear friend; and to my beloved siblings. I love you all. Dad, I'm so sorry you're not here to see the results of your efforts. This one was for you.

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RESOURCE
n.

(often *resources*)

1) initiative, ingenuity, talent,
inventiveness, imagination, imaginativeness,
cleverness, quickwittedness, capability,
resourcefulness, aptitude, qualifications,
strength, quality, forte

2) capital, assets, money, possessions,
wealth, property, cash funds

RESOURCEFUL
adj.

ingenious, inventive, imaginative,
clever, creative, skillful, smart, slick

L. Urdang
The American Century Thesaurus
1995

Chapter I
INTRODUCTION
THE PROBLEM IN CONTEXT

Where ya going? *I don't know.*
When will you get there? *I ain't certain.*
All that I know is I am on my way.

These lines from the Broadway show Paint Your Wagon ring true for many of us in today's climate of opportunity, challenge, and change. Our world is changing so rapidly that stasis is no longer a viable option. We will all experience change, ready or not. Some of us will experience change as opportunity, others as threat, depending largely on the availability and use of individual resources. The patterns of resource use which ultimately determine whether we thrive or struggle in life are shaped by our mental models - the visions, missions, dreams, values, roles, and goals that make us who we are.

Got a dream boy?
Got a song?
Paint your wagon and come along.

Dreams and visions are the images which symbolize what we want to create (Senge, 1990). They guide our journey toward a limited range of outcomes (positive +, negative -, or neutral 0). Our preference is of course to create positive interactions (+) with all that is around us, interactions which increasingly contribute to our sense of well-being. We want not only to survive, but to progress as well. However, in order to do either we must know where we are; where we have been; what we think and feel about the situation; and what options exist for future action. We need to re-examine our mental models of the world.

This thesis explores theory (mental models) related to *the shaping of current personal transactions toward positive life outcomes*, as found in the literature of resource management in Family and Consumer Sciences, and attempts a contribution in that tradition. This qualitative research follows the recommended American Psychological Association (1994, p. 5) format for theory development in that it

1) defines and clarifies the problem;
2) summarizes previous investigations in order to inform the reader of the state of current research;
3) identifies relations, contradictions, gaps, and inconsistencies in the literature; and
4) suggests the next step or steps in solving the problem.

Justification for Research

Well-being is a common goal of mankind. In America, The Declaration of Independence proclaimed the "pursuit of happiness" an entitlement, the truth of which was self-evident. It is however a pursuit which remains, even in America, limited by personal and environmental options. Such limitations are not always obvious. Mental models determine what is seen and not seen. These models are formed by the direction in which attention is focused, personal and societal expectations, and the questions which are subsequently asked (Kuhn, 1996).

Attention in Family and Consumer Sciences (FCS) has often been focused on the downtrodden who are the traditional subjects of advocacy and intervention. Practitioners have asked questions to accurately identify that constituency's problems (which may or may not resemble our own). Though this process is imperative, the downtrodden are not the sole benefactors of accurate mental modeling. Even those of us with full access to options find the precise road to happiness elusive. When the limitations are clear, the problem is freedom from oppression, and obstacles are identified which must be avoided, overcome, or removed. With multiple options however, the problem becomes chaos and confusion. Since we cannot possibly do everything, we must choose the most personally meaningful option to order and give meaning to life. This creates a genuine dilemma. Though we seek to maximize freedom and minimize chaos, we often cannot tell the difference between them. Opportunity for one is a threat to another. Even our own perceptions vary from time to time depending upon our current situation. We question what it is about our changing experience that alters and shapes our perception and response.

When psychologist Mihaly Csikszentmihalyi (1975, 1988, 1990) addressed that question in his research, he found that well-being occurred when skills were equal to the challenge presented. At a routine level, skills equal to challenge produced apathy or comfort. However, when skills developed to meet new challenges which exceeded the routine, the heightened experience of "flow" resulted. Flow was the term Csikszentmihalyi used to describe a pleasurable experience of extreme awareness in which the person seemed at one with the environment and timeless. When skills and challenge were out of balance, the experience turned negative. Skills exceeding available challenge presented as boredom. Challenge exceeding accessible skills created anxiety. Selye (1956) described such affects in terms of stress (stress -, eustress +, no stress 0).

The fact that each life involves all three experiences is unquestioned. The construct, sequence and proportions of the experience, "the recipe" for well-being, is the focus of inquiry. Joseph Campbell proposed a sequence based upon myth. He researched the mythologies of the world to uncover the monomyth of human life, "the hero's journey." What he described was a journey which can only occur in sequential form.

> The dynamic hero ventures forth (+) and
> is subsequently overcome by adversity (-).
> In responding to the challenge he emerges transformed (+-) and
> returns to take his rightful place in society (Campbell, 1973).

Abraham Maslow (1954) suggested that the sequence followed a hierarchy of human needs each gaining importance as the previous need was filled (physiological needs, safety, belongingness and love, esteem, and self-actualization). Viktor Frankl (1959), having survived the degradation of Nazi concentration camps, offered meaning and purpose as the qualities that enable man to transcend his current context. Wittgenstein observed that meaning was forged not within the human mind, but in the transaction process itself. Such bits and pieces of insight have surfaced in many disciplines creating a need for comprehensive interdisciplinary models to describe the elements and processes of personal choice, challenge and change and their impacts on individual well-being.

The Importance of Personal Well-being

Understanding these personal processes is important because we tend to disregard our own happiness in the rush of daily affairs. Unaware, we are easily overwhelmed by either opportunity or threat, becoming unhappy, stressed, and restless. This unhappiness can deepen into a persistent chronic condition termed depression which is experienced in wide range of intensities, from chronic malaise to acute disorientation. Depression can manifest physically as a somatic disease such as asthma, arthritis, heart disease, back pain, migraine headaches, cancer and ulcers; emotionally as an inability to express emotion or conversely as an inappropriate emotional outburst; mentally as memory and attention deficits, tormenting misrepresentations and recurrent memories; and socially in violence and substance abuse. Novelist William Styron (Newsweek, April 18, 1994), author of Trip Through the Darkness, eloquently described his individual experience with acute mental depression:

> The monumental aplomb I exhibited is testimony to the almost uniquely interior nature of the pain of depression, a pain that is all but indescribable, and therefore to everyone but the sufferer almost meaningless. Thus the person who is ill begins to regard all others, the healthy and the normal, as living in parallel but separate worlds. The inability to communicate one's sense of the mortal havoc in one's brain is a cruel frustration. Sylvia Plath's bell jar is an apt metaphor for the isolation one feels, walled off from people who, though visible and audible, are essentially disconnected from one's own hermetically sealed self (p. 52-53).

A malfunctioning stress (flight-or-fight) response seems to be the perpetrator. In the stress response (Selye, 1956; Orrell and O'Dwyer, 1995), perception of a stressor starts a neuroendocrine cascade in which the hypothalamus releases corticotrophin releasing hormone (CRH). This stimulates corticotrophin release from the pituitary, which in turn stimulates glucocorticoid release from the adrenal glands. The glucocorticoid release closes the loop by signaling receptors in the brain to inhibit further release of CRH and corticotrophin. The sequence is important for both survival and maintenance in the face of change. The short term effect of the cascade is to focus attention and heighten awareness for an effective and efficient response. CRH is pumped

directly into the spinal fluid and simultaneously affects the entire brain, increasing vigilance and decreasing interest in food and sex.

Increasing anxiety occurs as the dose increases. Philip Gold, chief of the clinical neuroendocrinology branch of the National Institute of Mental Health (NIMH) found that "in melancholia, CRH gets stuck." His investigations showed that the CRH level in his depressed patients was elevated all the time, even while sleeping. From this viewpoint, depression is really a continuous fight or flight response, a state of hyperarousal (Elmer-Dewitt, 1992). High stress levels and depression are implicated as a primary factor in six of the top ten causes of death in the United States (heart disease, cancer, stroke and atherosclerosis, diabetes and suicide) and as a secondary factor in connection with cigarettes, drugs and alcohol in the remaining four causes of (death, accidents, respiratory disease, HIV and homicide). The top ten killers listed by the Bureau of Census (1994) in order of deaths per thousand population were heart disease (281.3), cancer (205.2), stroke (58.9), atherosclerosis (39.0), accidents (35.1), respiratory diseases (31.3), diabetes (21.8), HIV (16.2), suicide (12.0) and homicide (Statistical Abstracts of the US, 1994). CRH is also implicated in obsessive compulsive disorders, anorexia and bulimia, panic attacks and Alzheimer's disease (Elmer-Dewitt, 1992; Orrell and O'Dwyer, 1995).

The pain of depression is so intense that one-third to one-half of all people who experience depression attempt suicide, and 15 percent are successful in that attempt. In 1993 the NIMH, calling depression the "common cold of mental illness," estimated that about 15 million American adults would experience a major, minor, or manic depression in that year (Boss, 1993). Although an episode of clinical (major) depression typically lasts less than a year, it seems to cause permanent changes in the brain, leaving 70 percent of the sufferers vulnerable to another attack (Elmer-Dewitt, 1992). The impact of personal depression is not confined to the initial sufferer but extends to the family as well with 18 percent of first-degree relatives at risk for anxiety disorders (Guze and Freedman, 1990).

The Importance of the Family

The role of the family in shaping personal patterns of experience should not be underestimated. The dramatic impact of effective family interactions on human development was demonstrated recently by Hart and Risley (1995). Hart and Risely studied the impact of early family interaction style on intellectual development. Weekly, for two and a half years, these researchers observed 42 children, under the age of three, as they interacted verbally with their parents in their home settings. Findings indicated that there were significant differences in interactions between parents and children which shaped language development and through language, intellect. Research revealed a high volume of talk in professional families, often involving symbols and analytic problem solving. Professional parents made efforts to guide childish exploration and encouraged attention to the distinctions and relationships between words. The interaction style was positive and affirmative.

In contrast, welfare families engaged in much less talk. Welfare children (616 words per hour) averaged only half as much language experience as working-class children (1,251 words per hour), and less than a third of what professional's children

experienced (2,153 word per hour). Further, interactions in welfare families were long on commands and prohibitions, teaching obedience, politeness, and conformity or survival rather than achievement skills. Welfare children received no early training in the complex analytical skills required by the information economy. The style of the parent child relationships in welfare families established competitive social disadvantage and patterns of interaction with the environment which exercised long-term negative impact on the quality of living. The cumulative differences were so pronounced that by the age of three patterns had been set which would determine future adult economic and intellectual activity and by extension the availability of lifestyle options.

Community Concerns

The stress of our personal lives is also reflected in our communities. And, the stress in our communities informs our daily lives. The impact is significant and apparently worsening. James Garbarino (1995) described today's American communities as "socially toxic environments." Dr. Garbarino cites a substantial deterioration in social well-being in the United States in just the last thirty years. The deterioration has been measured both in terms of objective well-being (well-being which can be measured reliably by outsiders evaluating specific results), and subjective well-being (well-being as it is perceived by the individual experiencing the event).

Objectively, The Index for Social Health for the United States, produced by Fordham University's Institute for Social Policy, showed a ratings decline from 74 points out of an ideal 100 in 1970, to 41 out of 100 in 1992. The Index measures sixteen social elements including infant mortality, teenage suicide, dropout rates, drug abuse, homicide, food stamp use, unemployment, traffic deaths, and poverty among the elderly. Subjectively, other survey data indicate that the percentage of respondents under age thirty-five claiming major problems with depression [those resulting in inability to meet normal responsibilities] has increased from 16 percent in 1950 to 40 percent in 1990 (Garbarino, 1995, p. 2-3). The impact of personal depression on American business, as measured by absenteeism and lost productivity, approximated $40 billion annually in 1994 according to Entrepreneur magazine ("Darkness Within," 1994, September).

In the business community, the ongoing development of personal potential is more important than ever before (Senge, 1990). Senge cites Royal Dutch/Shell's belief that the mental models held by critical decisionmakers are its most important business resource (Senge, p. 178). However, the impact of personal paradigms is not confined to top management. Industrialist Kazuo Inamori (as cited in Senge, 1990) reports:

> Whether it is research and development, company management, or any other aspect of business, the active force is people. And people have their own will, their own mind, and their own way of thinking. If the employees themselves are not sufficiently motivated to challenge the goals of growth and technological development...there will simply be no growth, no gain in productivity, and no technological development (p. 139).

Tom Peters observed that in the new flattened corporate hierarchy employees on the front lines of an organization have enormous autonomy. In this new economy, the human side of business makes the competitive difference (Peters, 1994, p. 16-17).

Research done by the Forum Corporation on commercial customers lost by 14 major manufacturing and service companies found that 15 percent switched providers because of quality problems, 15 percent left because of price, but fully 70 percent were distressed by either "lack of contact and individual attention" or "poor quality" contact with the providers personnel (Peters, 1994, p. 5). With 96 percent of Americans employed in service trades (79 percent directly, in transportation, retail, entertainment, professional services, etc. and 17 percent indirectly, in support of manufacturing through design, engineering, finance, marketing, sales, distribution, etc.) the quality of human contact can make or break both the individual business and the nation's economy (Peters, 1994, p. 67). What is needed is a culture of self-motivation, self-responsibility, and personal accountability, skills which are developed in life off the job by managing daily affairs (Peters, 1994, p. 245).

Stress among our citizens, families, and communities also threatens the health of American democracy. Democracy depends on the reasonable expression and implementation of the public will, the quality of which has recently been questioned. In his most recent book, Professor Charles Reich (1995) of Harvard University expressed a belief that the course of rapid change has left Americans with a false map of reality, a misconception which is but one aspect of a larger deficit in personal and social self-knowledge. This lack of self-knowledge he maintained has resulted in the ceding of power to the economy in such a manner that the people now serve the economy rather than the economy serving the people. Unrelenting focus on any single resource domain creates an imbalance. Unrestrained economic power can, and often has, become tyrannical demanding more and more attention at the expense of all other relationships.

Signs of a shrinking American middle class, a widening of the gap between rich and poor, and the increasing prevalence of the working poor, show cause for alarm. Pundits lament "the loss of the individual's power over livelihood" (Reich, 1995, p. 19), a perception of "drowning in information but starving for knowledge" (Naisbitt, 1982, p. 24), an "overwhelming sense of fragmentation, ephemerality, and chaotic change" (Harvey, 1989, p. 11), and the existence of "deep fears [which] prevent even Americans from fulfilling their own democratic dream" (Eisler cited in Henderson, 1991, p.7). Reich maintains that the government has become part of a system which appreciates people only in terms of their economic value, a value which is increasingly beyond personal control of livelihood due to global market forces. As the single minded pursuit of economic progress lays waste to intellectual, social, and natural resources, politicians on both sides of the aisle are seeking solutions. The cost of destroyed personal systems is too great to be born by the society. Recent trends toward managed health care and the development of welfare-to-work programs are early indicators of a shift toward prevention and personal responsibility, a shift which can only be successful if both economic and social factors are considered and the resources necessary for sustenance are within reach.

Hope, however, is expressed for the future. Reich asserts that human beings "live in a world almost entirely of our own making" (Reich, 1995, p. 202), and that we must develop a new map of reality based on balance between economic and noneconomic

forces and between public and private concerns. Henderson speaks of the developing theory of process involving purposeful, goal oriented, individual action rather than statistical probabilities or averages (Henderson, 1991). And Naisbitt sees a time of great opportunity if we can achieve a clarity of vision regarding our future directions (Naisbitt, 1982). This vision, according to Harvey, should focus on becoming rather than being, promote unity within difference, and accommodate the problems of time-space compression, geopolitics and otherness, as well as addressing the power of image (Harvey, 1990). And it can be a very private, personal effort. Futurist Robert Theobald (1992) promotes the viewpoint of William James, who commented:

> I am done with great things and big things and great institutions and big successes, and I am for those tiny invisible molecular moral forces that work from individual to individual, creeping through the crannies of the world like so many rootlets or like the capillary oozing water, yet which, if you give them time, will bend the hardest monuments of human pride (p. 29).

Whether scarce or overly abundant the resources which comprise our personal and environmental options must be managed to assure meaningful interactions. The transactions which order our lives must add value to our experience as individuals, family members, and citizens in the community. And since each individual is unique, to be truly effective this management must occur on a personal level. These are not selfish considerations. Though the expressed goal of resource management is personal well-being, societal interests benefit as well when the burdens of growing individual and societal dysfunction are alleviated by personal initiatives.

Summary and Preview

This brief introduction has established the perception that lack of well-being is becoming an increasing problem in American society, and that it is manifesting as physical illness, mental illness, emotional illness and societal illness. The problem seems to be an imbalance between skills and challenges aggravated by the current speed of change. Unmet challenges create anxiety, while unused skills result in boredom. Both boredom and anxiety are forms of negative affect (stress). The ability to match skills to challenges at ever increasing levels assures positive affect in the form of flow, however; such abilities are shaped by early childhood experience. By the age of three childhood interaction styles within the family have established patterns which largely determine adult use of resources. These patterns determine how humans construct the world and thus can make or break both commerce and government.

The research which follows is an investigation of the inextricable links between the quality of living, personal well-being, societal satisfaction and overall quality of life. All have been addressed in practice as outcomes of resource management, a subject matter specialty of Family and Consumer Sciences. The methodology is qualitative. Ely describes qualitative research as a way of life "that sweeps us along in continuous circles within circles of action, reflection, feeling, and meaning making" (Ely with Anzul, Friedman, Garner & Steinmetz, 1991, p. 7). The chapters that follow describe those

circles within circles. The data in this study were the works, expressions, models and assumptions of resource management and Family and Consumer Science practitioners as expressed in personal communication and as presented in the literature from 1975-1996.

> Working "up" from data is often presented as what qualitative research is especially about. It is done in many ways: building new understandings from "thick descriptions"; reflecting on and exploring data records; discovering patterns and constructing and exploring impressions, summaries, pen portraits. All such efforts have theoretical results. They produce new ideas and new concepts, which are sometimes linked and presented more formally as new theories. Most approaches to qualitative research also work "down" from theory. They incorporate, explore, and build on prior theoretical input, on hunches or ideas or sometimes formal hypotheses (Richards & Richards in Denzin & Lincoln, eds., 1994, p. 446).

This study does both. The work, though organized by relationship, remains roughly in the order in which it was encountered as the research progressed from broad to increasingly narrow focus. Chapter I introduced the topic of well-being, or the lack of it, as presented in the social sciences and popular press, establishing the need for a practice promoting personal well-being. Chapter II examines well-being as the focus of resource management, a subject matter of Family and Consumer Sciences. Though well-being is claimed to be the focus of the practice, questions have been raised regarding support of that focus in actual practice (Brown, 1985; Henry, 1996). Chapter III presents an overview of the qualitative methodology which structured this investigation. Chapter IV evaluates theoretical models used in resource management from 1975-1996 for their ability to support well-being in research and practice. Chapter V explores other disciplines for concepts to extend resource management theory. Chapter VI moves on to model building, combining disciplinary and interdisciplinary findings to establish new relationships and meaning. Chapter VII explores the implications for future research.

The use of ***resources,***
whether conscious or unconscious,
determines the quality of one's life.

Gross, Crandall & Knoll
Management for Modern Families
1980

Chapter II
BACKGROUND FOR STUDY
RESOURCE MANAGEMENT IN FCS

The previous chapter established the importance of well functioning individual mental models and behavioral patterns to both personal well-being and societal satisfaction. It also established a demand for increased research and practice to strengthen those models in response to the current pace of change. This chapter proposes resource management, a subject matter of Family and Consumer Sciences (formerly Home Economics), as a vehicle for model development. FCS is an academic discipline focused upon nurturance in the private domain (Thompson, 1992), a discipline dedicated to

- promoting optimal well-being of families, individuals, and communities (AAFCS: 1995-2000 Strategic Plan, 1995),

- empowering individuals, strengthening families, and enabling communities (The Scottsdale Meeting, 1993), and

- promoting optimum balance between people and their environments (Home Economics, New Directions II, 1975).

The discipline originated as "the study of laws, conditions, principles, and ideals, which are concerned on the one hand with man's immediate physical environment, and on the other hand with his nature as a social being, and is the study, specially, of the relationship between these two factors" (Lake Placid, 1902). Creekmore (1968) cites "the effect and influence of both the near environment and the people on each other" as the unique concern of the field, and the discipline has a one hundred year history of promoting the well-being of individuals and families in community settings (Gentzler, 1995). Brown and Paolucci (1979) defined the mission of Home Economics as

> seeking to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead to
>
> 1) maturing in individual self-formation, and
> 2) enlightened, cooperative participation in the critique and formulation of social goals and means for accomplishing them.

This definition positions Family and Consumer Sciences, and all subject matters thereof, squarely in the middle of the transaction between persons and their environments, working on the one hand to increase personal competence and contribution, and on the other to mediate environmental press. The quest for maturing individual self-formation recalls Maslow's (1954) drive up the hierarchy of human needs toward self-actualization, the ultimate in personal well-being, and acknowledges the critical influence of environments and social goals in that self-formation.

Horn and Nickols (1982) summarized the strengths of Home Economics as including

1) a philosophical foundation for the study of interrelationships.
2) a history of addressing pragmatic problems.
3) a nucleus of experienced researchers.
4) and, a conceptual orientation and structure for interdisciplinary research.

They might well have added the advantages of an educational delivery system which enjoys access to elementary age 4-H'ers, junior high and high school students, college undergraduates, graduate students, and community outreach on both a personal and professional level through the land grant system's cooperative extension.

Resource Management

As a subject matter of the discipline Family and Consumer Sciences, management is "the process of using resources to achieve goals" (Goldsmith, 1996, p. 16). Those goals are defined by the parent discipline, FCS, as optimal individual and family well-being (AAFCS: 1995-200 Strategic Plan, 1995). The most recent resource management text described the subject matter in terms of a management process with a systems orientation, offering course content in values, attitudes, goals, resources, decision making, problem solving, planning, implementing, evaluating, communication, time, energy, and stress (Goldsmith, 1996). Resource management research is

> aimed not only at understanding and explaining the process by which families accumulate and allocate resources, but also at providing the information base for the design and implementation of strategies to increase the efficiency of resource allocation within families, both at the public policy and individual levels (Key & Firebaugh, 1989, p. 16).

Wilson and Vaines (1985) have proposed that four viewpoints and methods of operation define Family and Consumer Science practice, and by extension the resource management subject matter. The first three viewpoints, the customary practice, the instrumental practice, and the reflective practice represent the formative history of both Family and Consumer Sciences and resource management, as well as the on-going academic dialogue. The fourth world view, interactive practice, represents a synthesis of these valuable, but often differing viewpoints, and forms the basis for further model development.

Customary Practice

Customary practice in any discipline is a complex and often contradictory phenomenon. It builds case by case as practitioners engage in their daily labors. In applied disciplines, such as resource management, the situation is compounded by the vagaries of

real life situations, and the number and diversity of stakeholders, each with continually evolving sensibilities. Current resource management practice serves academic researchers, crafters of public policy, 4-H youth, students at the junior high, high school, college, and graduate levels, cooperative extension agents providing outreach to both rural and urban [often disadvantaged] clientele, and a wide variety of private individuals.

The practice, which began as home management at the close of the last century has transitioned in America through a series of major social changes. Originally conceived as a women's discipline, in an era in which women were largely under-educated and confined to the home, the practice addressed an environment which was primarily rural, self-sufficient, low tech, routine, unscientific, hierarchical, and reactive. It found an academic home in the land grant colleges, which had been developed in response to the industrial revolution to promote both agricultural and technological advancement. Resource management, as a subject matter of Family and Consumer Sciences was and is financially dependent upon Hatch Act funds administered through agricultural channels.

As American society and the world around it changed, the focus of home and resource management evolved through a series of stages (Gross, Crandall & Knoll, 1980, p. 393). The practice, prior to World War II, has been described as a dumping ground for any home economics function not concerned with food, clothing, or shelter. This included such diverse offerings as housekeeping skills and techniques, time management, household equipment, home nursing, and household accounts. This orientation was more functional than theoretical. Following the war, the discipline moved to further define itself. American women returned home, relinquishing their position in the business world to returning GI's, but bringing home with them management skills learned in wartime production plants which they subsequently applied to the challenges of daily living. The following decades witnessed a subtle shift in conceptualizations of family and home. In home and resource management, specific resources were analyzed to determine the structure of the discipline (stage II), the goals and values of family members were examined (stage III), and the processes of management (stage IV) and decision making (stage V) were incorporated into the literature.

The current emphasis (stage VI) described as the holistic approach (Gross, Crandall & Knoll, 1980, p. 393) emerged in the mid-1960s as the discipline embraced both systems and ecological theories. The social climate in America at that time was explosive. Demographically, the balance of power had shifted to the young, who challenged existing hierarchical social organization by protesting the unpopular Vietnam War and empowering women, minorities, and children. In response, women left the home in record numbers to become educated and establish careers but not without a struggle. Established social orders were slow to change.

As women struggled to free themselves from outdated assumptions many ties to the home and family were severed. Enrollment in academic programs dedicated to home economics and resource management dropped sharply as did memberships in related professional organizations. Course offerings in public schools diminished and became non-gendered. To further confound the issue the influence of agriculture and heavy industry waned in America as information technologies and global commerce dominated growth opportunities. With the position of housewife devalued, home production

becoming less practical, and fewer and fewer applications in industry, resource management and FCS struggled for existence. Reeling from the impact of rapid change on habitual roles and practices, the discipline and the specialty have spent the last twenty years examining core values and attempting redefinition in relation to gender and equity, the information age, and an increasingly global world. Approaching a new century, practitioners find representations of all six stages in the community supporting resource management. Administrators, educated in practice houses to become or create proper housewives, direct professors dedicated to individual freedom and equality and assistant professors fascinated with the business aspects of their specialty, who in turn teach students trying to make sense of the adult world, establish new living arrangements, and get a job. The current holistic approach acknowledges and promotes the benefits of all aspects of the practice.

Instrumental Practice

Instrumental practice is concerned with theories of cause and effect and empirical testing, generally quantitative, of causal relationships. Such practice assumes that problems are predefined and that there is wide consensus of opinion regarding the nature of both problems and the method of their solution. There is a marked devotion to scientific method in instrumental practice and a striving for accurate prediction and control of results. While the control of knowledge by scientific professionals is frequently a primary source of professional power, critics fear that the objectivity, control, and manipulation required by scientific method is inappropriate in human services applications and may lead to "superficial solutions which ignore both the root of the problem and those dimensions which cannot be quantified" (Wilson & Vaines, 1985).

Contributors to the XVIII World Conference on resource management maintained that, historically, instrumental practice has dominated theoretical development, research, and publication in the field of resource management, although this dominance is increasingly challenged by proponents of reflective practice (Engberg, 1996; Ellison & McGregor, 1996). Engburg called for resource management to move from a traditional instrumental/technical perspective to a global critical/emancipatory perspective. She characterized the instrumental practice in family resource management as focusing on efficient performance of tasks and techniques; expanding resource use and control of nature; resources as instruments to be possessed; being non-controversial and value free; and producing a standard product, a completed task, and dependent persons.
In contrast, reflective practice (the global critical/emancipatory perspective) was described as dedicated to improved access to resources for central life purposes; ecological responsibility and stewardship of earth's resources; resources as means to satisfy alternative needs and interests; values laden with gender, ethics, and equity implications; acceptable products; and critically conscious, empowered, liberated persons, family and community

Pursley and Firebaugh (1996) responded that the current non-normative systems framework could be applied with a normative perspective. However they viewed family resource management professionals as "having a body of knowledge and skills which they

seek to transfer" by addressing matters of "task-related competence." Further, Pursley and Firebaugh expressed concern that the critical approach expanded the concept of resources beyond the current practice of resource management to address the socio-political issues of equitable resource distribution and resource development, which "may ultimately be challenging the professional platform from which family resource specialists operate".

At issue are the structural questions of whose interest is served by the practice of resource management, and what range of issues are to be addressed in that practice, as well as functional issues regarding the nature, initiation, and control of procedures in the practice. The theoretical construct most prevalent in resource management practice at present is ***systems theory***. Systems theory was introduced to the practice in the form of the cybernetic input-throughput-output-feedback model (Maloch and Deacon, 1966). The introduction was a bold move barely a decade into the development of what has since become a burgeoning interdisciplinary field. Today there are many different forms of systems thinking. As a whole the movement can be recognized by "a commitment to holism rather than reductionism and to organizing knowledge in cognitive systems, structured frameworks expressing certain intellectual norms (simplicity, regularity, uniformity, comprehensiveness, unity, harmony, economy, etc.) that people have found useful in thinking about and acting in the world" (Lane & Jackson, 1995).

Reviewing the systems literature Lane & Jackson identified the following trends. *General Systems Theory* (GST) has studied concepts, laws and models having universal applicability across disciplines in an effort to reunite a fractured academic world. *Social Systems Theory* has studied organizations and societies in terms of their interacting subsystems. *Hard Systems Thinking* replaced the natural scientists' laboratory experiments with modeling, seeking to optimize real-world performance in the pursuit of clearly defined goals. *Cybernetics* was primarily concerned with the communication and control issues of management. *Systems Dynamics* focused on the dynamic behavior of feedback loops such as multiplier/accelerator and business cycle loops. *Soft Systems Thinking* put human beings and ethical questions at the heart of systems too complex to model mathematically. *Emancipatory Systems Thinkin*g explored the use of systems approaches to ameliorate coercive situations. *Critical Systems Thinking*, focused upon critical reflection, social awareness, complementarism and ethical commitment, was the most recent development in the systems genre.

Structurally, the co-founder of GST, Kenneth Boulding, described a nine level hierarchy in which higher levels of systems emerged from and governed lower levels.

9)	Social systems	Relationships of power, exchange & cooperation
8)	Symbolic systems	Systems of meaning
7)	Humans	Self-conscious systems
6)	Animals	Aware systems
5)	Plants	Growth systems
4)	Open systems	Self-maintaining
3)	Thermostats	Cybernetic control mechanisms
2)	Clockworks	Simple dynamic systems
1)	Frameworks	Static structures

(Hammond, 1995). Many of these concepts are fundamental elements of the subject matter now known as resource management, however, there is power and complexity in current systems thinking that is yet untapped in the resource management literature. The structure and function models described in Chapter IV chronicle the development of ecological and systems concepts in resource management using models from undergraduate textbooks 1975-1996. Chapter V suggests possible avenues for extending those concepts.

Reflective Practice

In contrast to instrumental practice, which attempts to scientifically generate objective, technically useful knowledge about cause and effect, reflective practice is philosophical and unabashedly value driven. In FCS and resource management, the practice employs the ***critical theory of Jurgen Habermas*** (1963, 1971, 1979, 1983, 1987) which emerged from the work of the Frankfort School in Germany. The philosophy developed in part as a reaction to the atrocities of Nuremberg and promoted the Aristotelian doctrine of the good and just life (Henry, 1996). Henry outlines two phases of philosophical development connected with Habermas. In Knowledge and Human Interests (1968) Habermas models an hierarchical theory of knowledge which begins with the technical knowledge of the craftsman, moves on to the practical knowledge of moral-political action and peaks with pure reason, based on contemplation. Knowledge is explored through the concept of "interest" which "mediates between reason and desire and between ideas and actions" (Henry, 1996, p. 164). A later work The Theory of Communicative Action explores the nature of lifeworlds (culturally shared meaning) and systems (the complex organization of society). Habermas is for individual meaning and purpose but envisions these traits developing not in isolation but in a culturally shared social context, a context which is increasingly threatened by the system. "System" as the term is used by Habermas refers specifically to external forces such as state bureaucracy, commercial interests and military forces (the system) as opposed to the near environment of home and community. In this context the word "system" acquires a malevolent threatening connotation not generally associated with systems thinking. In systems theory/thinking a "system" is any set of elements and relationships operating together, whether cellular, institutional, planetary or theoretical. There are no inherent negative connotations. The two usages of "system" are not interchangeable.

The critical format proposes to mount a critique of existing theories and practices "revealing the constraining forces, vested interests, and false social beliefs of contemporary situations that may not be apparent to those closely involved" (Wilson & Vaines, 1985). Habermas argues that we must question whether power is used legitimately, to promote goals determined by consensus, or whether it is used illegitimately "to keep other individuals or groups from perceiving their interests" (Habermas, 1983, p. 183; Baldwin, 1996). Reflective practice develops using a dialectic method in which communicative action is focused toward developing a shared understanding, resulting in the formation of a common will, in an atmosphere free from coercion (Baldwin, 1996). The dialectic method is a qualitative process which has been successfully employed in philosophy, sociology, education, and women's studies to

explore issues involving meaning and understanding rather than causation. Because such understanding invariably results in adjustments to existing individual world views, theory and action are considered inseparable, and both are held to be quite desirable.

Marjorie Brown (1985), as a capstone to a long and distinguished career in Home Economics wrote Philosophical Studies of Home Economics, Vol. I & II in which she examined the nature of that profession, and by implication the subject matter resource management, and mounted a convincing argument in favor of adopting a critical science perspective. She maintained that the Lake Placid Conference of 1902 which established the parameters of the field left a legacy of

- historical concern for the home and family
- conceptual inadequacies, ideological beliefs, and contradictions resulting in a lack of coherent position...as a guide to practice
- physicalistic orientation...empty of everyday human understanding and empty of moral direction other than the values of technology, business and industry
- a conception of instrumental rationality...know-how
- family life as an occupation...short views...no continuity
- undeveloped alternative views, and
- a plurality of subjective views...among home economists who do not confront alternative views
- a conception of leadership...single-minded in its own aims and a model of scientific management and human engineering to achieve those aims (p. 367-368).

Her indictment fell equally upon customary and instrumental practice as she perceived it over her long career. Brown introduced the philosophy of Jurgen Habermas to the discipline in an effort to restore a value orientation to the practice and to correct what she regarded as misguided and disjointed directions.

Those who agreed with her assessment and prescription today promote a focus on family well-being (Baldwin, 1996), holistic interdisciplinarity rather than departmental specialization (Vincenti, 1990), accommodation of multiple paradigms (Wilson & Vaines, 1985), qualitative research orientations (Watters, 1985), model cases (Quilling, 1991), reflective human action, emancipation, and empowerment (Andrews, Mitstifer, Rehm, & Vaughn, 1995), and radical democracy employing global and environmental perspectives (Engberg, 1996; Ellison & McGregor, 1996). The Wilson and Vaines (1985) framework for examination of the practice provides one example of the structure of reflective practice. Thompson's (1992) model of the Hestian and Hermian dialectic between nurturance and governance presents a differing, feminist, view of reflective practice. Margaret Henry (1995) explored the concept of well-being in Home Economics

from a critical or reflective viewpoint. Kappa Omicron Nu, one of two honor societies serving the discipline, has developed a model of reflective human leadership based on critical theory and offers an educational module to promote that model (Andrews, Mitstifer, Rehm, & Vaughn, 1995). The society has also published papers exploring The concept of theory in Home Economics (1995) and moving Toward a theory of family well-being (1996). Together these, and the previously mentioned authors and theorists, present a strong alternative viewpoint in the discipline, a viewpoint that is prevalent on some American campuses and dominant in many other countries.

Frances Smith reported participant identification of three objectives following a session exploring a theory of family well-being, at the American Association of Family and Consumer Sciences (AAFCS) 1996 annual meeting. The first objective involved incorporating Habermas' human interests paradigm in future frameworks. The second objective involved the promotion of Brown's dialogical methodology. The third objective identified was further consensus on a definition of the objective, family well-being (Smith,1996). Future models of personal resource systems management should contribute to these objectives in order to answer critics and adequately serve the discipline.

Interactive Practice

Customary practice presents a practitioner as skilled in traditional arts. Instrumental practice presents the practitioner as a scientific expert. Reflective practice presents the practitioner as an ethical critic. Each of these world views offers valuable insights but positions the practitioner as hierarchically superior to the operational partner and values the practitioner's viewpoint over that of all others. In contrast, interactive practice features a collaborative practitioner exchanging meanings and understandings with fully equal partners. Interactive practice acknowledges that communication is a dialectic process in which each participant is a contributor of valued information. In such an environment outcomes are negotiated as understandings are built. The mannerly grace of interactive practice extends to the individual, to other professionals operating within the boundaries of the discipline, to experts in other disciplines, and to the constituents served by the practice. Personal rights and responsibilities are valued in both self and others.

Wilson and Vaines (1985, p. 349) depict interactive practice as the process of forging understandings of shared perspectives through networks of meaning established by historical precedent. They state that the purpose of such practice is "to build a consensus of understanding directed toward the enhancement of human life." Such consensus occurs as a result of analyzing experience, deliberating upon the practical applications involved, and engaging in dialectic regarding the available alternatives. The precise method for analyzing that experience, considering practical applications, and evaluating alternatives was left open. The development of that method of consideration and evaluation is the subject of the following chapters.

Though each of these forms of practice (customary, instrumental, reflective, and interactive) utilizes a different approach to the problem, enormous progress has been made through the persistent and dedicated efforts of these practitioners. Each form of

practice presented here has shed some light on what once was darkness. Each effort represents questions painstakingly researched, findings laboriously presented and reviewed and programs and interventions implemented. The critics have been equally sincere, questing always for a more precise vision. These generations of inquiry have yielded real understanding. Together these efforts describe a powerful phenomenon, a holistic, applied, social science for daily living.

Summary

In this chapter resource management was examined both longitudinally and in cross-section as a subject matter specialty of Family and Consumer Sciences. Longitudinally resource management has evolved through six stages over the last century;

1) dumping ground for any home economics function not concerned with food, clothing, or shelter
2) analysis of specific resources to determine the structure of the discipline
3) examination of goals and values of family members
4) focus on the processes of management
5) decision making
6) holistic approach based on systems thinking and ecology

In cross-section both FCS and resource management can be characterized by customary, instrumental, reflective, and interactive practice. The first three forms of practice stand in dialectical relationship to each other. Customary practitioners are suspicious of the abstraction that theory and control lend to instrumental practice. Instrumental practitioners grow impatient with the informality and imprecision of customary practice. Reflective practitioners press for greater societal impact and meaning and are rebuffed for their passion and strange techniques. Interactive practice offers hope for reconciliation through establishment of a collaborative practice "dedicated to the enhancement of human life" (Wilson & Vaines, 1985, p. 349).

Resource management currently presents the image of a practice at the cross roads, poised and expectant. Developed for a female, rural, homebound constituency the practice now addresses a non-gendered, urban, increasingly global society. The authenticity of the paradigm is in question, presentingng three possible scenarios for resolution - accommodation by traditional means, using normal science; leaving the resolution to future generations; or resolution by "the emergence of a new candidate for paradigm and with the ensuing battle over its acceptance" (Kuhn, 1996, p. 84). Butterfield described the process of paradigm shift as "picking up the other end of the stick ... handling the same bundle of data as before, but placing them in a system of new relations with one another by giving them a different framework" (Butterfield as cited in Kuhn, 1996, p. 85). The next two chapters define a method of investigation and examine models used in resource management texts from 1975-1996 looking for elements and relationships that have traditionally described the practice. The goal is to determine what works in the current context and what may no longer apply.

Structures of which we are unaware
hold us prisoner.

Conversely, learning to see the structures
within which we operate
begins a process of freeing ourselves
from previously unseen forces

and

ultimately mastering the ability
to work with them
and
change them

Peter Senge
The Fifth Discipline:
The Art & Practice of
The Learning Organization
1990

Chapter III
METHODOLOGY
GROUNDED THEORY

Grounded theory is a qualitative research method used for developing theory from data systematically gathered and analyzed. It involves continuous interplay between analysis and data collection and has often been called the "constant comparative method" The process "explicitly requires generating theory and doing social research at the same time" (Strauss & Corbin in Denzin & Lincoln, eds., 1995, p. 273). That interplay in this study occurred between theories of resource management and the current and historical practices and future aspirations of resource management practitioners.

In a more traditional (quantitative) study, this chapter would mark the beginning of "research." Along with the previous chapters, it would have constituted the proposal for research in which the researcher briefly established the state of current research and made a proposal to extend that research. Qualitative research is different in that nothing is taken for granted. In this thesis, the overview of the discipline in Chapter II represented an intense three year immersion in the field that was integral to the research process. Characterized informally as "management by walking around" in business, the process is termed "direct observation, analysis of artifacts, documents, and cultural records, personal experience and interview" in qualitative research (Denzin & Lincoln, 1994, p. 14). The Wilson & Vaines (1985) format was adopted late in the process to organize perceptions which had emerged from interaction with practitioners in both FCS and resource management (regarding their current research interests, interpretations of the past and hopes for the future of the discipline) coupled with deep inquiry into the historical records of the discipline and thorough investigation, disciplinary and interdisciplinary, of the conceptual options encountered (qualitative/quantitative, systems/critical, modern/postmodern, grand theory/multiple realities, forms of scholarship, etc.). The seemingly simple choice of interpretive paradigm (interactive, integrative and interdisciplinary) occurred well into the research process.

Why Use Qualitative Research Methods?

Qualitative research begins with a question rather than an answer. Whereas quantitative researchers begin with an hypothesis and proceed scientifically with proof or disproof, qualitative researchers ask the broader question "What is going on here?" and wait for patterns to emerge (Wolcott, 1990). The qualitative process is inductive rather than deductive. Creswell has suggested that "qualitative research is exploratory and that researchers use it to explore a topic when the variables and theory base are unknown" (1994, p. 146). Morse described the qualitative research problem as one in which:

- the concept is "immature" due to a conspicuous lack of theory and previous research;
- the available theory may be inaccurate, inappropriate, incorrect, or biased;
- a need exists to explore and describe the phenomena and to develop theory; or
- the nature of the phenomenon may not be suited to quantitative measures (1991, p. 120).

The problem addressed by this research is an ancient perennial with a new twist. This research examines life in terms of person-environment transactions, the ultimate goal of which is well-being. That search is as old and familiar as philosophy, religion and the social sciences. The problem has been made new by the collapse of time and space parameters and the explosion in the rate of change experienced as a result of advances in information, communication, and travel technology. This revolution in context demands a fresh assessment of existing paradigms and assumptions. Our vision must be made young again. This is clearly a *qualitative* research problem.

Qualitative Methods

The methodology of qualitative research is shaped by six assumptions:

- Qualitative researchers are concerned primarily with *process* rather than outcomes or products.
- Qualitative researchers are interested in *meaning* - how people make sense of their lives, experiences, and their structures of the world.
- The qualitative *researcher is the primary instrument* for data collection and analysis. Data are mediated through this human instrument, rather than through inventories, questionnaires, or machines.
- Qualitative research involves *fieldwork*. The researcher physically goes to the people, setting, site, or institution to observe or record behavior in its natural setting.
- Qualitative research is *descriptive* in that the researcher is interested in process, meaning, and understanding gained through words or pictures.
- The process of qualitative research is *inductive* in that the researcher builds abstractions, concepts, hypotheses, and theories from details (Merriam, 1988, p. 19-20).

Methodology in this Study

The Research Question

This thesis was the development of problem driven research which began (even before my return to academia) as a transdisciplinary question.

Which elements and relationships are really important contributors to personal and societal well-being and <u>how</u> do they contribute?

The thesis was therefore not a final project at the end of a prescribed program of study. Instead the research question drove the program of study from the beginning and was an integral part of my work for the entire three years. Though the work had found a disciplinary home, it retained major interdisciplinary involvement throughout.

Entering the Field

I chose to pursue the topic through the social sciences rather than through philosophy or religion. Though research from psychology, sociology, business management and education contributed substantially to the process, the primary disciplinary focus was Family and Consumer Sciences through the subject matter specialty resource management. FCS and resource management seemed to offer an approach to the question that was simultaneously personal, holistic and applied, described by the graduate catalogue as follows.

> ***The focus is on the interaction of people with their near environment,***
> ***the external forces that shape the near environment,***
> ***and the human and materials resources necessary***
> ***to help people achieve goals***
> ***and ultimately improve their quality of life***

(Housing, Interior Design, and Resource Management in 1995-1997 Graduate Policies and Procedures and Course Catalogue: Virginia Polytechnic and State University, p. 113).

The American Association of Family and Consumer Sciences (AAFCS), expressed a similar vision for the practice stating that AAFCS was

> ***the comprehensive and integrative source of knowledge***
> ***and the primary voice***
> ***focusing on family, individual and community well-being***

(AAFCS: 1995-2000 Strategic Plan, 1995).

Curious as to where the leading thinkers in the field were taking that vision, I began my literature review. In the 1987 Commemorative Lecture to the annual meeting of AAFCS, theorist and textbook author Ruth Deacon (1987) expressed her visions for the future of Family and Consumer Sciences. The association embraced her vision and recently published the lecture, Visions for the 21st Century, in A book of readings: The context for professionals in human, family and consumer sciences. Deacon proclaimed

> ***My preference is for us to use the phrase "quality of living"***
> ***to convey our role and our common ground***
> ***regardless of the specialization within our total field***

(Deacon in Simerly, Light & Mitstifer, eds., 1996, p. 42).

Deacon summarized the potential for the field in three broad areas by answering her own question "what can we envision for the future?" Her mandate was clear and to the point,

calling for practitioners in all Family and Consumer Science subject matter specialties to develop

- increasing awareness of the significance of the quality of living to the quality of life;
- increasing interdisciplinary effort fostered through the building of a stronger research and theoretical base; and
- increasing global orientations with stronger international programming and international perspectives integrated into our base of knowledge (p. 47-48)

Key and Firebaugh addressed the future of the subject matter in Family resource management in Preparing for the 21st century, an article which appeared in the Journal of Home Economics (1989, spring), claiming that

> ***The potential of the systems framework***
> ***in addressing the complexities of family resource allocation behavior***
> ***is as yet unmet.***

The observation was particularly significant because Firebaugh (ne Maloch) and Deacon had introduced systems theory into resource management (Maloch & Deacon, 1966) and had supported the development of the theory, in application to resource management, in a series of textbooks over the following twenty years (Deacon & Firebaugh, 1975; 1988). To further explore the potential of the framework, Key and Firebaugh called upon researchers to

- conceptualize complex multivariate models that incorporate the interaction of multiple systems;

- capture the nature of the phenomenon under study;

- consider character, change (within a developmental period), and context variables simultaneously;

- integrate economic structure with sociopsychological phenomena;

- treat families as dynamic, adaptive, and internally differentiated social systems; and

- address internal and external sources of systems change simultaneously (p. 16-17).

More recently Bohle, Grobe and Olson (1996) have encouraged resource management scholars to look to other disciplines for fresh insights to enrich the theoretical framework.

> ***Family resource management scholars***
> ***have come to a juncture in theory development,***
> ***inviting theoretical perspectives from other disciplines*** (p. 286).

.

Data Collection

My plan was not to reinvent the world but to engage in integrative scholarship, to search the literature and practice (both disciplinary and interdisciplinary) for concepts which might be recombined to gain a fresh understanding of the person-environment phenomenon and the quest for well-being. Thomas Kuhn (1996, p. 95) has suggested that

> ***a new theory might emerge without reflecting destructively upon any part of past scientific practice.***
>
> ***The new theory might be simply a higher level theory than those known before, one that linked a whole group of lower level theories without substantially changing any.***

The job of the qualitative researcher in such a process would be to observe the practice; to gather and examine existing theoretical models to determine how they might together describe a deeper and more complete understanding of the phenomena; and to identify research from other disciplines which might extend that emerging understanding. Both my committee and I found this qualitative research to be quite difficult.

The qualitative process which may seem very orderly and logical in final reports is generally anything but clear in the beginning. While the quantitative researcher has the benefit of theory to narrow the investigation and can proceed directly with hypothesis testing and proof, "the qualitative researcher studies a setting over time and develops theory grounded in the data" (Janesick in Denzin & Lincoln, eds., 1994, p. 218-219). Denzin and Lincoln described the qualitative researcher as a jack-of-all-trades who assembles a varied multitude of findings into a collage, "complex, dense, and reflexive ... connecting the parts to the whole and identifying meaningful relationships" (1994, p. 3). As a qualitative researcher I needed to open myself as completely as possible to the flow of information regarding well-being, quality of living, and quality of life and to hold the boundaries open until clear patterns began to emerge linking the subject matter resource management, the discipline Family and Consumer Sciences, social sciences in general, and the larger practical and intellectual community.

Wilson and Vaines (1985) in A theoretic framework for the examination of practice in Home Economics described Home Economics (now Family and Consumer Sciences) in terms of four distinct practices - customary, instrumental, reflective, and interactive (p. 349). Customary practice represents the historical development and conventional wisdom of this body of knowledge as it has developed through Home Economics and is basically atheoretical. Instrumental practice is concerned with theories of cause and effect and the empirical testing of those theories. Critical practice proposes to question current assumptions in both theory and practice and promote positive change. The fourth form, interactive practice, exists to build a consensus of understanding directed toward the enhancement of human life. *In this research customary, instrumental, and critical practice supplied the data to build theory for interactive practice.*

I relied upon direct experience with the practice to inform my reading program. Over the three year duration of my research, seeking to absorb the ambiance of customary practice, I attended two national and two state annual conferences of the American Association of Family and Consumer Sciences (AAFCS) and served on the board of the state organization (VAFCS). At the national conference I participated, as a panelist, in an ongoing panel discussion/round table on well-being. I attended two regional Eastern Family Economics and Resource Management Association (EFERMA) conferences. I also went to four interdisciplinary conferences related to the subject, two with the transdisciplinary International Society for Quality of Life Studies (ISQOLS) and two in educational theory development including Quest (a program of the Appalachian Educational Laboratory) and the annual meeting of the Virginia Educational Research Association (VERA). In the same three year period I served as the teaching assistant (TA) for an undergraduate resource management class, reading and responding to more than six hundred student interpretations of resource management involving decision making, values, roles and goals, and management change. I also worked with a funded project to introduce the discipline to middle school children involved in 4-H, an alumni survey, and a departmental evaluation. Coursework in Family and Consumer Sciences, psychology, and education expanded my horizons beyond the management base I brought forward from my undergraduate work in business and years of small business ownership.
To round out the disciplinary exposure I turned to the literature, reading a wide variety of journal articles, proceedings, monographs, and textbooks.

Analysis of Existing Theory

Stephen Hawking (1990) proposed two essential requirements for a good theory. The first was that a good theory must employ a limited number of variables to describe many related observations. By definition Family and Consumer Sciences has been concerned with ***the person, the near environment and the interaction between the two*** (Lake Placid, 1902). Later definitions require that aggregations of persons, specifically families and communities, be accommodated. By customary practice the transactions of interest have been daily events in the near environment. Hawkings second requirement of a good theory was the ability to predict the results of future observations. ***Optimal family, individual and community well-being*** (AAFCS: 1995-2000 Strategic Plan, 1995) or ***quality of living*** (Deacon, 1987) is the desired result of the person-environment transaction in Family and Consumer Sciences and resource management. The minimum requirements then of a model describing resource management within the context of Family and Consumer Sciences would be that it

- describe person-environment interaction
- and aggregates thereof (family and community)
- identify impacts on the quality of living, personal well-being, societal satisfaction and overall quality of life
- by modeling a consistent system of multiple options, each with a clear solution.

Table 1

Resource Management Models 1975-1996

Year	*Textbook Authors*	*Model*
Structural Models:		
1975	Deacon & Firebaugh	Social Interactions of Wives and Mothers
1976	Nickell, Rice & Tucker	The Management Wheel
1976	Nickell, Rice & Tucker	The Integrative Role of Home Management
1977	Paolucci, Hall & Axinn	Elements of the Ecosystem
1980	Gross, Crandall & Knoll	Model of the Family System
1981	Swanson	Spheres of Interaction
1988	Deacon & Firebaugh	Micro & Macroenvironment of the Family System
1996	Goldsmith	The Foa & Foa Model of Reource Exchange
1996	Goldsmith	Resource Management Model of Motivation
Functional Models:		
1975	Deacon & Firebaugh	Management Responds to Questions
1976	Nickell, Rice & Tucker	Flow Chart Model of the Management Process
1977	Paolucci, Hall & Axinn	The Family as an Energy Driven Organization
1980	Gross, Crandall & Knoll	Mgmt as System: An Input-Output Model
1981	Swanson	Planning Process, Implementation & Evaluation
1986	Rice & Tucker	Components of Mgmt. from a Systems Perspective
1988	Deacon & Firebaugh	Personal System Model
1988	Deacon & Firebaugh	Model of Individuals as Subsystems of Family
1996	Goldsmith	Managerial Action Using the Systems Approach
1996	Goldsmith	ABCD-XYZ R. M. Model of Crisis/Stress
Miscellaneous Aspect Models:		
1996	Goldsmith	Maslow's Hierarch of Needs
1980	Gross, Crandall & Knoll	Decision Linkage - Central Satellite
1996	Goldsmith	The Elements of Communication
1988	Deacon & Firebaugh	Family Life Spiral

Historical models of resource management were selected for analysis as graphic expressions of theory. Twenty-three models (instrumental practice) appearing in resource management text books from 1975 to 1996 were reviewed and critiqued using a framework for evaluation of theory developed by Liebert and Spiegler (1990). The first section of that evaluation examined how well each model served the ***purposes of theory***. According to Liebert and Spiegler (1990, p. 7), theory serves four general purposes in science to

1) organize and clarify observations,
2) explain the causes of past events so that future events can be predicted from the same causes,
3) provide a sense of understanding of the subject matter, and
4) generate new ideas and research.

Liebert and Spiegler continued, offering criteria for evaluating the ***correctness of a theory*** (1990, p. 8). They stated that theories are mere speculations regarding the nature of phenomena. As such theories cannot be "right" or "wrong". However, theories can be more or less "useful" in serving their purposes. Seven major criteria for evaluating a theory are typically employed: empirical validity, parsimony, extensiveness, internal consistency, testability, usefulness, and acceptability. Theories fulfill these criteria in greater or lesser degrees, but rarely if ever perfectly. Though theories are neither proved nor disproved by empirical evidence, each substantiating piece of evidence adds to the ***credibility of the theory***, building confidence among potential users of that theory. Credibility issues involve

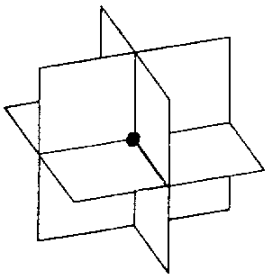
5) elements supported by empirical research
6) elements requiring further research

Multiple criteria determine the ***utility of the theory***.

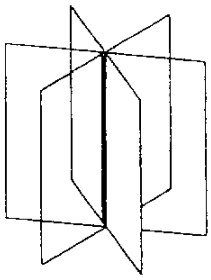
7) parsimony of the model - Theories providing simpler explanations with fewer assumptions are preferable when all else is equal.

8) extensiveness of the model - The more extensive a theory is, the greater the scope of research efforts it inspires. All other things being equal, the more phenomena a theory accounts for, the better it is. Restricted theories tend to exclude important phenomena, and ignore problems beyond their limited parameters.

9) internal consistency of the model - A theory should be more than a loose confederation of ideas and concepts. Its propositions and assumptions should mesh to form a coherent, larger explanation, free of internal contradictions. The model should demonstrate internal consistency. In a system internal consistency includes systemic consistency. In a consistent system, the variables share at least one commonality. If there is a single



1a
Three planes intersect
in exactly one spot
describing ***a clear solution***



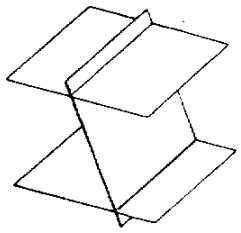
1b
Three planes intersect
in one line offering
multiple options

1c
Three planes coincide -
all options in common

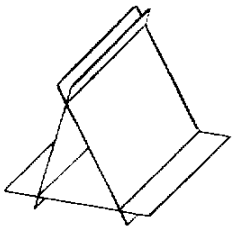
Figure 1. Consistent systems of equations in three variables

A PRSM model within the context of FCS should model a consistent system of multiple options (1b) each with a clear solution (1a)

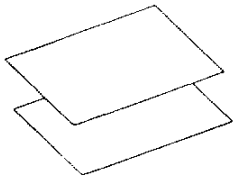
Note. Adapted from Algebra II with Trigonometry (p. 217), by B. Hall and M. Fabricant, 1983, Englewood Cliffs, NJ: Prentice Hall.



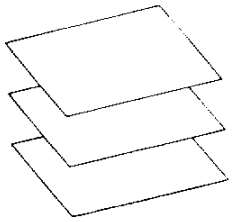
2a
Planes intersect in
two parallel lines
no common solution



2b
Planes intersect in
in three parallel lines
no common solution



2c
Two planes intersect
the third is parallel
no common solution



2d
Three planes parallel
no common solution

Figure 2. Inconsistent systems of equations in three variables

Inconsistent systems offer no common solutions and have nothing to offer PRSM in the quest for quality of living, personal well-being, societal satisfaction and quality of life.

Note. Adapted from Algebra II with Trigonometry (p. 217), by B. Hall and M. Fabricant, 1993, Englewood Cliffs, NJ: Prentice Hall.

point of intersection (Figure 1a), the system described is consistent and independent (the outcome is predictable. If there are multiple points of intersection forming either a line or a plane (Figures 1b & 1c), the system is consistent and dependent (there are possibilities or probabilities based on the actions of the variables). Other systems expressing parallel lines and parallel planes are inconsistent (Figures 2a, 2b, 2c & 2d). They lack points of common intersection and thus have no solutions (Hall & Fabricant, 1993).

10) testability of the model - External consistency is also an issue. Models which display external consistency accurately represent the data they presume to address. External consistency is dependent upon testability which is a function of the model's ability to generate clear hypotheses.

Testable models have precisely defined elements, processes, and relationships.

11) usefulness of the model - On a broader scale, theory is merely preparation for practice. Theories that survive, particularly in the applied world of resource management, generally offer some form of important practical application.

12) appropriateness of the model to the time - Theories must also be appropriate to "their time". No theory can thrive in a social climate that does not find it plausible and acceptable. Public tolerance, funding of research, interest among researchers, and application by practitioners all depend on the acceptability of the theory.

Theoretical Development

The final items in the Liebert and Spiegler framework invite open ended evaluation of the theory or model. They provided the gateway to interdisciplinary research extending resource management theory and to development of the PRSM model.

13) Suggested improvements to the model
14) Other comments

Summary

The greatness of any system is largely determined by its capacity to hold a shared picture of the future to be created (Senge, 1991, p. 9). People enjoy working together toward goals, sharing common principles and practices and learning that which has become personally meaningful. Models provide powerful tools for that alignment, determining what we see, the sense we make of it and the action that is subsequently taken. While models unexamined may confine actions to the routine and familiar, models examined, refined and creatively engaged facilitate learning. The shared vision

established by a good model lifts aspirations, creates identity and compels courage, risk taking and experimentation, all for the good of a cause. Such visions become commitments. Peter Senge (1990) describes the impact of strong models thus.

> The discipline of seeing interrelationships gradually undermines older attitudes of blame and guilt. We begin to see that all of us are trapped in structures, structures embedded both in our ways of thinking, and in the interpersonal and social milieus in which we live...Often, the structures are of our own creation. But this has little meaning until those structures are seen. For most of us the structures within which we operate are invisible. We are neither victims nor culprits but human beings controlled by forces we have not yet learned how to perceive. Senge (1990, p.171).

Marjorie Brown (1985, 1993) has questioned the ability of theory and models in FCS to provide direction, maintaining that despite the discipline's professed emphasis on well-being, a "legacy of conceptual inadequacies, ideological beliefs, and contradictions resulting in lack of a coherent position...as a guide to practice" has allowed practices which undermine well-being while proposing to promote it (1985, p. 367). Margaret Henry (1995) found that fewer than half of Home Economics practitioners interviewed identified well-being as the focus of the discipline, although two-thirds felt it should be. In an effort to address these discrepancies, this research adopted as minimum requirements for future resource management models 1) the description of person-environment interaction and aggregates thereof (family and community), and 2) the identification of the diverse daily impacts on quality of living, personal well-being, societal satisfaction and overall quality of life. This was to be accomplished by modeling a consistent system of multiple options, each with a clear solution. These assumptions framed the interdisciplinary search for material to extend resource management theory.

Slowly patterns have begun to emerge. What has developed is not well-being found, but ***a model of personal resource systems management (PRSM) describing where and how to look for well-being***. This is a huge and immensely important topic. At best this brief encounter raises questions. Those looking for answers to valid and reliable constructs will find only bits and pieces, and probably experience a certain degree of frustration. On the other hand, those who can embrace a credible and useful search for meaning might use this research to initiate a search of their own. It is sufficient that points of dialogue are established, and that a spirited discussion can begin. If this research can contribute to that discussion then the time invested will be justified. Visioning has always been the first order of business in entrepreneuring. Addressed early in the life of the enterprise, visioning establishes an understanding about what is important to do, who will do which piece of it, in which order, and to what degree. It seems equally appropriate to address these broad issues at the beginning of an academic career, and to establish both a protocol and rich cache of questions for future research; questions which are connected by core concepts, and which will over time build a useful body of knowledge. That is what I am doing here. ***I am making a beginning.***

I shall take the simple minded view
that a theory
is just a model of the universe,
or a restricted part of it,
and a set of rules
that relate quantities in the model
to observations we make.

A theory is a good theory
if it satisfies two requirements:

It must accurately describe
a large class of observations
on the basis of a model
that contains
only a few arbitrary elements,

and

it must make definite predictions
about the results
of future observations.

Stephen Hawking
A Brief History of Time
1990

Chapter IV
FINDINGS FROM THE LITERATURE
RESOURCE MANAGEMENT MODELS
1975-1996

The research identified two major themes which have dominated resource management models in the last two decades. The first defined the structure of the resource management concept, often using some interpretation of Bronfenbrenner's ecological model (1979, 1986). The second employed either systems theory or management flow charts to describe the functions or processes involved in resource management. Frequently management theory was combined with systems theory in a cybernetic system. In addition to the two major model types, miscellaneous offerings have been imported into the textbooks from other disciplines to explain specific aspects of the person-environment transaction and resource utilization. Foa and Foa (1971, 1974) researched patterns of resource exchange. Maslow (1954, 1970) proposed a hierarchy of human needs. Decision making and communication models explored interactions, while life cycle and feedback spirals chronicled effects over time.

Structural Models in Resource Management

Structural models in a field of study identify the elements to be studied and describe the organizational nature of those elements and the relationships within and among them. Such models provide a handy reference in practice, mapping the intellectual territory. As such, they form new theory, guide curriculum development, suggest research directions, influence practice and shape both internal and external perceptions of the endeavor they describe. Using the power of the graphic format, models preserve and promote core concepts much the same as vision and mission statements guide strategic and operational activity in business.

Resource management has, since inception, been concerned with person-environment interaction. The models profiled here reflect an historical disciplinary emphasis on that interaction. They also reflect a growing interdisciplinary awareness following the cataclysmic events of World War II of the interconnectedness of humans and their environments. Structural models in resource management often reflect the ecological perspective pioneered in social psychology by Kurt Lewin (Lewin, 1997; 1948) and expanded by Urie Bronfenbrenner to unite descriptive and experimental psychology in a system he called The Ecology of Human Development consisting of nested micro-, meso-, exo-, and macrosystems (Bronfenbrenner, 1979). While these understandings paralleled the traditional concerns of Family and Consumer Sciences, it is important to remember that the systems and ecological models did not emerge from this field. Imported models frequently required significant adaptations. When the adaptations were occasionally overlooked, leaving the fit between model, disciplinary tradition and empirical experience seriously lacking, the models did not exhibit external consistency. This discrepancy led Marjorie Brown (1985) to comment on the gap between what we say and what we do in Home Economics.

Deacon & Firebaugh (1975)
Home Management: Context and Concepts

Social Interactions of Wives and Mothers

In keeping with the practical heritage of resource management, the first model to be examined is a model emerging from the data, the report of a study of the "Social Interactions of Wives and Mothers," which investigated the perceptions of 571 respondents regarding their social activities (Figure 3).

- Organization and clarification of observations. This social role model featured a central core of self-maintenance, surrounded by a segmented array of duties to specific aspects of the environmental field. Elements of the environment with which there was no active role relationship were presumably irrelevant as they received no representation. Regarding only elements for investment of attention in the form of role relationships and which have been moved into the near environment, restricts attention to those elements among the many available in the environment where there is opportunity for development. The person-transaction-environment relationship is very apparent, as is the relative investment in the relationship. The relationship concept is a valuable find which remains a very contemporary and useful construct; however, this model does not address well-being, except possibly under the guise of self-maintaining duties.

- Explanation of past events and prediction of future events. The model did not attempt to explain events prior to the reported time period, nor did it explicitly predict future transactions. The purpose of this model was to report the present experience of the housewife and mother by representing her interactions during a given time period.

- Conveyed understanding of the subject matter. The graphic representation of relationships left little question about the data reported. The data reported involved time devoted to a particular relationship. There is no provision for subjective evaluation of the relationship.

- Ability to generate new ideas and research. This representation suggests research on patterns of engagement that would greatly enhance the explanatory power of resource management models.

- Elements supported by empirical research. This model was generated inductively, specifically as a report of empirical research.

- Elements requiring further research. The categories "general duties" and "self-maintaining duties" would require further definition for use in future models, however, the division into internal and external processes is interesting.

(Copyrighted figure unavailable to ETD)

Figure 3. **Social interactions of wives and mothers**

Note. From Occupation:Housewife (p. 138), by H.Z. Lopata, 1971, NY:Oxford University Press. Also appearing in Home Management: Context and concepts (p. 121), by R.E. Deacon and F.M. Firebaugh, 1975, Boston: Houghton Mifflin Company. Copyright 1971, Oxford University Press, 1975, Houghton Mifflin Company.

- Parsimony of the model. This model was quite elegantly constructed and conveyed substantial information in a very concise manner.

- Extensiveness of the model. This was not a theoretical model and was not extensive. It was specific to the report at hand.

- Internal consistency of the model. This model maintained a transaction-environment organization, and environmental elements are similar in form. Because wife or mother was identified as the subject of the model in the title, self-maintaining duties might be considered as person. If person is assumed as a central intersection, the system described by this model is consistent and dependent with an infinite number of solutions (Figure 2a).

- Testability of the model. Though the organization of this model reflects many aspects of the person-environment relationship, the relationships cannot be tested for well-being. There is no provision for making that evaluation. Indeed, the designation of process as "duty" seems to make evaluation of well-being irrelevant.

- Usefulness of the model. This type of structural model is extremely useful for assessment purposes. Like a balance sheet in financial accounting, it provides a snapshot of the current situation. Perhaps the most useful aspect of the model is the clear identification of personal interactions. This identification enables the person to question the desirability of specific engagements and develop alternative strategies. Successive snapshots can be compared to identify developing trends, and ratios comparing one interaction to another can enhance the meaning of the data. A model providing some measure of well-being would be more useful for the future.

- Appropriateness of the model to the time. The central focus on the female housewife and the reactive stance indicated by the terminology "duties" are typical of traditional home management orientations. A quick glance at the titles of the roles speaks volumes about the circumscribed role of the housewife in America prior to the women's liberation movement. While the expectations expressed are somewhat outdated, the construction of the model remains current, particularly with regard to the organization of the person's interactions with the environment in terms of specific role relationships.

- Suggested improvements to the model. Future models might be more explicit about the organization of the central self and the nature of self maintenance. New models could correct the reactive bias implied by the term duties by substituting the term interaction or transaction and expand the concept to include both genders (i.e. replace the terms wife and mother with person). They might also provide flexible categories for reporting of interactions.

Nickell, Rice & Tucker (1976)
Management in Family Living

The Management Wheel

This text offered a model of the "Management Wheel" (Figure 4) which reflects a stage V emphasis on decision making.

- Organization and clarification of observations. The organization of this model seemed to be process (decision making) - elements (resources) - process (planning, organizing, implementing, evaluating) which contrasts sharply with the element-process-element organization of the proposed person-environment transaction conceptualization. Decision making was the central element of the model and categories were provided for multiple inputs to the decision making process. The model combined both structural and functional elements to describe the process.

- Explanation of past events and prediction of future events. A circular causal chain was established between planning, organizing, implementing, and evaluating, which had points of contact with various resources. A situation inserted at any point in the causal chain would have generated both predictions of future possibilities and explanations of prior events if specific resource availabilities were specified.

- Conveyed understanding of the subject matter. The organization of this model left some questions about the position of the person in the process. The person appeared to be external to the process...planning, organizing, implementing and evaluating to engage specific resources to produce a decision. The central element was not the product "decision," however, but the process "decision making." This left the person's position in the schema unclear.

- Ability to generate new ideas and research. The model provided infinite variables for research since the plan, or any other link in the process chain, could have been varied as could the specific nature of resources available.

- Elements supported by empirical research. This appeared to be a purely theoretical conceptualization, not the result of empirical research.

- Elements requiring further research. The resource categorization in this model did not seem *w*ell developed. Time, space and energy were included as resources alongside space, judgment, credit, light, appearance, money, etc. Further research and conceptualization are needed.

- Parsimony of the model. Further categorization of resources would have been helpful. There were too many resources specified with no apparent organization or positioning to make them memorable.

(Copyrighted figure unavailable to ETD)

Figure 4. The management wheel

Management is a wheel of activities, each involving decision making, and each utilizing a different combination of resources to satisfy wants.

Note. From Management in family living. (p. 38), by P. Nickell, A.S. Rice, and S.P. Tucker 1976, NY: John Wiley & Sons. Copyright 1976 by John Wiley & Sons.

- Extensiveness of the model. The model described a single process, decision making, but was applicable to a wide variety of users, including persons, families and communities.

- Internal consistency of the model. The internal elements of the model were not similar. Segments did not discriminate between elements of the environment, aspects of the person, and event constraints all of which occupied the middle ground between decision making and the management processes of planning, organizing, implementing, and evaluating. Creativity, abilities, appearance, judgment, light, temperature, space, friends, relatives, schools, government, etc. occupied a single level designated as resources. Both time and space were included as resource elements. Though the model did not display similarity among elements, the system described by the model was consistent and dependent (Figure 2a) in the convergence of resources and management processes of decision making. Decision making offered an infinite number of solutions.

- Testability of the model. This model could never be testable for well-being because there were no provisions for results.

- Usefulness of the model. The usefulness of this model was compromised by the number, complexity, and randomness of resource categories and the uncertain position of the person with regard to process. The organization bears no similarity to the person-environment organization under discussion for future models and there is no method for determining well-being.

- Appropriateness of the model to the time. Appropriately, the model made no reference to the gender of persons involved in the decision making. However, the designation of time and space as resources in this context employs Newtonian conceptualization of what had by 1976 become the relative Einsteinian entity space/time.

- Suggested improvements to the model. Consider positioning the person more clearly with regard to the model. Simplify and clarify resource categories. Examine the relative positioning of resources in the model. Be attentive to consistency and parallelism in categorization. Attempt to accommodate the person-environment transaction conceptualization. Specify well-being.

Nickell, Rice & Tucker (1976)
Management in Family Living

The Integrative Role of Home Management

Resource management model number three (Figure 5) titled "The Integrative Role of Home Management" was from the same text and provides a second perspective on that paradigm.

- Organization and clarification of observations. The focus of home management was again choice, labeled "ways;" however, the ways were further described in terms of contribution to family values and personal and family goals, which could easily be interpreted as well-being. Resources again occupied the middle position and again were represented as elements. However, in this model, rather than appearing randomly, resources were categorized as human and non-human. The human resources were designated as abilities and skills, attitudes, knowledge and energy. These designations are especially interesting since they so closely parallel the traditional psychological designations: behavioral (abilities and skills), affective (attitudes) and cognitive (knowledge). Energy might be considered a more holistic animating force. Non-human resources were characterized as time, money, goods and property, and community facilities.

- Explanation of past events and prediction of future events. Resources in this model contributed directly to family well-being. Though no mechanism was provided to explain the correlation, elements were identified for consideration. This type of scenario planning is consistent with the understanding expressed by many modern physicists, which has been adopted by leading edge management teams in business (i.e. Royal Dutch/Shell). In scenario planning, multiple scenarios would be constructed to explain the various *possibilities* inherent in a given situation, rather than attempting to determine the statistical *probability* of specific outcomes. But, the relationship between internal outcomes (value reinforcement) and external outcomes (goal attainment) was not very clear in this model and would need to be clarified to describe impacts on a person-environment interaction.

- Conveyed understanding of the subject matter. This model presented a funnel analogy that was clear and easy to understand.

- Ability to generate new ideas and research. Research suggested by this model involves the correlation between resource availability and family well-being (realization of family values and attainment of family goals).

- Elements supported by empirical research. Correlations between specific resource availabilities and family well-being have been researched extensively.

(Copyrighted figure unavailable to ETD)

Figure 5. The integrative role of home management

Home managment involves planning, organizing, controlling, and evaluating the use of family resources.

Note. From Management in family living. (p. 38), by P. Nickell, A.S. Rice, and S.P. Tucker 1976, NY: John Wiley & Sons. Copyright 1976 by John Wiley & Sons.

- Elements requiring further research. This representation of time and energy raises questions which require further investigation.

- Parsimony of the model. The model was concise.

- Extensiveness of the model. The model was applicable to a wide variety of situations.

- Internal consistency of the model. The model conforms with the understanding of time and energy traditional in the customary practice of resource management. Representation of time as a resource on the order of goods and property might need to be re-evaluated in terms of the new physics. The system described by the model was consistent and dependent offering an infinite number of solutions to well-being at the intersection family.

- Testability of the model. The model could be tested for impact on well-being by varying resource availability and measuring impact.

- Usefulness of the model. The model has some usefulness for future applications because of the focus upon well-being.

- Appropriateness of the model. Gender was not an issue in this model. The model was proactive rather than reactive. Although titled "home management," this model was actually focused on the family and begins to exhibit some mobility (not tied to one geographic location). This model reflected the prevailing social understanding in 1976. The family is a more diverse and interactive entity today than it was twenty years ago. A model proposing to describe well-being today would be required to examine the impact of transactions upon each family member individually, as well as the synergistic result of the group as a whole.

- Suggested improvements to the model. The human/non-human dichotomy, as it was characterized in this model, presents several problems in application for a science dedicated to personal well-being. The most significant confounding construction was the representation of human resources from an objective, rather than a subjective viewpoint. There was simply no distinction made between the resources of the person, the resources of the family, and the human resources outside of those boundaries. If the purpose of the model was subjective and normative, which it seems to have been in this case (family values, personal goals, and family goals), this distinction is pivotal. The second major question raised by the model is the inclusion of time at the same level as money, goods, and facilities. While there are strong arguments in favor of designating time as an exchangeable resource, there are equally strong conceptualizations of time/space as a boundary within which such exchanges occur, and of time/space as a boundary created and defined by the exchange itself. The issue of whether the operator experiences and is *in time*, defines and *creates time* or actually *uses time* must be very carefully considered as this is not a trivial aspect of conceptualization.

- Further comments. The overarching role of home management in this model consisted of "planning, organizing, controlling, and evaluating the use of family resources." From a systems viewpoint the two process-element-process representations presented by Nickell, Rice and Tucker raise the question of where to locate the person. Resolution of this positioning becomes very important to reflective practitioners, concerned with the pursuit of radical democracy and engaged in a struggle against authoritarianism. To accommodate the person-environment assumption, the family designation in this model would need to be further differentiated as individual persons and then re-aggregated to identify individual interests and contributions. Despite these qualifications, the model offered many useful constructs for the future, among which were: the connections established between management, resources, and personal goals; the value and goal oriented purpose of management; the cataloguing of resources; and the scenario format. Future models might retain the separation of resources into easily remembered categories and maintain value and goal orientation, but reconceptualize both the relationship between operator, management process and environmental resource and the existence of that relationship with regard to time.

Paolucci, Hall & Axinn (1977)
Family Decision Making: An Ecosystem Approach

Elements of the Ecosystem

Paolucci, Hall, and Axinn used Koenig and Eden's (1975) model to describe the "Elements of the Ecosystem" (Figure 6).

- Organization and clarification of observations. The model, as it was used in this text, was meant to describe the family in terms of a producing, socializing, consuming system linked by material and energy flows to elements of the ecosystem identified as natural, agricultural/industrial, and social regulatory. The model originally depicted "Energy, ecology and economics: The realities of thermodynamically based economics," so families, rather than being a central force in the model were depicted merely as one among many cybernetic systems. The conceptualization was loosely based on the hierarchical relationship between heaven or the patriarchy (the rule makers) and earth (the natural environment) with humans and their constructs between. The relationship was both systemic and ecological, with the categories of participants and the nature of their interactions specified. However, this objective birds-eye view of the structure presents problems for resource management which espouses focus on the personal. No provision was made for determining well-being.

- Explanation of past events and prediction of future events. With sufficient specification, elements and interactions, correlations (some of which might be causal) might have been identified using this model.

- Conveyed understanding of the subject matter. Categories and relationships were well developed and clearly represented. The model could not be readily applied to the person-environment transaction assumptions because the focus was too diffused.

- Ability to generate new ideas and research. Variables were sufficiently rich to support new ideas and research.

- Elements supported by empirical research. This appeared to be a purely heuristic model. No mention was made of supporting empirical research.

- Elements requiring further research. There was no central focus to this model (perhaps intentionally), but such lack of focus is contrary to the FCS and resource management vision which clearly expresses a focus on individuals and families.

- Parsimony and extensiveness of the model. The model expressed a complex and extensive array of concepts concisely.

(Copyrighted figure unavailable to ETD)

Figure 6. Elements of the ecosystem

The family is a basic producing, socializing, and consuming system, inextricably linked to external environments by material and energy flows (Paolucci and Hogan, 1973, p.12).

Note. From Family decision making: An ecosystem approach. (p. 28), by B. Paolucci, O.A. Hall, and N.W. Axinn, 1977, NY: John Wiley & Sons. Copyright 1977 by John Wiley & Sons. Figure adapted from Energy, ecology, and economics: The realities of thermodynamically based economics. H. Koenig and T.C. Edens, 1975, unpublished paper. Michigan State University.

- Internal consistency of the model. The strength of this model, for future applications, was in the categorization of elements and their interaction by matter/energy flows. This arrangement established an element-process-element relationship, with organic systems interacting with cybernetic systems through production and consumption processes. The model described a system in either three parallel planes or planes intersecting in three parallel lines when process was considered. Either system configuration is inconsistent and offers no solutions.

- Testability of the model. Variables and relationships were sufficiently well defined to be testable, but there were no specific provisions for determining well-being.

- Usefulness of the model. Though both cybernetic and natural systems were labeled as subsystems of the ecosystem, the graphic positioning in this model suggested a subordinate position for organic systems and a superordinate position for cybernetic systems. Of course a case can made that the organic system is primary and that cybernetic, or control systems, are by their very nature governing, and therefore superordinate. The logical end of such reasoning is the devaluation of individual persons as organic systems as well as the devaluation of the natural environment. One implication of this representation is that individual persons have value only in their capacity to produce and consume. While hierarchical organization has been a key feature of systems theory, any such devaluation is counter-indicated in a science devoted to personal well-being and is an anathema to reflective practitioners.

- Appropriateness of the model to the time. The hierarchical nature of this model implied power relationships that are no longer acceptable to reflective practitioners in the discipline.

- Suggested improvements. Future models, developed in accordance with interactive practice, might prefer to represent systems relationships as holarchical rather than hierarchical. Holarchical representation would depict personal systems (organic), as well as the basic (organic) and constructed (cybernetic and material) elements of their near environments, as collaborators neither governing nor being governed, but engaging in a process of dialectic. To be retained as an organizing principle for interactive practice, systems thinking must offer a format which can accommodate collaboration. Value must also be established for processes which make direct contributions to well-being, quite apart from any indirect contribution made through production or consumption, processes which are co-constructed, in which both parties are active participants. A model offering global utility, as befits the geographic distribution of current practitioners in the discipline, must acknowledge in this manner the eastern focus on "being" as well as the western focus on "having." Remaining elements of this model which might be retained in some form for future models include the categorization of elements and processes (information/policy; cybernetic/religious, political, judiciary, educational; human/familial; natural/organic, agricultural; material/industrial; economic); and the element-process-element organization of those elements and processes.

Gross, Crandall & Knoll (1980)
Management for Modern Families. 4th Ed.

Model of the Family System, Its Environments and Subsystems

Gross, Crandall and Knoll were more explicit in those categorizations in their "Model of the Family System, its Environments and Subsystems" (Figure 7).

- Organization and clarification of observations. Environments were clearly segmented in terms of the character of their resources (economic, political, natural, technological, and sociocultural) as well as their proximal or distal relationship to the family (household environment, near environment, larger environment). The family was the central focus of the model. However, this model acknowledged the importance of subsystems in the family, introducing the concept in terms of psychosocial (cognitive/affective) and managerial (behavioral) subsystems. Interaction (process) in the model was indicated by a series of oppositional arrowheads indicating action and constraint at environmental and system boundaries. This is a very rich conceptualization for future consideration as it not only established a subjective, human focus for the model, but began to categorize both the nature of that focus (psychosocial/managerial), and the elements of the environment which it experiences (economic, political, natural, technical, sociocultural). Further, this understanding fulfilled the requirements of interactive practice for a communicative interaction process.

- Explanation of past events and prediction of future events. This ecological model established the space/time relationship of contributing resources. However, further development of functional aspects would be required for adequate explanation of past events and prediction of future events. There was no provision for specifically explaining or predicting well-being.

- Conveyed understanding of the subject matter. The understanding of ecological relationships was presented very clearly in this model. The family-environment transaction was clear. In terms of the assumptions adopted for this thesis, the individual person remains undefined and well-being was not addressed.

- Ability to generate new ideas and research. The ecological model offered specific points to generate research. One particularly fruitful vein for future research suggested by this model involves the comparative distribution of resources in the various domains.

- Elements supported by empirical research. The ecological framework was closely associated with the work of Urie Bronfenbrenner and benefits from a variety of research by Bronfenbrenner (1979), his students, associates and followers.

(Copyrighted figure unavailable to ETD)

Figure 7. The family system, its environments and subsystems.

Note. From Management for modern families. (p. 25), by I.H. Gross, E.W. Crandall, and M.M. Knoll, 1980, Englewood Cliffs, NJ: Prentice Hall, Inc. Copyright 1980 by Prentice Hall, Inc.

- Elements requiring further research. The description of the family in terms of a managerial system a psychosocial system was unclear and difficult to explain or use in practice. The nested shell hierarchy of this ecological system seems unnecessarily confining. Perhaps there is a way of modeling these relationships that appears more open. Foa and Foa (1974) have indicated that there is a pattern to the relationship of resources which determines exchangeability. No such pattern was indicated in this model.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was extensive.

- Internal consistency. The model demonstrated internal consistency and described a consistent dependent system with an infinite number of solutions (Figure 2a). The family provided the line of intersection.

- Testability of the model. The model could be tested for relationships between elements, but there was no method provided for determining well-being.

- Usefulness of the model. This model was very useful for identifying available resources and discussing possible interactions.

- Appropriateness of the model to the time. The careful selection of broad categories, of the type demonstrated by this model, is particularly appropriate for our 21st Century global society. This format encourages individual expression in subset elements while maintaining sufficient familiarity in the sets to be both memorable and communicable. It is true that some reflective practitioners will question the benefits of categorization. Any abstraction is, in fact, a mixed blessing. By calling attention to certain categories, the model relegates others to obscurity. Elements which do not fit the schema, no matter how important, remain invisible. Although practitioners must remain mindful of the coercive nature of paradigms, the solution cannot be the elimination of categorization. The human mind cannot comprehend complexity without a schema of some sort. The question must revolve around individual personal control of the schema.

- Suggested improvements to the model. The primary difficulty posed by this model was that the use of the family unit as a focal point precluded the use of this model in evaluations involving family dynamics. The data detailing individual contributions to family resources never appeared, so there was no way to determine or promote possible synergies. While this monolithic representation may have been sufficient for a rural, home based economy, featuring a traditional stable family unit, it fails to adequately describe the nature of the current status of the family. Today's family unit is more diverse, more flexible, more complex and much more involved with the outside world, all of which make it more changeable than its historical precedent. Further, the family is no longer either patriarchal or matriarchal. In the new

collaborative family structure, the composition of family contributions cannot be assumed. In order to meet the current need, a model must be able to detail the interactions of each individual with his or her environment and identify the contributions that each brings to the family unit. Only in this manner can effective assessments, supports, preventions and interventions be fashioned using the tools provided by personal resource systems management.

- Further comments. This was a clean, elegant, conceptualization which represented a significant step forward from previous models and set the tone for the current understanding of ecological relationships in resource management.

Swanson (1981)
Introduction to Home Management

Spheres of Interaction

Swanson presented a model labeled "Spheres of Interaction," which differed from previous models in a number of very interesting aspects (Figure 8).

- Organization and clarification of observations. The individual was once again the focus of the model although depicted clearly as nested within home and family. Both human and non-human resources were again accounted for. Resource categories (political, economic, cultural) were cast as process arrows rather than environmental attributes, indicating that there might be something in the nature of resources that requires a process or a relationship. Those process arrows portrayed a different kind of interaction, collaborative rather than oppositional, indicating a more open give-and-take relationship rather than a hierarchical action and constraint experience.

- Explanation of past events and prediction of future events. The environmental nesting distribution was skewed so that all environments shared a point of convergence, presumably here and now, at which the distance between boundaries collapsed. The interpretation was reinforced by the visual resemblance of this skewed space distribution to the skewed time distribution of the Family Life Cycle model (Figure 24). In light of Einstein's theory that space and time are a single entity (space/time) this is a very satisfying convergence. This model did not explicitly develop the life cycle connection however.

- Conveyed understanding of the subject matter. Understanding of the person-environment transaction was clearly *c*onveyed, but there was no provision for determining well-being.

- Ability to generate new ideas and research. The model offered interesting opportunities for qualitative research describing cultural, economic and political transactions with both near and far environments. There was no provision for quantifying well-being.

- Elements supported by empirical research. This model benefited from research in the ecological tradition.

- Elements requiring further research. Swanson offered political, economic, and cultural processes as avenues for interaction. Gross, Crandall and Knoll offered these categories as domains rather than processes and added natural and technical to the list. Additional research is needed on the types of resources and ecologies.

(Copyrighted figure unavailable to ETD)

Figure 8. Spheres of interaction.

Note. From Introduction to home management. (p. 12), by B.B. Swanson, 1981, NY: MacMillan Publishing Co., Inc. Copyright 1981 by Macmillan Publishing Company, Inc.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was extensive.

- Internal consistency of the model. The model was internally consistent and described fifteen consistent independent systems (Figure 1) at the intersections of spheres and arrows (i.e. individual x cultural x time). A consistent dependent system with an infinite number of solutions was centered on the individual (Figure 2a).

- Testability of the model. The model did not provide a vehicle for evaluating well-being, so it is not testable in terms of the previously stated assumptions.

- Usefulness of the model. The model was useful for organizing and examining variables. Further research is indicated at the points of intersection between arrows (processes) and spheres (domains).

- Appropriateness of the model to the time. By 1981 the women's movement was well established. Home Economics as a discipline was being attacked by feminists as being too conservative and the discipline was losing numbers because younger women considered the identity of housewife and mother too restrictive. Nested hierarchical models reinforced that perception. This model offered an escape from that hierarchy at the point of convergence.

- Suggested improvements to the model. In keeping with the text's emphasis on "home" management, the individual was depicted as nested within the family and the family within the shelter. While this is true of some of the people some of the time, for many men, women and children substantial time is spent outside the home and away from the family. Yet much of this time can still be considered personal, dedicated to first order interactions which impact our own state of being and occur in the near environment. Future models might also account for the second homes in which much of life is now spent. These second homes include daycare centers, schools, offices, shops, indeed any familiar environment which significantly influences the daily experience. The distinction is subtle, but graphically it changes the relationship of individual to family and home, changing that relationship from a fixed state to a state which is entered and exited or "chosen." Homes and families would then considered as resources, much as one would consider autos and friends. Shifting the family and home from the position of an environment surrounding the individual, to the position of resource available to the individual, could emphasize the importance of personal involvement and access. It would reiterate the reality that beyond a certain age each individual has an identity separate and distinct from the family. The necessity of directing attention to loved ones and investing in those relationships could become clear and measurable. The home might then emerge as a valued refuge and launch pad rather than a routine environment.

- Further comments. The features of this model which have relevance for future models are the individual as a focal point, the skewed distribution of environments converging in the present experience and the collaborative nature of the interactive process. From the perspective of this thesis, these developments represented a significant step forward in the conceptualization process.

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Deacon & Firebaugh (1988)
Family Resource Management: Principles and Applications. 2nd Ed.

*Micro- and Macroenvironment of the Family System*

Deacon and Firebaugh returned to the ongoing academic discussion with a model of the "Micro- and Macroenvironment of the Family System" (see Figure 8).

- Organization and clarification of observations. Again the monolithic family served as the focal point of the system. That family was depicted as nested within a micro-environment (physical and social), lying within a societal systems macro-environment (political, technological, sociocultural, economic), situated within a natural/structured macro-environment (physical, biological, human made). This graphic organization reversed the relationship observed in Figure 5, in which the organic subsystems of the natural environment appeared subordinate to the cybernetic subsystems of the rule makers (judiciary, educational, political, familial, economic, religious). Here the natural/structured macro-environment surrounded, and appeared therefore to govern, the societal system's macro-environment. Both appeared to dominate the physical and social micro-environment. While the hierarchical perception was and to some extent still is a major feature of both ecological theory and systems theory, it has been very disturbing to many practitioners.

- Explanation of past events and prediction of future events. This model was a snapshot of the current situation only. No process was indicated.

- Conveyed understanding of subject matter. The model presented a clear understanding of the environmental elements impacting the family.

- Ability to generate new ideas and research. The model suggested variables but did not expand the research program in resource management.

- Elements supported by empirical research. This model was another derivative of the Bronfenbrenner concept and was supported by more than a decade of ecological research in resource management.

- Elements requiring further research. This model presented the assumption that "natural/structured" environments were superordinate to societal systems. This assumption would imply that societal systems would be governed by natural/structured systems and that natural/structured systems would emerge from societal systems. The assumption requires further investigation. Also, the relationships between resources would benefit from further definition.

*(Copyrighted figure unavailable to ETD)*

**Figure 9. The micro- and macroenvironment of the family system.**

Note. From Family resource management: Principles and applications, 2nd Ed. (p. 30), by R.E. Deacon and F.M. Firebaugh, 1988, Needham Heights, MS: Allyn Bacon, Inc. Copyright 1988, 1981, Allyn Bacon, Inc.

- Parsimony of the model. Subheadings (physical, social, economic, etc.) were not presented as parsimoniously in this model as they were in Figure 7. Further, this model, published eight years after Figure 7 and seven years after Figure 8, seems to add to the literature without making a case for improvements in the existing ecological models.

- Extensiveness of the model. The model was extensive, addressing aspects of both natural and social sciences.

- Internal consistency of the model. The model was internally consistent, and it seemed to describe a consistent dependent system with an infinite number of solutions in which all planes coincided (Figure 2b).

- Testability of the model. This model was not easily testable. Resource categories and relationships were not clearly defined or positioned for testing. The model is not testable for the assumptions of this thesis because there is no provision for testing well-being.

- Usefulness of the model. The model was useful for suggesting the wide variety of resource categories but presented real problems for the consideration of relationships.

- Appropriateness of the model to the time. This model continues to play a prominent role in the practice; however, some practitioners would question its static hierarchical organization. Reflective practice demands recognition of the dialectic, the give and take, between and within systems. Such interaction preserves the self-constructed nature of environments while acknowledging the reality of existing environmental constraints. Graphically reflective models require the representation of both

    1) interaction among competing environmental elements and
    2) human freedom of choice between those elements even though that freedom of choice is frequently constrained.

- Choices which are assumed to exist are more fervently demanded than options which remain unacknowledged. And personal performance has been found to be both more satisfying (Csikszentmihalyi, 1990) and more effective when such choices remain under personal control. Notice please the distinction that *choices* are controlled, rather than the environmental elements. Environmental elements retain their own agenda. The interactive person is dynamic in the pursuit of meaning and well-being.

- Suggested improvements to the model. This structural model was different from the previous models examined in that there was no reference to process within the system. The model was a static representation of elements and their relative positions in the ecology. Process description in this text was reserved for a separate, and more extensive, exploration through a series of functional models. There was no overlap between the structural and functional models. Structure and function must provide a

unified description in a goal oriented practice like resource management. If the purpose of the practice is to move toward well-being, using only a structural model is the equivalent of handing someone a map without mentioning mode of travel. Functional models not structurally imbedded lack direction. Neither descriptive model stands alone. They must be conceptually integrated.

- Further comments. The structural model presented in Figure 9 reinforces the categorical representations previously encountered and restates the position of the human element at the center of its system. These two features should be retained and merged with dynamic representations in future models.

Goldsmith (1996)
Resource Management for Individuals and Families

*The Foa and Foa Model of Resource Exchange*

In this volume Goldsmith presented two structural models. The first, the "Foa and Foa Model of Resource Exchange" (Figure 10), examined the nature of resources and the relationship of one resource to another. The model was not new to resource management literature. It previously appeared in Deacon and Firebaugh (1988) and Paolucci, Hall and Axinn (1977) and was referenced in Gross, Crandall and Knoll (1980).

- Organization and clarification of observations. In this model, resources were characterized by the utility or affordance (love, service, goods, money, information, status) perceived by the consumer rather than by environmental designation, and the resource categories corresponded loosely to various needs theories. Needs theory indicates that specific needs can only be satisfied by the resource needed (Maslow, 1970). The position occupied by the resource on the Foa & Foa model indicated that resource's suitability for exchange with other resources. The more similar the resources in terms of concreteness and particularism, the more suitable they were for exchange. Since Foa and Foa's work was cited in the majority of the texts examined, both the nature of the resource categories chosen and the relative position of each resource category in the model should be very carefully considered for future use.

- Explanation of past events and prediction of future events. This model advanced the hypothesis that resources having similar attributes of concreteness and particularism are more easily exchanged than dissimilar resources (i.e. love and status or love and service are exchanged with greater satisfaction than love and money).

- Conveyed understanding of subject matter. The model clearly represents resource relationships. This model does not establish the position of resource relative to persons and environments, a necessary point of reference in view of the assumptions adopted by this thesis. Nor does this model establish criteria for well-being.

- Ability to generate new ideas and research. The relationships established by this model suggest very rich research opportunities in resource management (choice and decision making toward well-being), family dynamics (synergy provided by aggregation of individual resources) and public policy (resource packages to ameliorate shortfalls).

- Elements supported by empirical research. The relationships proposed by the Foa and Foa conceptualization have been empirically tested with satisfactory results.

*(Copyrighted figure unavailable to ETD)*

**Figure 10. The Foa and Foa model of resource exchange.**

Note. From Resource theory: Exploration and applications by U. Foa, J. Converse, K. Tomblom, and E. Foa, Ed., 1993, San Diego: Academic Press. Also appearing in Resource management for individuals and families (p. 82), by E.B. Goldsmith, 1996, NY: West Publishing. Copyright 1996, West Publishing.

- Elements requiring further research. The positioning of goods and service seems to require further research. If goods could be repositioned without detriment to occupy the place now held by services, and vice versa, the resource placements would form two triangles (BASIC: love, service and information - and CONSTRUCTED: money, goods and status). The contrasts suggested by those groupings would provide a very interesting research venue.

- Parsimony of the model. This was a beautifully constructed model.

- Extensiveness of the model. The model was extensive.

- Internal consistency of the model. The model displayed internal consistency in that the concepts were similar. However it described two inconsistent systems, neither offering solutions, because there was no central line of intersection named; however, a position yet to be named was established by intersecting lines at the center.

- Testability of the model. Clear relationships were established for testing as indicated by both the fixed position of the elements and the lines connecting them. No provision was made in this model to test well-being however.

- Usefulness of the model. This model offered some very useful insights into the nature of resource exchange that have significant implications for resource management in the 21st century.

- Appropriateness of the model to the time. Several trends are emerging which make this model particularly appropriate. Resource exchange is becoming increasingly global, with significant interaction occurring between industrialized and non-industrialized nations. Recognition of the nature and presence of a full range of resources might help to clarify relationships. The same logic holds true for the welfare to work program as well as for the anticipated retirement wave involving baby boomers. Industrialized societies seem to value the constructed resources such as money, status and goods above basic resources such as love, information and service. This model could clarify such values.

- Suggested improvements to the model. Investigate the possibility of repositioning goods and service.

Goldsmith (1996)
Resource Management for Individuals and Families

*Resource Management Model of Motivation*

The second model offered in the Goldsmith text is the Bristow & Mowen (1994) "Resource Management Model of Motivation" (Figure 11).

- Organization and clarification of observations. This model, depicting resource management and motivation, established self concept, or the individual's sense of self, as the central element in resource management. Resources were depicted as correlating with that self-concept and with each other. Time and space were recognized as defining the event, providing a stage upon which the scenario unfolded.

- Explanation of past events and prediction of future events. The model itself was a snapshot. Any past or future speculation developed from this model would require additional assumptions regarding the impacts of congruence and coherence on relationship progression. Research does exist regarding those impacts (Sirgy, 1986).

- Conveyed understanding of subject matter. The relationships proposed were clearly identified. The relationship identified parallels the proposed person-environment relationship. However, there is no provision for evaluating well-being.

- Ability to generate new ideas and research. Relationships suitable for further research were established between each of the resource categories and the self-concept, as well as between the resources themselves.

- Elements supported by empirical evidence. A substantial body of research exists correlating specific resources with self-concept.

- Elements requiring further research. A research agenda attempting to correlate the needs based resource categories established by Foa and Foa with the elemental resource categories presented in this and earlier models would be interesting.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was extensive.

- Internal consistency of the model. The elements of the model were similar, and the model described a consistent dependent system with an infinite number of solutions at the intersection termed self-concept.

*(Copyrighted figure unavailable to ETD)*

**Figure 11. The resource management model of motivation.**

Note. Adapted from The resource management model of motivation, by D. Bristow and J. Mowen in Proceedings of the Society of Consumer Psychology Annual Meeting, February 17,1994, St. Petersburg, FL. Also appearing in Resource management for individuals and families (p. 82), by E. B. Goldsmith, 1996. NY: West Publishing. Copyright 1996, West Publishing.

- Testability of the model. Clear relationships were proposed for testing, but there was no provision for evaluating well-being. The model is not testable, therefore, in accordance with the thesis assumptions.

- Usefulness of the model. The model was useful in communicating both the availability of resources, and the relationship of those resources to self-concept. Event time is well represented. However usefulness is compromised, according to the guidelines established for this thesis, by the lack of well-being criteria.

- Appropriateness of the model to the time. Like the Foa and Foa model, this model is timely because it expands popular awareness of resources and extends promise for understanding diverse resource relationship patterns in welfare to work programs, global initiatives and retirement planning.

- Suggested improvements to the model. This was a very promising model on several accounts. First, the model featured an individual (self-concept) operating within a specific, but undifferentiated time/space environment. Explicit acknowledgment of a time/space boundary was a welcome development, as was the identification of the individual. Even more exciting was the novel representation of resources, singled out from but imbedded in the general environment, which extended the individual system. The resources offered were categorized as physical resources, social resources, information resources, and wealth resources. Interaction was indicated between the individual self-concept and the resources available to it, as well as between one resource and another, however there were no directional indicators describing the nature of those interactions. There was also no description of the nature of the self-concept (i.e. behavioral, affective, cognitive, holistic). Interactive and reflective practioners are vitally concerned with ways of knowing, most especially with regard to individual self-concepts. The model therefore contributes to, but does not fully define, the understanding necessary for future resource management modeld focused on well-being.

Functional Models in Resource Management 1975-1996

The functional models examined in this research followed two paradigms. The first was concerned with sequencing and was a derivative of the tightly organized scheduling developed for project management. Gray (1981) defined a project as

> a complex of *nonroutine* activities that must be completed with a set amount of resources and within a set time interval. Project management is planning, scheduling, and controlling the complex of *nonroutine* activities that must be completed to reach the predetermined objective or objectives of the project (p. 1).

Early in the century such scheduling was accomplished through the use of a Gantt chart, a bar graph representing progress in time. The shortcoming of the Gantt chart was that it did not identify interrelationships and interdependencies. Critical Path Method (CPM) was developed in the mid-1950s to address that short-coming. The creators were management scientists at the E.I. DuPont Company, who intended that the method be applied to engineering projects. A similar protocol was being developed simultaneously by the Special Projects Office of the U.S. Navy to be applied to research and development projects. That effort, the Program Evaluation and Review Technique, became known as PERT. CPM is less flexible about time constraints than PERT, but both processes employ network techniques in a linear, unilateral, and finite manner. Analysis is expressed in flow charts which depict action initiated, proceeding in an orderly manner toward a goal, and terminating when the goal is accomplished. PERT/CPM systems are not applicable to routine or repetitive situations (Gray, 1981). The linear planning, sequencing, implementing and controlling management sequence that is a recurring theme in resource management models is an offspring of this methodology.

Cyclical situations are better addressed by systems thinking. Systems are concerned with continuous processes, the dynamic behavior of feedback loops, and in some cases critical reflection and complementarism (Lane & Jackson, 1995). Germana (1996) defines a behavioral system as

> transactional interrelationships between organism [O] and the environment [E] that govern their commerce. The biological significance of such [O]-[E] interrelationships, their truing through learning, as well as those systems involved in the subordinate and superordinate regulation of behavior, are clear when life, itself, is seen as an emergent property of the [O]-[E] complex. In addition, a systems view of these hierarchically organized complexities suggests that they adaptively self-stabilize and self-organize over time, as they participate in [L], the organism-environment complex (p. 210).

The format for these process schematics in resource management generally follows the sequence input-throughput-output-feedback. When the feedback loop is recognized, input and output are found to be mutually determining. They form a system (hence systems theory). Systems are cyclical, bilateral and indefinite if not infinite.

Deacon & Firebaugh (1975)
Home Management: Context and Concepts

*Management Responds to Questions*

- Organization and clarification of observations. Deacon and Firebaugh offered both formal and informal process models in the 1975 text. The formal model was an early version of the process model with personal and managerial subsystems which appears in Figures 17 and 18. While there are minor differences in the relationship of the elements, the similarities are strong enough to rely on the later model for a reasonably accurate representation. The informal model labeled "management responds to questions" (Figure 12) offered greater insight into the process since it addressed a somewhat different angle than most models. Input in that model recognized the questions why and what. Throughput was concerned with solutions such as how, how much, when and where. Output provided the answers.

- Explanation of past events and prediction of future events. What and why were questions which would be asked both of the operator and of the environmental element. The operator might be asked "what are your needs, desires and contributions, and why do you have these attributes?" The same might be asked of the environment in terms of demands and offerings. How, how much, when and where are relationship questions which describe the nature of the resource or affordance. The answer being sought, in a normative science, involves an evaluation of progress toward the goal. The goal previously expressed for resource management and Family and Consumer Sciences was well-being. Output would thus be expressed in terms of contributions of the resource relationship to the well-being (positive, negative, or neutral) of the system.

- Conveyed understanding of subject matter. The model provided a clear representation of the qualitative nature of input, throughput, and output. No representation was made of feedback, which was a key component of formal models addressed by Deacon and Firebaugh in accordance with systems theory (see Figures 17 & 18).

- Ability to generate new ideas and research. The model provided a way to begin thinking about the process called resource management. The presentation was simple, accessible and thought provoking.

- Elements supported by empirical research. This model was an illustration introducing a chapter. The purpose was heuristic rather than empirical.

- Elements requiring further research. If we were to operationalize this model we would have to adopt theories to answer the questions posed (i.e. decision making, values, roles, goal setting, etc.).

*(Copyrighted figure unavailable to ETD)*

**Figure 12. Management responds to questions**

Note. From Home Management: Context and concepts (p. 46), by R. E. Deacon and F. M. Firebaugh, 1975, Boston: Houghton Mifflin Company. Copyright 1975, Houghton Mifflin Company.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. This model did not advance a theory, but it could have been widely applied to exploratory work.

- Internal consistency of the model. The elements of the model were similar. The system was also consistent and confined to linear progress along a single plane.

- Testability of the model. The model could not be tested for well-being as required by our assumptions since there was no provision for determining well-being.

- Usefulness of the model. The model was useful, particularly in qualitative explorations concerned with understanding transaction. Utility for advancing the assumptions of this thesis however is limited since neither person, environment nor well-being are addressed. The specific elements addressed by the process were defined by the individual and would be different for every person and every family.

- Appropriateness of the model to the time. The model provided an appropriate introduction for a new concept to a young discipline. It was simple and framed in familiar terms. The illustration was fun and non-threatening.

- Suggested improvements to the model. The questions posed by this model provided a very valuable guide for conceptualizing future models. While this process model was too general to guide field activities, it was ideal for theoretical speculation as it provided maximum opportunity for innovation. Future models should retain these questions as a base but should also supply those answers on which there is agreement. The theoretical emphasis on process promoted by systems theory was not meant to replace content but merely to communicate familiar relationships occurring within and between diverse contents. Restoring the content aspect of the process model would involve tailoring the model to reflect the identities of both the operator and the contributing elements, the nature of the resource relationships established between them and the contributions of those relationships to well-being, as bounded by the time/space limitation of the near environment.

Nickell, Rice & Tucker (1976)
Management in Family Living

*Flow Chart Model of the Management Process*

- Organization and clarification of observations. Inputs to this model (Figure 13) established a constituency including the individual, the family and society. Action originated with the individual but was influenced by both family and society. That action was filtered through values, goals and standards (apparently belonging to either the choice of one or all three entities; individual, family and society) before engaging resources, and the offshoots of resources, creative thought and information storage. It is unclear whether these resources were within the operator or shared with the environment since the activities immediately following were planning, organizing, implementing, and evaluating which could be either. However, at the next level consumption and production clearly involved interactive engagements with the environment.

- Explanation of past events and prediction of future events. The flow chart model proposed to explain and predict. However, some relationships proposed by this model compromise predictive and explanatory reliability. This model does provide for evaluation of well-being (termed satisfaction).

- Conveyed understanding of subject matter. Somewhere in the resources-consumption/production sequence there should have been some input from the environment. Those inputs were conspicuously absent from the model, which gave every indication of being a closed system. One of the major functions of resource management is to identify and engage suitable resources to improve well-being. That selection cannot occur in a system which offers no provision for environmental input.

- Ability to generate new ideas and research. This model was rich with concepts and relationships.

- Elements supported by empirical research. A substantial body of research is available in the business management literature supporting and questioning the relationships proposed. The findings are far too extensive to address in this review.

- Elements requiring further research. The relationships established require further examination, as do the elements identified. Some appear redundant.

- Parsimony of the model. The model was complex, perhaps unnecessarily so for personal use.

- Extensiveness of the model. The model could have been used to describe any management situation.

*(Copyrighted figure unavailable to ETD)*

**Figure 13. Flow chart model of the management process**

Note. From Management in family living. (p. 47), by P. Nickell, A. S. Rice, and S. P. Tucker 1976, NY: John Wiley & Sons. Copyright 1976 by John Wiley & Sons.

- Internal consistency of the model. This model was unclear in distinguishing internal and external processes, as well as processes and products. The system described is consistent and dependent with multiple coinciding planes.

- Testability of the model. Many relationships established in this model were suitable for testing. For example, the model suggested that feedback impacted goals leaving values and self-concept unchanged. This assumption may not hold. This model can be tested for well-being using satisfaction.

- Usefulness of the model. The model provided a useful, though somewhat cumbersome, tool for contemplating the management process.

- Appropriateness of the model to the time. The model reflected a post war fascination with scheduling (PERT/CPM, etc.). That top down sensibility has since yielded to more intuitive methods for many management applications.

- Suggested improvements to the model. This model does have satisfaction (a well-being type measure) as an outcome, however I find Csikszentmihalyi's flow model to be a simpler, and therefore preferable explanation of how to achieve it.

- Other comments. In this model, neither positive nor negative feedback extended any further back than goals. The outputs (change, impacting lifestyle, generating satisfaction or dissatisfaction) were interesting, particularly as reflected in the double feedbacks positive and negative. In light of recent findings in developmental psychology and management (Hart & Risley, 1995; Lindsley, Brass & Thomas, 1995) this conceptualization seems inadequate. The Hart and Risley findings, reported earlier regarding the long-term impact of positive and negative feedback on young children, indicated that the impact of feedback goes all the way back to the core of the individual, shaping the very nature of the growing organism.

Paolucci, Hall & Axinn (1977)
Family Decision Making: An Ecosystem Approach

*Model of the Family as an Energy Driven Organization*

- Organization and clarification of observations. Inputs to the family ecosystem were matter, energy and information supplied by the environment. Throughput was conceived as a process which transformed, controlled, and directed these inputs toward the accomplishment of goals (output) labeled as goods, wastes, information, and productive individuals. These in turn fed back into the environment establishing and maintaining an equilibrium between the elements of the ecosystem. Input, output, and feedback seemed to be environmental elements; however, transformation processes (throughputs) were reserved for the family organization.

- Explanation of past events and prediction of future events. This model (Figure 14) would be better used for explanation than prediction. With past events we know what happened, and need only an organized format to report findings. For prediction we must generalize and hypothesize in the form of theory development. This model does not extend such hypotheses.

- Conveyed understanding of subject matter. The model was memorable and easily communicated. Graphically it was simple, clear, and easy to understand.

- Ability to generate new ideas and research. Much of the suggestive detail and richness of the previous model was lost in this effort to simplify and make memorable.

- Elements supported by empirical research. The model makes no claims regarding empirical research.

- Elements requiring further research. Further definition of both elements and relationships would be desirable. This model was overly simplified.

- Parsimony of the model. The model was too parsimonious.

- Extensiveness of the model. The model could be descriptively applied to a wide range of situations.

- Internal consistency of the model. The elements of the model were presented consistently. However, the system described personal inputs and environmental inputs as parallel planes intersected by throughput. This form is inconsistent and offers no solutions.

*(Copyrighted figure unavailable to ETD)*

**Figure 14. Model of the family as an energy driven organization**

Note. From Family decision making: An ecosystem approach, by B. Paolucci, O. A. Hall, and N. W. Axinn, 1977, NY: John Wiley & Sons. Copyright 1977 by John Wiley & Sons.

- Testability of the model. There were few points defined for testing and no provision for determining well-being.

- Usefulness of the model. The model was useful as a descriptive tool.

- Appropriateness of the model to the time. Despite the simplicity of the graphic, the understanding of inputs and outputs was very subtle. It reflected a post-relativity conceptualization of function (process) as a property of matter/energy or mattergy, portrayed as a single converting entity, and of the actions and relationships of that mattergy, information. Information can be defined as "the act of informing or condition of being informed" where inform means "to give form or character to, or be the formative principle of" (Merriam-Webster, 1976). If the world is considered in terms of Einstein's two dimensions, time/space and matter/energy, then this model very perceptively delineated matter/energy, and the actions and relationships of matter/energy defined time/space. Sadly, the structural model in the same text (Figure 5) was imported rather than developed from the same conceptualization and did not reinforce this understanding.

- Suggested improvements to the model. Transformation processes were less elegantly handled. No attempt was made in the graphic to describe transformation processes in any way. They were merely labeled "transformation processes of the family organization." This lack of definition presented two problems. First, family organization presented as a monolith provided no identification of intervention and prevention sites by family member. Secondly, the lack of identification of processes provided no intervention and prevention sites for family dynamics. Feedback was a single dotted line from outputs to inputs, effectively reminding practitioners that there was a direct relationship between the quality of outputs and the quality of inputs. However, there was no explicit valuation of feedback. No attempt was made in this model to determine whether the transformation was positive, negative, or neutral in effect, and if so, what to whom. This value free orientation is a requirement of positivist objective science and is one of the primary critiques of critical thinkers. Reflective practitioners always want to know who benefits and who or what is harmed by a transaction. Any model which cannot illuminate this simple truth cannot support or promote systemic well-being. Reflective and interactive practitioners express one final concern which impacts this model. They are concerned with the dialectic nature of person-environment interaction. Dialectic is a process of conflict which exposes and resolves perceived contradictions to arrive at a higher form of truth or synthesis. This model was unilateral. There was no dialectic relationship indicated.

Gross, Crandall & Knoll (1980)
Management for Modern Families. 4th Ed.

*Management as System: An Input-Output Model*

- Organization and clarification of observations. In this model (Figure 15) inputs were rendered as belonging to both the environment and the management system. The elements specified as inputs were motivation (in the form of values, goals, and standards), demands (from environmental events, expectations, and requirements), and resources (internal and external to the system, including property, funds, capabilities, and intangible assets of all kinds). Action (throughput) occurred totally within the management system and included decision making, communicating, goal setting, planning, implementing, and utilizing feedback. Outputs again impacted both management systems and the environment, changing motivation and resources, meeting goals and demands, and rendering satisfaction (or failing to).

- Explanation of past events and prediction of future events. Arrows indicated a bi-directional relationship between inputs, outputs, and action such that both inputs and outputs contributed to action, and action contributed to both inputs and outputs. Additionally, feedback loops were indicated from outputs to action and from outputs to inputs. This model offers explanatory but not predictive power.

- Conveyed understanding of subject matter. This model was clear and easy to understand. The boundary between system and environment was clearly defined, locating this process model in terms of ecological structure. The model recognized the importance of environments to the management process. It recognized output in terms of satisfaction or lack of satisfaction. And, it graphically portrayed the bi-directional interactive nature of the management process. These features should be retained in future models.

- Ability to generate new ideas and research. Any selection of variables (input, action, environment) could have been moved through this model. The model itself suggested little in the way of new research for resource management since there were few specifics or hypotheses proffered, however it has been applied to many different hypotheses. Systems theory is more powerful when it is applied to a clearly identified content area.

- Elements supported by empirical research. This general systems format has been frequently employed by systems researchers in a wide variety of disciplines.

- Elements requiring further research. This was a generic systems model, applicable to a wide variety of uses but not specifically tailored to resource management. Further definition of inputs, action, outputs, and environments would add to the utility of the model.

*(Copyrighted figure unavailable to ETD)*

**Figure 15. Management as system: An input-output model**

Note. From Management for modern families. 4th Ed., by I. H. Gross, E. W. Crandall, and M. M. Knoll, 1980, Englewood Cliffs, NJ: Prentice Hall, Inc. Adapted from M. M. Milstein and J. A. Belasco, Ed., Educational administration and the behavioral sciences: A systems perspective. Boston: Allyn and Bacon, 1973, 1977. Copyright 1980 by Prentice Hall, Inc.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was restricted to the management process but extends to a wide variety of management situations, both private and public.

- Internal consistency of the model. The model elements were consistent, but this model described various inputs as parallel planes producing various outputs. The resulting system was inconsistent with no solutions.

- Testability of the model. The model was too general for serious testing, but it did acknowledge well-being, termed satisfaction.

- Usefulness of the model. The model was useful as a heuristic to organize variables and aid understanding of specific management situations.

- Appropriateness of the model to the time. The model provided a good representation of the systems theory in popular use at the time.

- Suggested improvements to the model. The model did not define the nature of management systems. The viewer was provided no clues about the composition of those systems. Seventy-five percent of the activity described occurred with a black box with no identity other than management system. Any future model describing resource management would need to describe not only the within person aspects of the process but also the nature of the interaction between person and environment. Only with this information can effective interventions be designed. If the theory is to prove useful in a applied science, it must provide memorable sites for both research and program development. The final concern raised by this model was that feedback appeared to remain within the management systems box. While the boundary was permeable at both input and output, the depiction precluded any direct feedback to environmental inputs. This representation portrayed the environment as a passive recipient of output, rather than an active contributor receiving feedback. Despite the fact that environmental demands were included among the input items, there were no feedback loops indicated from environmental output (changed resources) to environmental input (demands). The experience of the last twenty years has very clearly established the long-term impact of environmental degradation on personal systems. The person and the environment are inextricably linked. Both positive and negative feedback to environmental elements must be explicitly recognized in order to properly appreciate the future impact of present actions. Since prevention is a major concept of resource management, environmental feedback is a very important feature for future models. Systems theory is a dynamic field of study which has advanced in some very interesting ways over the last twenty years. More recent understandings of systems might be examined for an update.

Swanson (1981)
Introduction to Home Management

*Planning Process - Implementation - Evaluation Feedback*

- Organization and clarification of observations. Swanson offered three separate and distinct models to describe the management process (Figures 16a, b & c). Demands were the initial inputs in these models. They were then processed through values, goals, standards, resource availability, limits, and other demands to output plans. Plans became the input for the second stage and were subjected to controlling, checking, adjusting and modification processes to output outcome. Both planning and implementation were subsequently subjected to evaluative feedback to determine future managerial action. Concepts of enablers, which encourage the process, and constraints, which restrict the process, were introduced in the text including positive and negative motivations (Swanson, 1981, p. 98).

- Explanation of past events and prediction of future events. The model provided some explanation, but little in the way of prediction.

- Conveyed understanding of subject matter. The planning diagram was especially confusing in this model sequence.

- Ability to generate new ideas and standards. The research generated by these models often centered around definitions of elements such as standards.

- Elements supported by empirical research. There is a considerable body of research defining and describing values, goals and standards.

- Elements requiring further research. The graphic organization of this model was challenging. Research towards identifying and simplifying key relationships seems warranted.

- Parsimony of the model. This series of process models was useful for reference, but far too complex for practical application. It is too detailed to be memorable. The purpose of a model in an applied science is to deliver condensed information for easy storage and retrieval.

- Extensiveness of the model. This model was a fairly standard representation of the management process. It could be applied to a wide variety of management situations, but does not propose to address anything else.

- Internal consistency of the model. The models described consistent, independent systems with single solutions (Figure 1). Demand x throughput x time = plan. Plan x throughput x time = outcome.

*(Copyrighted figure unavailable to ETD)*

**Figure 16. Planning process (a), implementation (b), and evaluation feedback (c)**

Note. From Introduction to home management. [p. 93(a), 100(b), 105(c)], by B. B. Swanson, 1981, NY: MacMillan Publishing Co., Inc. Copyright 1981 by Macmillan Publishing Company, Inc.

- Testability of the model. These models retained a "black box" approach, reinforced by the lack of clear connection between internal processes, inputs, and outcomes. Such breaks in the process chain make testing difficult. There is, however, provision for well-being, termed satisfaction, in 15c so these sequences and relationships should be carefully evaluated.

- Usefulness of the model. The model was useful, though not the most elegant of the genre.

- Appropriateness of the model to the time. These models echoed the flow chart model but deconstructed the sequence to illustrate component parts. Holistic understanding of the process was sacrificed. Clearer models were available at the time. This model is far too complex for future use.

- Suggested improvements to the model. Future models of resource management must be simple enough for use in the field, at all levels of experience and expertise, yet elegant enough to support the highest levels of research and dissemination.

Rice & Tucker (1986)
Family Life Management. 6th Ed.

*Components of Management From a Systems Perspective*

- Organization and clarification of observations. This text presented a simpler, more memorable model (Figure 17) which followed the familiar input, throughput, output, feedback format. Inputs included demands (values, goals, and events) and resources (economic, human, and environmental). Throughput involved planning and implementing processes. Output consisted of met demands and used resources advancing quality of life. Feedback was indicated by a directional arrow pointing toward input.

- Explanation of past events and prediction of future events. Like Figure 13, and to some extent Figure 15, this was a potentially normative model. There could be no question about the nature of desired output, which was plainly labeled "quality of life". Equally clear were the components of quality of life, met demands and resources. What was unclear was the question of whose demands and whose resources motivated the process, and whose quality of life consequently was impacted.

- Conveyed understanding of subject matter. This is a serious shortcoming for reflective practitioners who maintain that the goals of the individual and the goals of the environment in which he or she operates are often conflicting. A clear understanding of the contributions of each party is vital for assessing the quality of an interaction and designing suitable interventions.

- Ability to generate new ideas and research. Because there was a clearly hypothesized outcome, this framing of the model would suggest a research agenda testing multiple combinations of variables to determine positive or negative impact on quality of life (QOL). The question of whether met demands and used resources indeed determine quality of life might also have been asked. This clarification, naming QOL as the desired output of the process, represents a major improvement in the utility of the process model under the assumptions of this thesis.

- Elements supported by empirical research. This model combined systems theory with management process. Research in both traditions supports the concept.

- Elements requiring further research. Myers & Diener (1995) have found happiness to be a primarily subjective experience, largely unrelated to specifics such as money, beauty and youth and maintain that happy people 1) have positive self concepts 2) experience personal locus of control and 3) are optimistic about the future. Does this finding contradict the premise of this model that met demands and used resources determine quality of life? How or how not? What exactly are the relationships?

*(Copyrighted figure unavailable to ETD)*

**Figure 17. Components of management from a systems perspective**

Note. From Family life management 6th Ed., by A. S. Rice and S. P. Tucker, 1986, NY: John Wiley & Sons. Copyright 1986 by John Wiley & Sons.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was as extensive as any other process model.

- Internal consistency of the model. The elements of the model were similar, however the system described by the model was inconsistent, having dual inputs and dual outputs. The operation required to transform met demands and used resources into the solution QOL was not described.

- Testability of the model. The process of transforming dual outputs to QOL must be clarified before the model can be tested.

- Usefulness of the model. This was a very useful model.

- Appropriateness of the model to the time. The sequence planning, implementing, and controlling, coupled with a feedback arrow for evaluation reprises the popular understanding in business management at that time. Such controlled, implicitly hierarchical conceptualizations are currently yielding to more flexible concepts such as management by walking around, quality circles, the pursuit of excellence and learning organizations. These concepts place less emphasis on the nature of the process and more emphasis on dialectic interactions leading to mutually satisfying solutions.

- Suggested improvements to the model. In business management the contributions of persons and their environments to a given situation are evaluated using a strengths, weaknesses, opportunities and threats (SWOTs) analysis (Holt, 1993, p. 200). SWOTs is a situation analysis which identifies the strengths and weaknesses of the operator and contrasts those against the opportunities and threats posed by the environment. These then form the basis for either strategic adjustments to the situation, or a dialectic, or negotiated, transaction such as that required by critical theory. SWOTs clarifies the fact that demands and resources do not always operate together smoothly, a relationship situation which remains unaddressed in uni-directional models. Future models for use in resource management must address the bi-directional nature of inputs and the dialectic character of the transaction or throughput.

Deacon & Firebaugh (1988)
Family Resource Management: Principles and Applications. 2nd Ed.

*Personal System Model*
*&*
*Model of Individuals as Subsystems of Family Systems*

Deacon and Firebaugh (1988) featured five versions of the input-throughput-output-feedback model, highlighting a variety of systems elements. Figure 18 details the personal system, and Figure 19 extends a similar logic to family systems. Inputs in both cases are demands and resources. Throughputs are personal and managerial processes, and outputs are demand responses and resource changes.

- Organization and clarification of observations. The construction of the personal system model (Figure 18) echoed the Milstein & Belasco (Figure 15) conceptualization of throughput as a function of the operator. The personal subsystem was a within system function while the managerial subsystem was a social extension toward the environment. The dual aspect of the personal system consisting of both within and between system functions was a valuable development, one which should have been extended as well to the environment. Input also had both external and internal elements. Including internal personal elements in both inputs and throughputs raises questions regarding the difference between personal goal orientations, capabilities, qualities, and life experiences (inputs) and developing capacities and evolving values (throughputs).

- Explanation of past events and prediction of future events. These models continued the fascination with the management process. Such models provided positions to catalogue data and established a sequence of relationships. They were silent with regard to the nature of the process and the expected impact on outcomes. For example, are there different types of plans and are some preferable to others? What do we know about human values and expectations? Are some forms of implementation more effective? This is an applied science. How should we better manage our resources?

- Conveyed understanding of subject matter. The role of the environment in these models remained for the most part unarticulated. Although the environment was depicted as a sort of in vitro surrounding mass, this model was strongly descriptive of the person only. The person-environment transaction was very difficult to discern. Resources in this model were separated from demands, and each had its own feedback loop, which was very helpful. Still, the graphic representation continued to depict resources and demands entering the system in tandem, obscuring the nature of the dialectic relationship. Further, output was no longer normative; satisfaction and quality of life had been replaced by the more value neutral designations (demand responses and resource changes).

*(Copyrighted figure unavailable to ETD)*

**Figure 18. Personal system model**

Note. From Family resource management: Principles and applications, 2nd Ed. (p. 22), by R. E. Deacon and F. M. Firebaugh, 1988, Needham Heights, MS: Allyn Bacon, Inc. Copyright 1988, 1981, Allyn Bacon, Inc.

*(Copyrighted figure unavailable to ETD)*

**Figure 19. Model of individuals as subsystems of family systems**

Note. From Family resource management: Principles and applications, 2nd Ed. (p. 25), by R. E. Deacon and F. M. Firebaugh, 1988, Needham Heights, MS: Allyn Bacon, Inc. Copyright 1988, 1981, Allyn Bacon, Inc.

- Ability to generate new ideas and research. These representations have been the dominant models of the resource management subject matter for the last decade. Both Deacon and Firebaugh have encouraged further conceptual development to enrich the research base of the endeavor.

- Elements supported by empirical research. These models have been widely used in the discipline.

- Elements requiring further research. These models depict resources and demands, both internal and external, entering throughput in tandem. Resources and demands might be considered in a more diametric relationship much like supply and demand in economics.

- Parsimony of the model. A more parsimonious representation could be achieved if family systems were depicted as logical multiples of personal systems. Building group systems from a single unit could eliminate the need for multiple models.

- Extensiveness of the model. The models were specific to individuals or families and not easily exchanged or extended.

- Internal consistency of the model. There appears to be a strong linear forward orientation to this model which may or may not be inconsistent with the cyclical orientation of systems. The system, with its parallel dual input and dual output format, was inconsistent offering no solutions.

- Testability of the model. Testing has been difficult because relationships between variables are not clearly defined. People set their own goals, which is admirable. However, the system would benefit from an overarching goal of well-being much the same as commerce adopts an overarching goal of profit regardless of the specifics of the operation. There was no provision for testing for well-being as required by our assumptions.

- Usefulness of the model. The model has, however, proven useful.

- Appropriateness of the model. Deacon and Firebaugh have been at the forefront of the system's movement since the earliest beginnings. Their combined works have been insightful, creative, and courageous.

- Suggested improvements to the model. Figure 19 extended the same logic to the family group casting individuals as subsystems of family systems. If the personal system could be used to build the family system the attributes of each family member could be considered equally and supported. Individual attributes are somewhat more difficult to discern when the larger unit is the initial unit of consideration. The difference is subtle but very important for purposes of assessment and education.

Goldsmith (1996)
Resource Management for Individuals and Families

*Managerial Action Using the Systems Approach*

The Goldsmith text presented a model of "managerial action using the systems approach" (Figure 20) which was fully circular, though not yet dialectic. This was in contrast to the models of Deacon and Firebaugh, Rice and Tucker, and Paolucci, Hall, and Axinn, whose previous models portrayed the process as forward moving, yet providing some feedback.

- Organization and clarification of observations. Inputs in this most recent model were characterized as demands, values, matter, energy, information, and resources. No explicit information was given with regard to whose demands and values were being considered although the model seems to describe the person acting within the environment. Inputs might have included the demands and values *of* individuals and families, or those *experienced by* individuals, or both, in accordance with the title of the text. However, neither the origin of the demands and values, nor the nature of the operator was disclosed by the model.

- Explanation of past events and prediction of future events. The model seemed rather vague at inputs and throughputs, though output designated met demands, achieved goals, and satisfaction/dissatisfaction was a definite step in the direction of a well-being model. Feedback reinforced that valuation in the designation of positive and negative aspects. The model was not bilateral though. No feedback was indicated to the environment. After initial input, this model seemed to disregard any further interaction with the environment. From the perspective of the person-environment transaction, as defined by this thesis, it left a large percentage of interaction unexplained and unexamined.

- Conveyed understanding of subject matter. The personal aspect, which was so dominant in the Deacon and Firebaugh models, was almost totally invisible in the Goldsmith model. Managerial action was presented as a moving train, which anyone could board. Throughput processes included the familiar management tasks described by business management theory. These process identifications created sites for assessment, prevention, and intervention but were skewed toward the interests of the manager.

- Ability to generate new ideas and research. This model was well within the existing tradition.

- Elements supported by empirical research. Variations of this model have been widely used in resource management for more than two decades.

*(Copyrighted figure unavailable to ETD)*

**Figure 20. Managerial action using the systems approach**

Note. From Resource management for individuals and families (p. 29) by E. B. Goldsmith, 1996, NY: West Publishing. Copyright 1996, West Publishing.

- Elements requiring further research. Resource management as a content area should establish familiar relationships between persons and their environments that would give greater form to the management process and provided integration between systems models and ecological models in the specialty.

- Parsimony of the model. The model was parsimonious.

- Extensiveness of the model. The model was extensive.

- Internal consistency of the model. The model describes a consistent dependent system with movement along coinciding planes.

- Testability of the model. Testing would be difficult because relationships are not clearly defined.

- Usefulness of the model. The process is useful but could benefit from further application to the resource management content (i.e. specification of elements to guide prediction).

- Appropriateness of the model to the time. Resource management models need to address exciting new developments in systems science and other management related disciplines. Some of these recent developments are explored in Chapter V.

- Suggested improvements to the model. Resource management needs fresh insights to revitalize the understanding.

Goldsmith (1996)
Resource Management for Individuals and Families

*ABCD-XYZ Resource Management Model of Crisis/Stress*

Very interestingly, a second process model was offered in the Goldsmith text, the Dollahite "ABCD-XYZ resource management model of crisis/stress" (Figure 21), which combined resource management models and family stress models.

- Organization and clarification of observations. The introduction of stress concepts into the input-throughput-output-feedback model opens the door to a new generation of function models. There were several significant breakthrough conceptualizations in this model. First, was the identification of time as an event. The concept of event time limits information to manageable proportions. Secondly, for the first time in our review of models, the event was defined dialectically. The demands of the situation entered from one direction to meet coping resources approaching from the opposite direction. Together, these aspects defined the situation. This was a significant departure from the unilateral operations previously offered, one which offered opportunity for both positive and negative interaction. The demands and resources language and the engagement of demands and resources in dialectic suggested parallels with Csikszentmahalyi's (1990) skills and challenges in the flow model. The interaction depicted in the next frame (x) was negative (crisis/stress). Coping and management (y) led to adaptive behavior (z), followed by feedback to both the demands and the resources. One final consideration for future models was the broad characterization of environmental structure by technology, economy, culture, etc. and the labeling of functional processes as stimulus (energy), perceiving (emotional/affective), deciding (mental/cognitive), and acting (physical/behavioral).

- Explanation of past events and prediction of future events. This is a much more informative model than we have seen in the past because it examines actual rather than ideal conditions. Relationships with the environment could be more clearly defined.

- Conveyed understanding of subject matter. The model is very clearly presented.

- Ability to generate new ideas and research. Coupled with an understanding of recurring coping and management styles, and patterns of adaptive behavior, this model could support a very rich research program.

- Elements supported by empirical research. The ABCD-XYZ model has been widely used in the family field.

*(Copyrighted figure unavailable to ETD)*

**Figure 21. ABCD-XYZ resource management model of crisis/stress**

Note. From Family resource management and family stress theories: Toward a conceptual integration. Lifestyles: Family and economics issues, 12(4) (p. 263) by D. C. Dollahite, 1991. Also appearing in Resource management for individuals and families (p. 228) by E. B. Goldsmith, 1996, NY: West Publishing. Copyright 1996, West Publishing.

- Elements requiring further research. Relationships with the environment are not yet adequately defined. This was both an ill-being and a well-being model so the relationships established are significant to the assumptions of this thesis and require further attention.

- Parsimony of the model. The model is well constructed.

- Extensiveness of the model. The model is limited to crisis and stress events, which are not necessarily negative. Eustress is a form of stress. It may be that these extra-ordinary events are the significant 20 percent of the Pareto principle. The Pareto principle states that 20 percent of the activity in any situation yields 80 percent of the results.

- Internal consistency of the model. The model is consistent in its presentation of elements, and it describes two consistent, independent systems (demands x resources x event = crisis; crisis x coping x event = adaptive behavior).

- Testability of the model. Clear relationships are established for testing. However, this version of the crisis/stress model results only in adaptive behavior, whereas other versions of the same concept indicate bonadaptation or maladaptation as the outcomes. The latter handling is preferable for our purposes as it provides an indication of well-being.

- Usefulness of the model. The model is useful.

- Appropriateness of the model. The model taps an extensive body of stress research.

- Suggested improvements to the model. Environmental relationships could be made clearer and transformation processes could be more explicit. Garrison, Malia, and Molgaard (1992) proposed a merger of resource management and stress theories using

  1) *inputs* including initial family resources, family goals and events and family circumstance;
  2) *transformations* involving managing, rationalizing, intuiting and coping;
  3) *outputs* of concluding family resources, responses to family goals and events and resulting family circumstance.

  The transformation sequence of the Garrison model was especially interesting as it introduced mental, emotional and physical ways of interacting as well as proactive and reactive approaches. This was a very important contribution which must be retained in future models if the goal of practice is to be well-being.

Miscellaneous Aspect Models 1975-1996

The four remaining models were neither structural nor functional wholes in resource management but described specific aspects of those conceptualizations.

Maslow's hierarchy of needs (Figure 22) described personal motivations in terms of physiological and safety needs (physical/behavioral), belonging, love, and esteem (emotional/affective), and self-actualization (mental/cognitive). In discussing the hierarchy, Maslow also acknowledged a dimension beyond self-actualization, beyond temporal, which he referred to as spiritual or transcendent. The hierarchy is familiar to social scientists and marketing managers and is quite frequently used, though there have been numerous studies which questioned both the strength and sequence of the hierarchical organization, and the number and character of the needs categories. The key concept that the hierarchy offers to future personal resource systems models is the concept of personal motivation as a valued aspect of the system.

Decision making is addressed by the model (Figure 23) entitled "decision linkage - central satellite" introduced the concept of options. While functional models had described the process after a direction had been chosen, and structural models had described environmental strata, decision making models illuminated the full potential of the situation, investigating not only the chosen function but also the opportunity costs of the options foregone. This conceptualization is especially important to the future of personal resource systems management as it so graphically illustrates the importance of first order interactions and the channeling or canalizing quality of those interactions.

Communication processes were explained by the model "the elements of communication" (Figure 24) provide interesting commentary on the dialectic process. This model illustrated the impact of channel impedance, noise, and feedback in interaction between elements. These modifiers should be accounted for in future models in order to explain the dearth of direct, strong, causal relationships in real life situations.

The issue of time periods and passage is modeled in the "family life spiral" (Figure 25). This model presents a graphic representation of the life cycle, indicating that later events both flow from and encompass earlier events and are experienced accordingly. The present value of past and future events cannot be discounted in the lives of humans. Some philosophers would go so far as to say that the discrimination of present value in past and future events, along with an appreciation of things non-temporal, is what separates humans from other animal species.

These four aspect models conclude the review of instrumental models in the literature.

*(Copyrighted figure unavailable to ETD)*

**Figure 22. Maslow's hierarchy of needs**

Note. Appearing in Resource management for individuals and families (p. 11) by E. B. Goldsmith, 1996, NY: West Publishing. Copyright 1996, West Publishing.

*(Copyrighted figure unavailable to ETD)*

**Figure 23. Decision linkage - central satellite**

Note. Adapted from Exploring interrelationships in a central-satelite decision complex, Journal of Home Economics, 60 (p. 789-792) by M. A. Plonk, 1968. Appearing in Management for modern families, 4th Ed. (p. 150), by I. H. Gross, E. W. Crandall, and M. M. Knoll, 1980, Englewood Cliffs, NJ: Prentice Hall, Inc. Copyright 1980 by Prentice Hall, Inc.

*(Copyrighted figure unavailable to ETD)*

**Figure 24. The elements of communication**

Note. Adapted from Communicating effectively, 2nd Ed. (p. 7) by S. Hybels and R. Weaver, 1989. NY: Random House. Appearing in Resource management for individuals and families (p. 136) by E. B. Goldsmith, 1996, NY: West Publishing. Copyright 1989, Random House, 1996, West Publishing.

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**Figure 25. Family life spiral**

Note. From A developmental model for family systems, Family Process, 24 (p. 142) by L. Combrinck-Graham, June, 1985. Appearing in Family resource management: Principles and applications, 2nd Ed. (p. 187) by R. E. Deacon and F. M. Firebaugh, 1988. Needham Heights, MS: Allyn Bacon, Inc. Copyright 1988, Allyn Bacon, Inc.

## Summary

### Comparison of Structural Models 1975-1996

The structural models (Figure 26) reviewed in this chapter were in agreement on the fact that all models examined described a system. The systems described consisted of an operator (or a characteristic or function of an operator) and an environment within which the operator acted or reacted. Some description of resources was generally provided. Beyond that most basic parameter, there is little coherence or congruence between models that would indicate sequential development over the last twenty years. The operator, focal point of the system, is variously described as an individual, a process, a group, or a concept (see Table 2) raising the rather obvious question of *who* manages resources in resource management? Clear identification of the focal entity of the practice is imperative because a body of knowledge without a clear constituency has very limited uses and few defenders. Families, individuals, and housewives have most often been cited as the focus of the systems. The current trend toward a non-gendered practice, the prevalence of work outside the home, and the growing diversity in family composition seem to favor a system featuring the individual but providing a clear logic for aggregation into families, and other small groups.

The second question raised by the review of structural models is that of *what* environments are to be engaged. The possibilities offered by the models reviewed varied wildly (see Table 3) ranging from clients and suppliers; to natural, agricultural/industrial, social regulatory environments; to household, near and larger environments with economic, political, natural, technological, and sociocultural aspects; to unspecified elements related to concreteness and particularism as well as to love, service, goods, money, info, and status. Four basic concepts are at work in the descriptions offered in the historical models.

1) The environments have been catalogued by proximity (household, near and larger, micro and macro).

2) The environments have been referenced by type (economic, political, natural, technological, sociological).

3) The environments have been implied by their transactional affordances (as providers of love, service, goods, money, info, and status).

4) The environments have been defined by the relationship of one element to another (ranging from concrete to particular).

Each of these methods of categorization delivers significant information about the system, however none of the existing models address all four aspects simultaneously. An effort toward integration of these four concepts in a single model might prove very useful.

*(Copyrighted figures unavailable to ETD)*

**Figure 26. Structural models of resource management**

The structural models reviewed described a system consisting of an operator and environments within which the operator acted or reacted. There was limited agreement on the nature of the operator, the configuration of the environments, or the affordances resulting from interaction.

**Table 2**

**The diversity of operators featured in resource management models**

| *Year* | *Textbook* | *Operator* |
|---|---|---|
| 1975 | Deacon & Firebaugh | a housewife with duties |
| 1976 | Nickell, Rice & Tucker | decision making (decision maker) |
| 1977 | Paolucci, Hall & Axinn | personal and family goals and values (person or family) |
| 1980 | Gross, Crandall & Knoll | the family system with psychosocial and managerial subsystems (family) |
| 1981 | Swanson | the individual |
| 1988 | Deacon & Firebaugh | the family system |
| 1996 | Goldsmith (Foa & Foa) | multiple exchangers |
| 1996 | Goldsmith (Bristow & Mowen) | individual self-concept |

**Table 3**

**The diversity of environmental elements in resource management models**

| *Year* | *Textbook* | *Environmental Elements Designated* |
|---|---|---|
| 1975 | Deacon & Firebaugh | by reference to clients and suppliers |
| 1976 | Nickell, Rice & Tucker (1) | no reference to environment |
| 1976 | Nickell, Rice & Tucker (2) | no reference to environment |
| 1977 | Paolucci, Hall & Axinn | natural, agricultural/industrial, social regulatory environments |
| 1980 | Gross, Crandall & Knoll | household, near and larger environments (with economic, political, natural, technological, and sociocultural aspects) |
| 1981 | Swanson | family, shelter, immediate, distant |
| 1988 | Deacon & Firebaugh | microenvironment, societal macroenvironment, natural/structured macroenvironment |
| 1996 | Goldsmith (Foa & Foa) | unspecified but related to concreteness and particularism, as well as to love, service, goods, money, info, and status. |
| 1996 | Goldsmith (Bristow & Mowen) | undifferentiated space bounded by time |

Comparison of Functional Models 1975-1996

The functional models used in resource management (Figure 27) can generally be viewed in terms of input-throughput-output-feedback; therefore, these will be the categories of comparison in questioning the explanatory (*how*) and descriptive (*why*) power of function models in resource management. To this point it seems that functional models in resource management are no more consistent than structural models. Input was described variously through the years as questions; values, standards, and goals; environmental matter, energy, and information; demands and plans; demands and resources; and stressor events and situations; as well as alternate combinations of the above (Table 4). There is some agreement, at least in the more recent models, that inputs can be initiated either by persons or environments. However, the unidirectional format of the models fails to provide a clear indication of whether these inputs are mutually supportive or confrontational, and there is little indication of how or why the process moves on. Further, leaving personal inputs undifferentiated from environmental inputs poses real problems for researchers investigating proactivity, reactivity, and boundary issues, all of which are common topics for resource management researchers. Input elements in resource management models historically lack agreement or are silent on the topic of how the action is initiated (by either person or environment or both) and provide only the most basic indication of why (motivation, values, roles, and goals).

Throughput is often characterized as a black box in systems thinking, intimating that no one really knows what goes on in there. What is agreed upon is that throughput is a complex process which transforms, altering inputs into outputs. Specific description of throughputs in the historical models varied widely including: seeking and pursuing solutions; creative thought, resources, information storage, planning, organizing, implementing, evaluating, production and consumption; transforming, controlling, directing; decision making, communicating, goal setting, planning, implementing, and utilizing feedback; values, goals, standards, resource availability, limits and demands, plans, controlling, checking, adjusting, and modifying; planning and implementing; personal and managerial processes; transformations; and demands, definition, coping, crisis, coping and management (Table 5).

Regarding output, of the models evaluated only Deacon and Firebaugh (1975, 1988) and Swanson (1981) were value free. The remaining models specified satisfaction (3), quality of life (1), productive individuals (1), and adaptive behavior (1). Feedback was portrayed both as positive or negative and unspecified, and returned either to input or to throughput, to neither specifically, or to both (Table 6). Surveying the historical rendering of inputs - throughputs - outputs and feedbacks, it seems that while there is a definite ideology represented by the functional models currently in use in resource management, neither elements, relationships, nor processes have been conceptually solidified. The situation invites further development.

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**Figure 27. Functional systems of resource management**

Functional models in resource management can generally be described as cybernetic systems in an input - throughput - output - feedback sequence. There is little agreement on the specification of inputs, throughputs, outputs or feedbacks in resource management practice.

**Table 4**

**The diversity of inputs in resource management models**

| *Year* | *Textbook* | *Inputs* |
|---|---|---|
| 1975 | Deacon & Firebaugh | questions |
| 1976 | Nickell, Rice & Tucker | individual, family, and societal, values, goals, and standards |
| 1977 | Paolucci, Hall & Axinn | matter, energy, and information supplied by the environment |
| 1980 | Gross, Crandall & Knoll | motivation (values, goals, and standards); environmental demands and resources, both internal and external to the management system |
| 1981 | Swanson | demands and plans |
| 1986 | Rice & Tucker | demands and resources |
| 1988 | Deacon & Firebaugh | demands and resources |
| 1996 | Goldsmith | demands, values, matter, energy, information, resources |
| 1996 | Goldsmith (Dollahite) | stressor event or situation |

**Table 5**

**The diversity of throughputs in resource management models**

| *Year* | *Textbook* | *Transforming Transaction Process* |
|---|---|---|
| 1975 | Deacon & Firebaugh | seeking and pursuing solutions |
| 1976 | Nickell, Rice & Tucker | creative thought, resources, information storage then planning, organizing, implementing, and evaluating, then production or consumption |
| 1977 | Paolucci, Hall & Axinn | transforming, controlling, directing |
| 1980 | Gross, Crandall & Knoll | decision making, communicating, goal setting, planning, implementing, and utilizing feedback |
| 1981 | Swanson | values, goals, standards, resource availability, limits and demands, plans then controlling, checking, adjusting and modifying |
| 1986 | Rice & Tucker | planning and implementing |
| 1988 | Deacon & Firebaugh | personal and managerial processes |
| 1996 | Goldsmith | transformations - planning, implementing, decision making, controlling, communicating, sequencing, facilitating, use of resources |
| 1996 | Goldsmith (Dollahite) | demands, definition, coping, crisis, coping and management |

**Table 6**

**The diversity of outputs and feedback in resource management models**

| *Year* | *Textbook* | *Output and Feedback* |
|---|---|---|
| 1975 | Deacon & Firebaugh | output provides answers |
| 1976 | Nickell, Rice & Tucker | change in lifestyle<br>satisfaction or no satisfaction<br>feedback positive and negative |
| 1977 | Paolucci, Hall & Axinn | accomplished goals involving goods, wastes, information, and productive individuals<br>feedback to input maintains equilibrium |
| 1980 | Gross, Crandall & Knoll | changed motivation and resources<br>met goals and demands<br>satisfaction or lack of it<br>feedback loops to input and throughput |
| 1981 | Swanson | outcomes |
| 1986 | Rice & Tucker | met demands and used resources advancing quality of life<br>feedback undefined beyond direction |
| 1988 | Deacon & Firebaugh | demand responses and resource changes<br>feedback to input |
| 1996 | Goldsmith | met demands, achieved goals, satisfaction/dissatisfaction, altered resources<br>positive or negative feedback to inputs |
| 1996 | Goldsmith (Dollahite) | adaptive behavior involving demand responses and resource changes<br>feedback to throughput elements demands of the situation and coping resources |

Resource Relationships in Resource Management

The dictionary defines a resource as

1) a source of supply, support, or aid, especially that can be readily drawn upon when needed;

2) the collective wealth of a country or its means of producing wealth;

3) money, or any property that can be converted into money; assets;

4) available means afforded by the mind or one's personal capabilities;

5) an action or measure to which one may have recourse in an emergency;

6) capability in dealing with a situation or in meeting difficulties (Steinmetz, et al, 1997).

The thesaurus offers synonyms describing both human and material resources. The human resources include initiative, ingenuity, talent, inventiveness, imagination, cleverness, quickwittedness, capability, resourcefulness, aptitude, qualifications, strength, quality, and forte. Material resources include capital, assets, money, possessions, wealth, property, cash, and funds. PRSM defines a **resource** as a ***positive contributor to quality of living, personal well-being, societal satisfaction, and overall quality of life.*** In PRSM, a resource is recognized therefore when a positive person-environment interaction occurs.

The historical models reviewed in this chapter offered varying representations of person-environment interaction and consequently varying interpretations of resourceful relationships. Table 7 details the resource relationships (person-environment interactions) indicated in the structural models of resource management. Though many of the elements and processes identified could contribute to positive interaction, they were often presented as value free in the structural models. Little attention was given to the contribution made to quality of living, personal well-being, societal satisfaction, and overall quality of life. In contrast, many of the functional models addressed the value of outcomes. The functional models did not address resources in terms of the person-environment relationship though and thus left the dialectic interplay between human and material resources unexamined. With few exceptions, there has been little effort to combine functional models with structural models in resource management. The potential offered by that integration requires further consideration.

**Table 7**

**The diversity of potential resources in resource management models**

| *Year* | *Textbook* | *Resource Categories* |
|---|---|---|
| 1975 | Deacon & Firebaugh | involve dutiful relationships with clients and suppliers |
| 1976 | Nickell, Rice & Tucker (1) | specifics such as creativity, knowledge, judgment and air, earth, friends, etc. |
| 1976 | Nickell, Rice & Tucker (2) | human (abilities/skills, attitudes, knowledge, energy), and nonhuman (time, money, goods/property, community facilities) |
| 1977 | Paolucci, Hall & Axinn | natural systems, agricultural/industrial systems, social regulatory systems |
| 1980 | Gross, Crandall & Knoll | economics, politics, nature, technology, and society/culture |
| 1981 | Swanson | political, economic, cultural interactions; physical and social micro aspects; economic, sociocultural, technological, and political macro aspects |
| 1988 | Deacon & Firebaugh | physical, biological and human made aspects of the natural/structured macroenvironment |
| 1996 | Goldsmith (Foa & Foa) | love, service, goods, money, information, status |
| 1996 | Goldsmith (Bristow & Mowen) | physical aspects, social aspects, information, and wealth |

Time/Space Considerations in Resource Management

The final consideration concerns the effects of time and space on resource management? Both time and space are important to resource management, which has a long history of time and space use studies. Both have often been considered primary resources, along with energy and money. PRSM does not follow that line of reasoning, though the logic of it is not disputed. Rather than considering time and space as resources, on par with other resources, this study views time and space in terms of the single entity time/space, and as a delimitation. Delimitations serve to sharpen the focus of attention, and to make the process of aggregation more feasible. One defining factor on which the practice currently agrees is that resource management is limited to the near environment, to factors under direct personal influence. If time/space is considered a single entity, then the delimitation of near environment is the ***here and now***, along with the historical artifacts and future expectations influencing the here and now. Current ecological models do not adequately reflect this near environment focus (Table 8).

*(Copyrighted figures unavailable to ETD)*

**Figure 28. Time/Space considerations in resource management**

Time/space is defined by the percipient and converges at here/now.

**Table 8**

**Time considerations in resource management models**

| ***Year*** | ***Textbook*** | ***Time Reference*** |
|---|---|---|
| 1976 | Nickell, Rice & Tucker | categorized time as a resource (Figure 4)<br>addressed time as a nonhuman resource (Figure 5) |
| 1996 | Goldsmith | Bristow & Mowen presented time as an environmental boundary (Figure 11) |
| | All other models | make no provision for time |

# Chapter V
# CONCEPTUAL DEVELOPMENT
# PERSONAL RESOURCE SYSTEMS MANAGEMENT

More than a decade ago, Goldsmith (1985) suggested that an applied science of Life Management was emerging from the traditional curriculum of resource management and Home Economics (FCS), a science which would move philosophy into practice. It remains for the practice to define that philosophy.

## Interactive Practice

Ways of viewing resource management as a specialty of Family and Consumer Sciences have been considered using the Wilson and Vaines (1985) paradigm of customary, instrumental, reflective, and interactive practice. Customary practice introduced a traditional orientation toward person-environment transactions focused upon routine daily activities involved with the home and the care of family members. That practice was rooted in a time before women's liberation and equality, and prior to the shift in much of the world from rural society to urban society. The home in that era was the center of family activity for the entire family, women and children were rarely away from the home, and change was insignificant. Those assumptions no longer hold in the current atmosphere of change. In today's mobile society this traditional orientation to home and family has been recast in terms of personal systems operating in the near environment.

Instrumental practice in the discipline has contributed a focus on prediction and control in the form of theories and models. In chapter four an examination of the models in use in resource management from 1975-1996 identified structural models constructed in accordance with ecological theory, and functional models representing the processes of systems theory and management theory. Ecological theory established the importance of multiple environmental domains. Management theory and systems theory attempted to describe the successful management process, the hero's journey.

Reflective practice questioned the status quo in the discipline using the framework of critical theory. Marjorie Brown (1985) at the close of a long and distinguished career in Home Economics, expressed concern that the discipline was losing its focus, and suggested that the work of Jurgen Habermas might serve to refocus our efforts. Edith Baldwin (1996) called for incorporation of Habermas' human interests framework (technical, practical, emancipative) in future FCS efforts, and with Frances Smith, organized an AAFCS (American Association of Family and Consumer Sciences) dialogue on the meaning of well-being using that framework. Smith (1996), reporting on the results of that dialogue, confirmed dedication to the human interests framework; called for incorporation of dialogical process; and requested clearer definition of the term well-being.

Customary, instrumental, and reflective practice each have much to offer, and each has been influential in the development of what is currently regarded as resource management. However, no single form of practice stands alone. Each exists in dialogic and dialectic relationship with the others. Instrumental practice expresses customary practice in the abstract. Reflective practice questions the content of customary practice,

and scrutinizes the meaning of abstractions. Customary practice slowly evolves to reflect new understandings emerging from instrumental and reflective practice. A fourth form of practice, interactive practice, integrates these varying paradigms and invites practitioners both amateur and professional to join together to promote the common goal, well-being. Interactive practice is dedicated to valuing diversity, honoring all viewpoints, and building consensus and is the practice adopted by this thesis for further development.

## The Personal Resource System

The focus of the proposed practice is personal. Patricia Thompson (1992, p. 100) has suggested a schema for Family and Consumer Sciences that divides all human action into two interactive domains, one private and one public. The business of the private domain is deemed nurturance. The public domain, in her schema, engages in governance. The two domains form a *system* in continual interaction. Applying that concept to resource management, the transactions involved in such a system would be experienced subjectively as first order transactions by those in the private domain, so that the system from that viewpoint would be *personal.* A first order transaction is one in which the subject is directly and personally involved, in this case to engage or respond to a resource in the public domain. Following this logic, specific event transactions related to individual and family life might be called personal resource systems events, and the selection and control of those events ***Personal Resource Systems Management*** **(PRSM).** The cumulative effect of competent personal resource systems management would be personal well-being, domain satisfaction, and a positive quality of life overall. Healthy personal systems in aggregate then form both families and communities.

## Extending Descriptive and Predictive Power

How can Thompson's view of personal and public systems in interaction be integrated with the models historically used in resource management to suggest a theory for interactive practice? A good theory would have both descriptive and predictive power (Hawkins, 1990). Resource management models have historically been better at description than prediction, however both aspects of development might benefit from further research. The opening pages of this thesis acknowledged the need to further explore "the potential of the systems framework in addressing the complexities of family resource allocation behavior" and six criteria were advanced for this exploration (Key & Firebaugh, 1989). "Theoretical perspectives from other disciplines" were suggested as possible source material for new developments applicable to resource management theory (Bohle, Grobe and Olson, 1997) .

## The Structural Model: McNeil's Toroidal Systemology

The specific character of the system to be described emerged from a review of resource management models appearing in textbooks from 1975-1996. Two major model types addressing concepts of structure and function were identified and time/space issues

emerged as a third consideration. Structural models of resource management most frequently appeared in an ecological context (Figure 26). The ecology was represented graphically by the bulls-eye figure indicating a central figure surrounded by a complex environment. The boundaries between the operator and the environment, as well among levels of the environment, varied from permeable to semi-permeable to impermeable describing both open and closed systems. Specific elements or categories of elements were identified in the environment. Relationships were established among categories (Foa and Foa, 1974) as well as between the central figure and the environment. Several key concepts emerged from the review of historical models to be addressed in future development. Among the most significant were the needs to

- accommodate personal uniqueness in an increasingly diverse world;
- identify the central figure of the resource management system to clearly establish constituency;
- establish permanent environmental categories to support management strategies; and to
- represent relationships between and among system elements to clarify interactions.

Recent developments in the systems literature suggest a format for extending the current structural concepts to accommodate emerging sensibilities.

Donald McNeil (1995) has suggested a model of systems in three or more dimensions in the form of a toroid. A toroid is defined as "a surface generated by the revolution of any closed plane curve or contour about an axis lying in its plane" (Steinmetz, 1997). In its simplest form the torrid resembles a segmented donut, but more complex systems may "have more than one hole" and may be "deformed, convoluted, and knotted to any degree of elaboration" (p. 135). McNeil defines a system [at a given echelon of order] as

> a dynamic, organized, delimited, open, persistent, composite whole. It is volutionary, comprised of at least one loop and at least one link which manifest the aspects of function, form, content and control, together with timing and scaling factors, relative to an environment and relevant to a percipient.

Toroidal systemology suggests how the system might be perceived as a whole, partitioned internally, and connected externally with "hierarchy suggested as a fan-out from or fan-in to the center." It establishes the "self" of the system as a "reflexivity upon a vortical compellor" (p. 139).

> To appreciate true systemicity, it becomes necessary to put aside the toy box of 'independent ' objects and recognize the world as an interactive fluxion through and around compelling centers in richly interconnected toroidal topologies. It is a paradigm if continualities, cyclicities, loops and links. Where before we saw 'particles', linearity, and rigidity we now see 'vorticles', circulations, and dynamics. Where once there were ensembles of things there are now eddies in a stream (p. 137).

McNeil allows systems to interweave, intermingle, interfuse, and interact with "no necessary or permanent superiority" and without embeddedness (p. 140-150). The total he claims is at "systemological theory and practice" which "together represent an *applied philosophy* with an ontology, an epistemology, an axiology, a worldly praxiology, and most certainly a teleology" (p. 135). The construction is certainly worthy of further consideration as a structure for resource management as it could easily accommodate the requirements identified in the review of historical models.

The Functional Model: Herbst's Co-Genetic Logic

Functional models of resource management were informed by two types of process models, the flow chart and the systems model (Figure 27). The flow chart is a product of project management systems (PERT/CPM) developed by the Navy and E.I. DuPont which were primarily concerned with the sequencing of *nonroutine* activities using limited resources within a set time interval. These management models depict action initiated, proceeding in a linear and unilateral manner toward a finite goal, and terminating when the goal is accomplished. They are not applicable to routine or repetitive situations (Gray, 1981, p. 1). Systems models on the other hand are reflexive and acknowledge the complexity and interrelatedness of recurrent experience. The now familiar sequence of the systems process is input-throughput-output-feedback and then input again.

Most of the functional models reviewed for this research combined a linear forward thrust with some form of feedback mechanism that established reflexivity. Two questions seemed to beg consideration. From where to where is the process going, and what is the desired outcome of this activity? The models were largely silent on those points. It is very hard to manage without knowing first the (descriptive) nature of the situation to be managed and then the (prescriptive) desired outcome of the management. . Systems describing resource management need to "address internal and external sources of systems change simultaneously" (Key & Firebaugh, 1989). In application there are things that we can change, which we address proactively; and things we cannot change, to which we must respond reactively. To manage intelligently we must develop the wisdom to know the difference and become interactive. The give and take of dialogical and dialectical discourse is the essence of interactive practice. In such practice both contributors to the interaction must be considered simultaneously and both sides of the story given respectful consideration. So doing acknowledges the fact that in systems output for one party becomes input for the other and vice versa. The review of historical resource management models indicated no consensus of agreement regarding the nature of either inputs (Table 6) nor outputs (Table 8). Theorists were equally at odds on the nature of the operating system (Table 2) and its environments (Table 5).

Patricia Thompson (1992) suggested a solution to the dilemma with her depiction of the system as private and public interests in interaction. This resolution established a dialectical relationship between person and environment and thus between plans and demands. Thompson's work established the "players" and defined the bilateral relationship between them but did not fully explore the activities comprising the "game."

The game in the current historical context has been defined as *change* for the purposes of this thesis. The game must be understood as a whole which requires simultaneous consideration of "character, change (within a developmental period), and context variables" (Key & Firebaugh, 1989). The "winner" of the game experiences quality of living, personal well-being, societal satisfaction, and ultimately quality of life.

David Herbst (1995) has developed a system of co-genetic logic which explains systemic interactions in terms of change and no change and indicates both the location and the direction of the action. He began his explanation with the establishment of a boundary and the simultaneous creation of inside and outside. Herbst termed the process co-genetic because the three elements (inside, boundary, and outside) come into being together (co-genesis) to form a triadic unit at the moment the boundary is drawn. The components cannot be separated nor can there be fewer than three components. Further, the components are contextual and can only be defined in terms of each other, creating two states (inside and outside) and a process (crossing the boundary). The similarity to the systems model introduced to resource management in 1966 by Maloch and Deacon is striking (the states input and output and the processes throughput and feedback). When described in terms of change and no change, both within states and between states, the process assumes

- nine structurally different (binary) process networks together with a tenth, which has no transition links and thus consists of nothing more than discrete process elements;
- each of which were found to have interpretable properties; and
- in every case both a physical and a psychological interpretation can be found (Herbst, 1995).

Applied to Thompson's private and public systems, this logic allows description of patterns of person-environment action, perception, reorganization, and reaction in great detail. A detailed historical record of patterned behavior ultimately allows attempts at prediction. According to co-genetic logic there are only ten possible configurations of change. This convention significantly simplifies the challenge of describing the phenomenon.

Resource Relationships: Csikszentmihalyi's Flow

The focus of Family and Consumer Sciences has been defined in terms of person-environment interaction, the goal of which was well-being. Well-being though remains undefined in the literature and apparently has not yet been clarified in the practice (Henry, 1996). The subject matter specialty resource management would naturally tend to define well-being in terms of resource relationships. In the previous chapter a resource wa defined as a positive contributor to quality of living, personal well-being, societal ssatisfaction, and overall quality of life. Csikszentmihalyi's flow model has been mentioned earlier as a possible explanation of what makes a person-environment interaction a positive experience and thus a resource.

Persons interact with a variety of human and material elements in the environment, described as potential resources in the review of historical models (Table

7). A system describing personal resource management must therefore "integrate economic structure with sociopsychological phenomena" (Key & Firebaugh, 1989). Affect, in the form of well-being, must be describable in a format consistent with both. Economics has traditionally described material interactions in terms of supply and demand, expressed as income and expense when money is the form of exchange. The rules governing the economics of supply and demand are extensive and well-defined. The flow model developed by Csikszentmihalyi (1990) as previously introduced extends similar sensibilities to non-economic sociopsychological phenomena. The flow model views interaction in terms of skills and challenge. The following predictions emerged from that research

- Skills exceeding challenge leads to boredom (negative affect, stress).
- Challenge exceed skills creates anxiety (negative affect, stress).
- Skills equaling challenge at routine levels promote apathy (no affect, no stress).
- Skills developing to meet challenge at higher than ordinary levels generate flow (positive affect, eustress).

This understanding allows connections with the stress literature established by the work of Hans Selye (1956), as suggested by Garrison and her colleagues (1992) and Dollahite (1991), and through that body of literature defines links to the biological workings of physical, mental, and emotional reorganization in living beings.

Time/Space Considerations: Efficacy-Performance Spirals

The impact of resource relationships on the nature of systems over time is the final area of exploration. Systems have been described as both open and closed, expansive and defensive. Expansion or growth has been described by Maslow (1970) in term of needs theory which suggested that humans address needs progressively moving from physiological needs to security, love and belonging, status, and finally to self-actualization. Bloom (1956) offered a taxonomy of cognitive learning which began with the acquisition of knowledge and progressed through comprehension, application, analysis, synthesis, and culminated with evaluation. Numerous other representations have been developed around life cycles and ages and stages. Most agree that growth occurs from inside to outside, from simple to complex, and from concrete to abstract. Though the process may often appear to be linear, it is not always smooth. There can be considerable movement backwards as well as forwards. Joseph Campbell (1973) described the successful path as "the hero's journey" and maintained that the sequence involved venturing forth, encountering an apparently insurmountable challenge, besting the problem, and returning triumphant. The impetus for this movement in time/space has been described as efficacy-performance spirals.

Lindsley, Brass, and Thomas (1995) addressed the impact of feedback on the system over time in terms of efficacy-performance spirals which were defined as "deviation amplifying loops in which the positive, cyclic relationship between perceived efficacy and performance builds upon itself" (p. 645). Individuals, groups, and organizations were considered, and positive, negative and self-correcting spirals were

described. Individuals in this study were considered as lower level systems and organizations as higher level systems. Self-correcting spirals were preferred over uninterrupted positive or negative ones. The following fifteen propositions emerged as a guide to research. The first three propositions outline the rules governing the occurrence of spirals.

- Self-correcting adjustment and avoidance of deviation-amplifying spirals is dependent upon the accuracy, specificity, and timeliness of performance feedback about the cause-and-effect task relationships.
- The probability of the occurrence of spirals will be positively related to task uncertainty and complexity.
- The probability of the occurrence of spirals will be negative related to task experience.

Propositions 4-10 outlined the properties related to continuation of spirals.

- The probability of the continuation of spirals will be positively related to the extent to which internal, stable, and uncontrollable attributions occur.
- The probability of the continuation of spirals will be positively related to the extent to which automatic information processing occurs.
- The probability of the continuation of spirals will be positively related to emotional arousal.
- The probability of the continuation of spirals will be positively related to the extent to which expectations and labels are consistent with performance.
- Redefining success and failure will be positively related to stopping spirals.
- Subdividing the task to promote small wins and small losses will be positively related to stopping spirals.
- Major restructuring will be positively related to stopping spirals.

The remaining five propositions examined the compositional and cross-level effects on spirals when individuals are embedded in groups and groups are embedded in organizations.

- Task interdependence will strengthen the relationship between higher and lower level spirals.
- Task uncertainty and complexity will strengthen the relationship between higher and lower level spirals.
- Decreasing size [of the organization] will strengthen the relationship between higher and lower level spirals.
- Social identification with a higher level unit will strengthen the relationships between individual spirals and higher level spirals.
- The extent of inclusion of the lower level units in the higher level unit will strengthen the relationship between lower level spirals and higher level spirals.

These fifteen propositions allow practitioners to predict affect with some degree of accuracy based on historical and contextual precedent.

Summary

Recent work by Herbst (1995), Csikszentmihalyi (1990), McNeil (1995), and Lindsley, Brass and Thomas (1995) - emerging from the literature of mathematics, psychology, systems, and business management - was selected for integration into the theoretical base of resource management. Patricia Thompson's (1992) synthesis of feminist theory and home economics provided the platform for development. The adoption of theoretical work from other disciplines detailed in this chapter has addressed four of the six criteria advanced by Key and Firebaugh (1989). In the preceding paragraphs we have

1) *addressed internal and external sources of systems change simultaneously* through the work of Patricia Thompson (1992) involving private and public systems;

2) *considered character, change, and context variables simultaneously* using David Herbst's (1995) system of co-genetic logic which proposed ten configurations of change processes;

3) *treated families as dynamic, adaptive, and internally differentiated social systems* by examining the rules of behavior regarding efficacy-performance spirals in individuals, groups and organizations; and

4) *integrated economic structure with sociopsychological phenomena* using Mihaly Csikszentmihalyi's (1990) flow model describing well-being as the product of matched skills and challenges, a model which resonates with the equilibrium between supply and demand in classical economics.

All that remains is to put the pieces together to

5) *capture the nature of the phenomenon under study*; by

6) *conceptualizing a complex multivariate model that incorporates the interaction of multiple systems*

and construct a model for Personal Resource Systems Management. That task is the topic of the following chapter.

We do not create the world,
***we make a model***

That is what organismists do;
that is what painters do;

and that is what scientists do,
despite any protestations to the contrary

G.M. Weinberg
An Introduction to General Systems Thinking
(1975)

## Chapter VI
## THE NEXT STEP
## MODELING THE PRSM CONCEPT

The purpose of Personal Resource Systems Management (PRSM: "prism") as suggested by this research, is to ***establish an interactive format for improving the quality of human living, through daily self-management of person-environment transactions***. The resulting framework is an integrative product addressing issues related to the person as an individual, individuals interacting as family or community groups, the specialty resource management, the discipline Family and Consumer Sciences, and more generally the systems and social sciences.

Integrative scholarship has been described as "serious, disciplined work that seeks to interpret, draw together, and bring new insight to bear on original research" (Boyer, 1990). Integration requires a deliberate interpretive effort to fit research, your own and others, into larger intellectual schemes, establishing a connectedness between isolated facts, and across disciplines, through which research is ultimately made authentic. The organization of elements in the PRSM format might ultimately suggest a model of resource management that could more readily establish connections both within Family and Consumer Sciences (among the various specialties) and beyond disciplinary borders (to enable incorporation of research findings from other traditions). In keeping with the interactive nature of the grounded theory methodology, the comments of a resource management practitioner who served as reviewer are included in italics to balance the conceptualization. PRSM, as developed by this thesis, models the following concepts.

### Interactive Practice in PRSM: Systems with Infinite Solutions

To accommodate diversity, PRSM begins with a consistent dependent system offering multiple solutions (Figure 29). The boundaries are left open to allow infinite possibilities. Each unique system is assembled from environmental elements available in a particular context. Only when the full range of possibilities and potentials has been identified can practitioners move on to explore singular solutions for specific interactions.

> *Reviewer: In earlier models, input could have come from endless possibilities. They [the models] showed the ones that were "real" or "selected."*

This is still the case. Individuals specify the environmental elements with which they have established relationships in their own lives. Each system is unique. Where one person might establish a love relationship with a spouse and two kids, another might find that relationship with parents, a pet, or special friends. One individual might interact with a computer as a material resource, while another prefers a '57 Chevy, a television and overstuffed lounge chair, or yard and lawn equipment. Only the person who's system is being described can accurately define the roles and relationships which comprise that

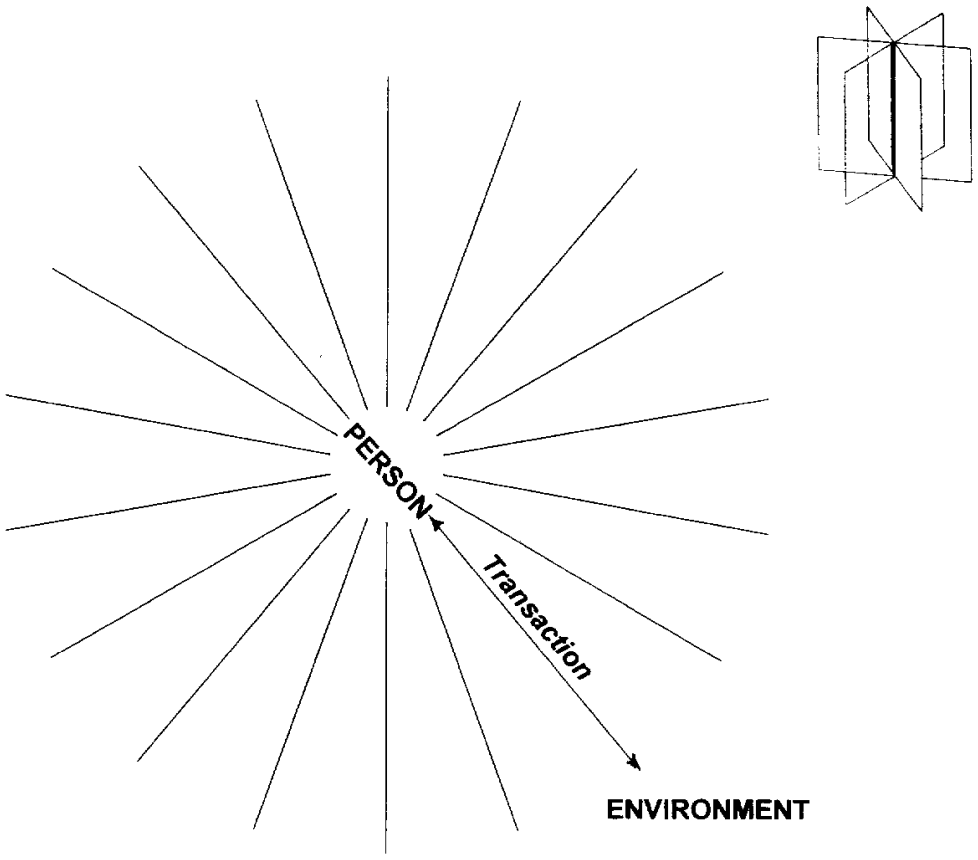


**Figure 29. A consistent dependent person-environment system with infinite solutions**

The holistic organization of the PRSM system offers an infinite variety of environmental options yielding infinite solutions, each contributing to formation of a cohesive personal system.

system. Personal systems are comprised of many such transactions, with new person-environment transactions being continually instigated as attention shifts from one environmental element to another.

## PRSM Structure

### Person-Environment Transactions

At the center of the system stands the person and beyond the person the environment. Between lies the invisible boundary between self and not self, continually crossed and re-crossed in person-environment interaction. By focusing on person-environment transactions, PRSM theory sought to retain the best of historical Home Economics (now Family and Consumer Sciences), and to apply those historical concepts to the demands of current society. The person-environment focus was entertained early in the evolution of this discipline (Lake Placid Conference, 1902), and has been a recurring theme of the practice since (Scott & Butler,1997). Justification for this focus was also found in the 1975 mission statement of the professional association which called for promoting...optimum balance between people and their environments (Home Economics, New Directions II, 1975)

### Toroidal Organization

If person-environment transactions are considered in terms of a consistent dependent system (Figure 29) the resultant model depicts a person with multiple interests and relationships forming a complex personal or near environment (Figure 30). The system is consistent because all relationships are personal. The person is the common point of intersection. The resulting toroidal shape, which was proposed by systems theorist Donald McNeil in 1995 for systems research, provides an opportunity to view holistically the multiple transactional options present in a given event, a feature invaluable to effective management. McNeil's contribution to systems literature was profiled in the previous chapter. The toroidal organization opens the ecological structure of personal systems by allowing direct connection with the full range of environmental elements.

Previous ecological models seemed to me to place the person in an hierarchy (in accordance with the systems view of emergent and governing systems). I saw in the "bulls-eye" figures, a person nested within multiple layers of context, each progressively more complex and remote. One example (Figure 7) portrayed the person, surrounded by the family, surrounded by the household, surrounded by the near environment, surrounded by the larger environment. Double headed arrows indicated interaction between contiguous environments only. Another example (Figure 9) suggested a family system, surrounded by the physical and social microenvironment, surrounded by the societal systems macroenvironment, surrounded by the natural systems macro-environment. No interactions were indicated. The graphic seemed to suggest that larger environments could only be accessed through intervening environments. The current realities of increased diversity and mobility seem to demand greater flexibility of a

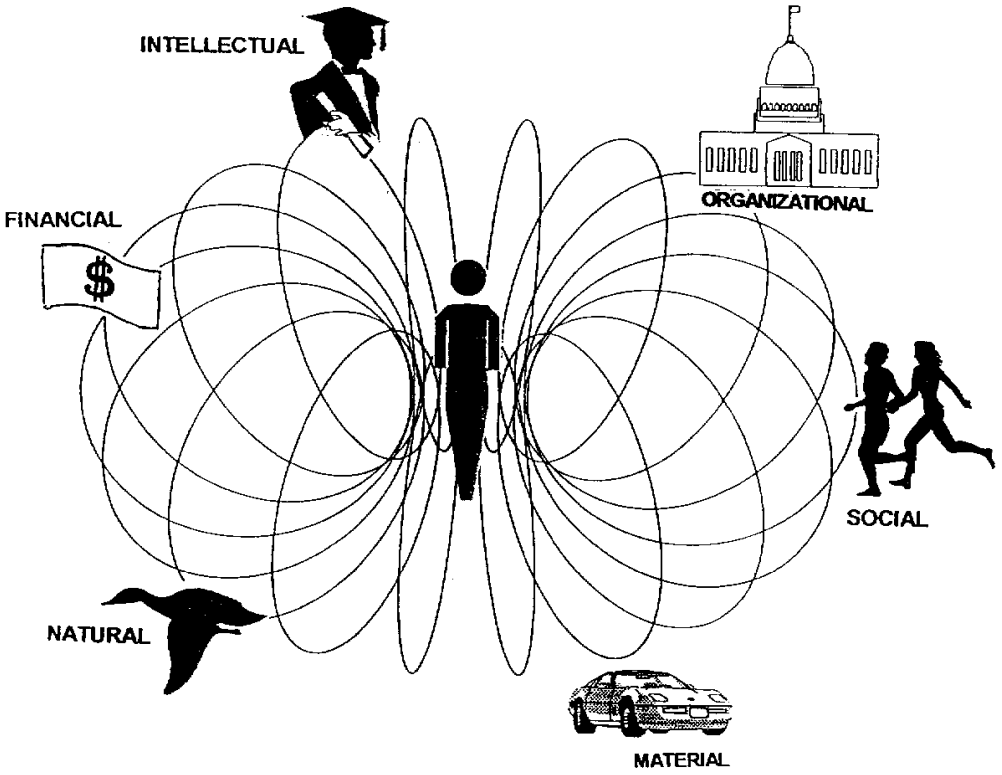


**Figure 30. PRSM as a toroidal system**

Personal Resource Systems can be depicted as multiple person-environment transactions pivoted around the central person in a toroidal construction.

Note. Adapted from A survey of applied Systemology, by Donald H. McNeil, 1995, in Systems Research, 12(2), (p. 139).

personal system enabling the system to move easily between family and work environments and between household, school and office. The graphics of the "bulls-eye" ecology may not have accurately represented the practice, or perhaps I read into the nested graphics unintended constraints. My practitioner reviewer was unaware of any such constraints.

> *Reviewer: I never perceived it that way. I thought it meant that [environments] were further away but not accessed through intervening environments. [I] never saw intervening environments.*

In an open, toroidal configuration, the selection of specific elements and transactions would be determined by the individual. Any available element considered important enough for personal investment could be drawn into the system.

> *Reviewer: This is good, but it [personal investment] is not a new concept.*

The toroidal organization recognizes the importance of the time/space collapse resulting from advances in communication and transportation technology. Today even spacially and temporally distant environments may be virtually accessed here and now using advanced technology.

Establishment of a consistent system dependent upon the presence of the person casts PRSM as a personal system rather than a public system. The primary constraints imposed by a personal system are the limits of personal attention or interests. This means that the only environmental elements recognized are those with which the person has established a relationship, a personal interaction. These are first order transactions for the system. More remote concerns are not considered until they are reflected in a personal relationship. This doesn't mean that more public concerns are unimportant, just that they are not the focus of this schema.

PRSM Persons

In order to understand people's values, we must understand the perceptions and motivations of the person. PRSM recognizes that the person is complex. Allocation of attention, and personal evaluation of the resulting transaction, are dependent upon the specifics of individual perception and expression. Figure 30 featured a person interacting with the environment. Critical theorists voice a concern that persons are more than mere actors, and cannot be described by behavior alone. They insist that persons are also thinking, feeling individuals.

> *Reviewer: Previous theorists believed this too, but have called it black box because they didn't know how to explain what happened there.*

Figure 31 describes the processes of the person in terms of a holistic energy, which is focused in three distinct forms **MENTAL, EMOTIONAL** and **PHYSICAL**

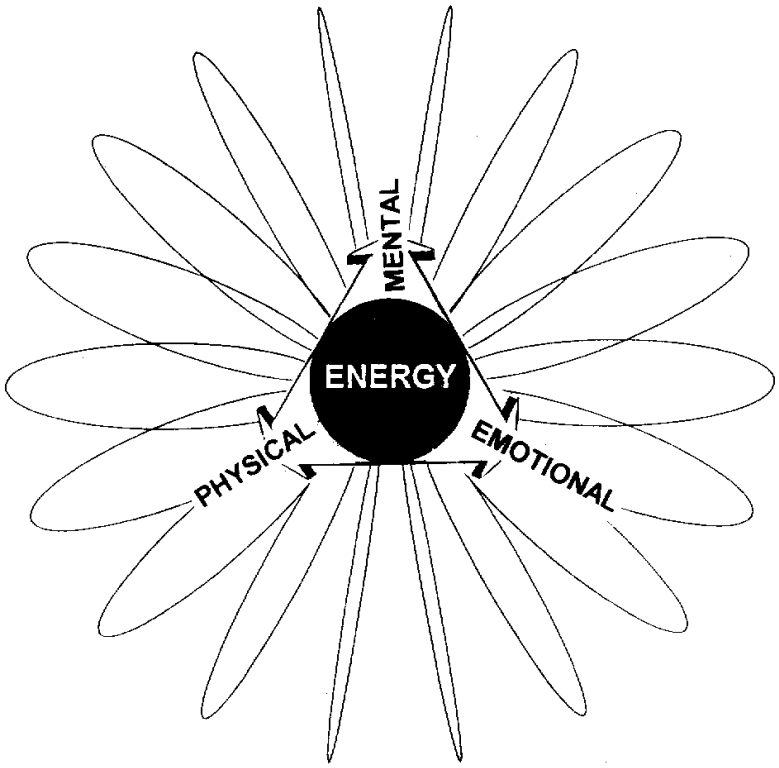


**Figure 31. PRSM persons**

The person in the PRSM is presented in terms physical, emotional, and mental aspects. These aspects shape and focus action, reception, and perception. The energy that animates these three aspects of the person is central and holistic. That central, holistic energy initiates action and consolidates experience.

In PRSM, the person offers and receives affordances in each of these forms, allowing for recognition that persons differ in their modes of interaction, and that this difference often influences the perception of, and access to, particular resources. This format provides clear connections with substantial bodies of knowledge in cognitive, affective, and behavioral psychology. The mental, emotional, physical format also aligns reasonably well, though not perfectly, with the critical interests of philosopher Jurgen Habermas. The critical theory of Habermas and the philosophers of the Frankfort School has been promoted for use in FCS by Brown (1985), Baldwin (1996), and Smith (1996). Habermas described an emancipatory interest, which was the knowledge of reflection (thoughts); a practical interest, which shaped consensual expectations of behavior, and was often described in moral/political terms (feelings); and a technical interest expressed in rule-following action (deeds). Closer to home, the 4-H concept celebrates head, heart, hands, and a holistic concept termed health.

PRSM Environments

Environments are also complex and multivariate. PRSM has taken a stand for infinite options but recognizes the need for categorical organization. Critical theorists often take issue with other scientists over the establishment of theoretical categories because categories guide inquiry and can determine both what is seen and what remains unseen. On the plus side categories allow the aggregation of knowledge as well as the sharing of concepts. The negative is that the initial categorical organization of elements strongly reflects the perceptions of the researcher and establishes implicit standards which may not be relevant across individuals, classes, genders, ages, or cultures.

There is no perfect solution to this dilemma. PRSM, following the example set by financial accounting, establishes broad formal categories (Figure 32) for guided inquiry, aggregation, and comparison, but leaves the specific entries in those categories to individual respondents. The six categories of environmental elements established by PRSM are **INTELLECTUAL, ORGANIZATIONAL, SOCIAL, MATERIAL, NATURAL,** and **FINANCIAL** (Table 9). These categories are familiar to traditional resource management, although this particular selection is a composite of several previous representations. The order of presentation largely accommodates the Foa and Foa (1971, 1974) understanding of resource exchange.

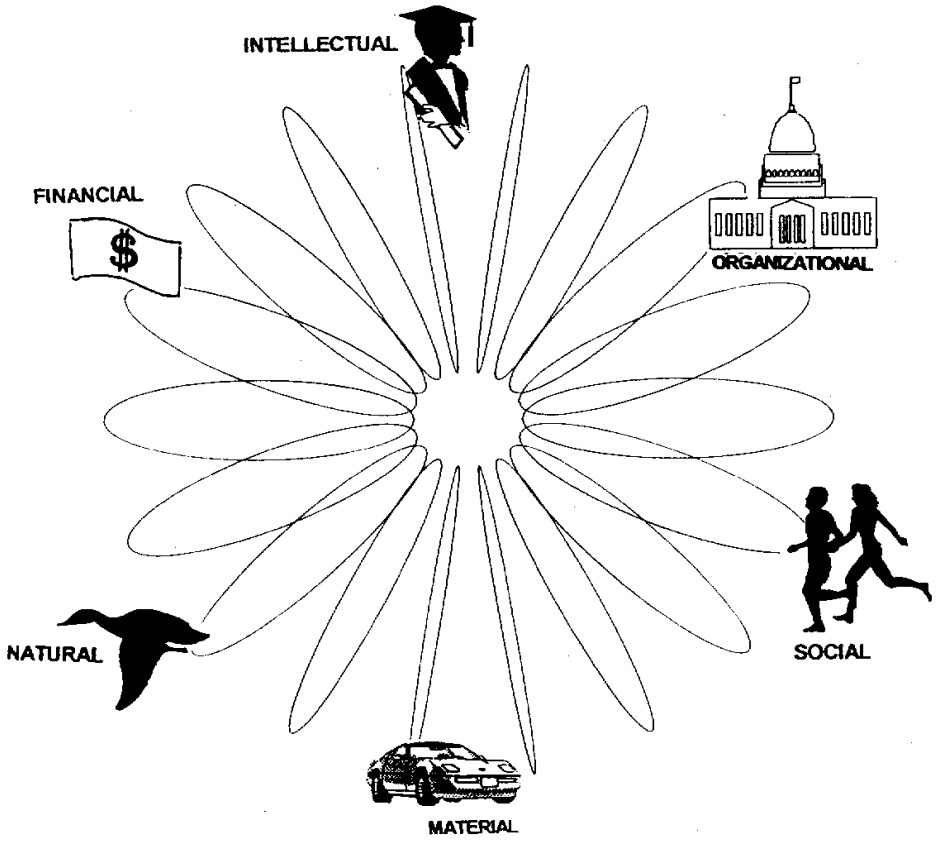


**Figure 32. PRSM environments**

The PRSM is a personal resource systems model. The central hub of the model is the person. That person is engaged in transactions (or role relationships) with selected environmental elements (resources). These resources are represented by six categories, Intellectual, Organizational, Social, Material, Natural, and Financial

**Table 9**

**Resource categorization in PRSM**

| *Resource Category* | *Includes* |
|---|---|
| **Intellectual** Resources (maintain knowledge & advance learning) | mastered bodies of knowledge, such as language, math, history, and cultural background; and accessible repositories of knowledge including experts, books, mentors, teachers, technology, media, etc. |
| **Organizational** Resources (are organized around a specific goal or mission) | businesses, schools, churches, government entities, fraternal organizations, clubs, etc. |
| **Social** Resources (entities who provide love, support, security, and nurturance | parents, siblings, spouse, partner, children, extended family, close friends, special pets, etc. |
| **Material** Resources (human constructed goods designed to leverage positive, or ameliorate negative, experiences) | clothing, shelter, furnishings, transportation, tools and equipment, toys, etc. |
| **Natural** Resources (basic elements of temporal experience) | water, weather, energy, plants, animals, etc. |
| **Financial** Resources (symbolic instruments of exchange) | money, credit cards, insurance, other negotiable assets, liabilities, capital, etc. |

## PRSM Function

### Dialectical Personal Systems

Theoretically, this is a very rich conceptualization. The person-environment relationship described by PRSM (Figure 33) is a functioning unit comprised of two possible elements (person and environment) joined by a process. This familiar input-throughput-output-feedback form of the cybernetic system, has been a staple of resource management since 1966 (Maloch & Deacon). New in the PRSM conceptualization is the dialectic orientation of person and environment. The person is depicted as forming constructions and reconstructions within self, as well as initiating and receiving transactions with the environment. The environment is similarly engaged.

The most recent Deacon and Firebaugh model (Figure 18) moved left to right and showed personal (internal) demands and resources and environmental (external) demands and resources as inputs. These inputs entered the system from a single direction, merging in a transaction process, and produced common output and feedback. Reflective practitioners have maintained that this unilateral representation does not allow for the disparate interests of persons and their environments, nor does it acknowledge the variety of impacts experienced. In the PRSM representation, personal inputs enter the system from the left and environmental inputs enter the system from the right. The dual inputs interact (throughput) yield a single outcome having implications for both the person and for the environment. The results are transmitted to the appropriate entity in the form of feedback. By creating a bilateral representation of the system, in the form of the person-environment interaction, PRSM encourages recognition of the dual inputs and impacts involved in daily transactions.

### Changing Personal Systems

The dialectical system naturally assumes the patterns established by Herbst's co-genetic logic which was outlined in the previous chapter. That logic establishes ten possible configurations of the person-environment transaction described in terms of change and no change.

> *Reviewer: I guess my problem is that I don't read Deacon and Firebaugh as just one outcome, etc. They showed it [the management process] in simple form - one at a time - but I have never thought of it as being just one.*

I agree, as do Key and Firebaugh (1989, p. 16) when they call for the conceptualization of "complex multivariate models that incorporate the interaction of multiple systems." The problem was to find a structure which made that practice explicit. as the resource management literature did not yet offer such a representation. The person-environment organization of the PRSM function model coordinates with the person-environment organization of the structure model to render that higher level, multivariate system. A similar person-environment organization structures PRSM resources as well as PRSM time/space.

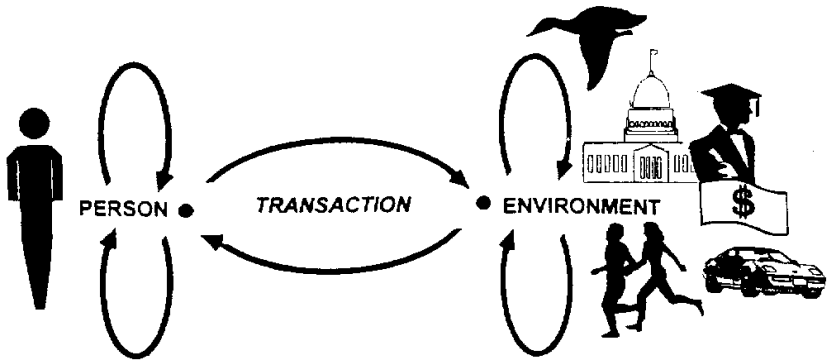


**Figure 33. Person-environment transactions**

The PRSM model is configured in a person-transaction-environment format, and allows interaction in both directions between elemental processes, as well as reconstruction within elements.

Note. Adapted from What happens when we make a distinction: An elementary introduction to Co-genetic Logic, by D.P. Herbst, in Development of person-context relations (p. 77), T.A. Kindermann and J. Valsiner, Ed., 1995, Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

## PRSM Resources

### Consistent Independent Systems

Specific person-environment relationships are viewed as consistent independent systems with single solutions. This is to say that the relationship is examined in terms of specific events involving three variables, the person, the environment, and the transaction (time/space event) and evaluated in terms of the outcome. The meaning (feedback) of that outcome will vary between the parties involved. Specific relationships in the PRSM model describe the intersection of a person and an environment element at a particular moment in time/space forming a consistent independent system (Figure 34).

### Delivering Well-being

The solution established by the consistent independent system describing the person-environment transaction is evaluated in terms of its contribution to quality of living and personal well-being. The most recent vision statement of the American Association of Family and Consumer Sciences made the quality of living mandate more explicit with a call for action to promote "optimal well-being of families, individuals, and communities" (AAFCS: 1995-2000 Strategic Plan). Figure 35 introduces the method of valuing well-being in PRSM. The flow model used to evaluate PRSM transactions was developed by psychologist Mihaly Csikszentmihalyi (1975, 1990), and evaluates person-environment transactions in terms of boredom, anxiety, comfort, and flow. These states result from the shifting balance between personal skills and the challenges presented by situations. The flow model was introduced in the previous chapter as a contribution from the psychology literature which might extend the concepts of resource management.

Csikszentmihalyi found that if personal skills were greater than the challenge presented, boredom ensued. If the challenge exceeded available skills, anxiety was experienced. Boredom and anxiety are states of ill-being. Mild well-being or a neutral state was experienced when challenge was equal to skills at a routine level. When challenge exceeding the routine was met by developing skills, a heightened state of well-being (flow) resulted. Csikszentmihalyi and Larson (1987) have also developed a methodology for empirical testing of the flow model using the experience-sampling method. That methodology might also prove useful to PRSM.

Some critical theorists have taken issue with existing systems and ecological theory saying that those theories establish objective viewpoints that promote action without meaning. My reviewer has commented

> *Reviewer: I say they promote action based on people's [user's] values and goals not ours [practitioners or theorists]. We start by teaching values and helping people recognize what's important to them. We promote QOL but how that's defined is up to people. [Leaving definition to the people] created evaluative hardship, but we select measures to show societal progress e.g. bankruptcy and stable housing.*

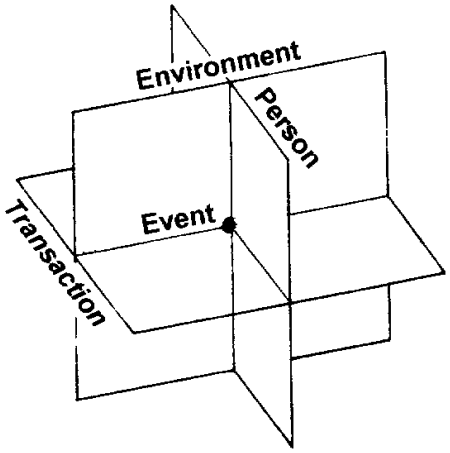


**Figure 34. A consistent independent P-E system with a single solution**

Though PRSM initially offers an infinite choice of possibilities, interest and time limit engagement. As an environmental element is engaged each ***event*** *(person x environment x transaction)* results in only one solution.

I agree that the definition of well-being is subjective and belongs to the people. The flow model as adapted in PRSM encourages that subjectivity by requiring users to identify both personal skills and environmental challenges, to examine the relationship between the two, and to report the nature of their own resulting experience. Adoption of the flow model is a commitment to subjectivity and process (quality of living). PRSM has made a choice not to adopt objective measures in the tradition of Quality of Life Indicators. The Indicators literature has made a rich contribution to the examination of quality of life in a wide variety of settings. However, that movement is statistically based, objective, and promotes standards which are not always sensitive to diversity issues, standards such as measuring quality of life by gross national product (GNP) or number of telephones per thousand population. Measuring societal progress requires more detailed information than PRSM is prepared to address at this time regarding the goals of unique societies and the validity of societal claims over personal claims.

Occasionally in discussing objective and subjective evaluations of well-being I have referred to subjective evaluations as value laden and objective measures as value free. I slipped into that terminology because subjective evaluations tend to involve self-report and frequently suggest the feelings and the meanings which surround the experience as well as the measurable hard facts of the situation. Objective measures, in accordance with scientific method, attempt to suppress individual feelings and meanings in order to generalize data across a broader spectrum of humanity. Value laden and value free in this usage refer to the presence or absence of feeling and meaning in the evaluative report. The term "values" in the subject matter resource management has been defined as "principles that guide behavior" (Goldsmith, 1996). While principles are certainly closely related to feeling and meaning, the style of word usage is not interchangeable. This became apparent in a comment made by the reviewer about the use of the flow model for evaluation. I had commented that well-being was a value laden solution to be reported in terms of the flow model.

> *Reviewer: This is fine but I don't consider it a value. Comfort happens when one's values are being addressed. It won't happen if the values are someone else's. In other words, I see what you propose as being just as value free or value laden as previous models - yours is fine - but it still has to consider people's values as I believe we teach every day in extension and resident instruction.*

PRSM Time/Space

This research did not fully investigate the implications of the PRSM model in time/space, but PRSM does consider time/space to be a relative entity defined by the percipient. Reflexive loops (centered on the person, here & now) have been established by the toroidal model. It is easy to imagine an expanding distribution, in the tradition of the life cycle model, developing around any of the specific interactions. That distribution would follow the rules of efficacy-performance spirals and probably would be congruent in some manner with the co-genetic form previously displayed. The precise definition of ecological extension has not yet been determined, although that extension would seem to reflect development from inside to outside, simple to complex, and concrete to abstract.

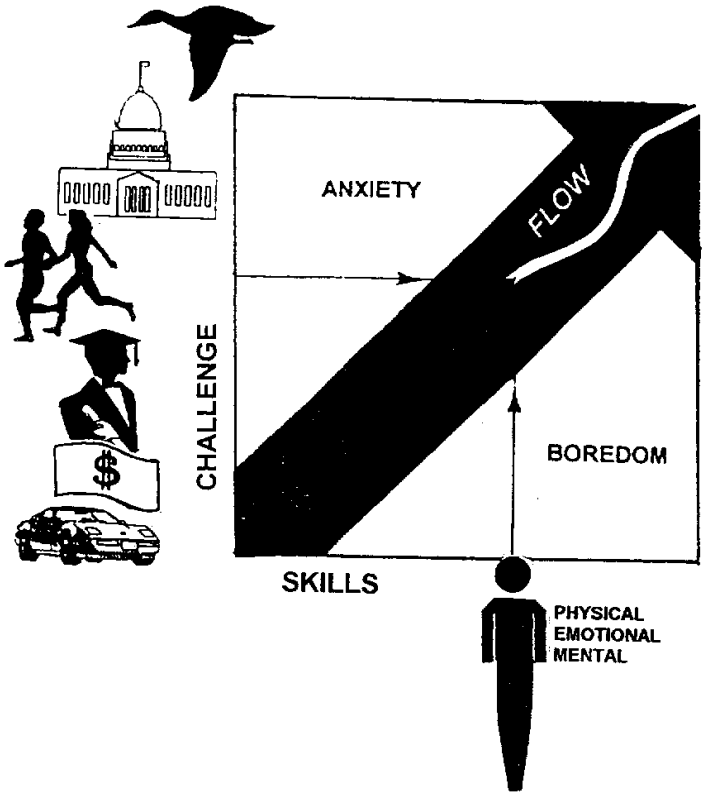


**Figure 35. Well-being in the PRSM system**

Transactions in the PRSM are explained in terms of skills and challenges as presented in the *FLOW* model. When skills exceed challenges boredom ensues. When challenges exceed available skills the person experiences anxiety. Skills co-ordinate with challenges at a routine level are experienced as apathy. Flow is the heighted experience resulting when skills meet the challenge presented at a greater than routine level.

Note. Adapted from Flow: The psychology of optimal experience, by M. Csikszentmihalyi, 1990, New York: Harper. Copyright 1990, Harper.

Summary

It seems appropriate in summary to apply to PRSM the same Liebert and Spiegler (1990) format for evaluation of theory used to evaluate historical resource management models in Chapter IV. Though favorable bias is inevitable, so doing should at least inform reviewers of the expectations and aspirations of the model and aid evaluation of its credibility and utility.

- Organization and clarification of observations. Multiple person-environment transactions are depicted operating in a toroidal system. At the center, persons engage the system in three aspects (physical, emotion, mental). At the perimeter, the environment offers six categorical domains for organization of environmental elements and subsequent engagement (intellectual, organizational, social, material, natural, and financial). Between persons and environments are the interactions which sustain the system and bind the elements together in relationship. The nature of the interaction is described by co-genetic logic while the quality of the transaction is determined in accordance with the Flow model. Comfort and Flow are states of well-being/satisfaction occurring where skills and challenge are equal. Boredom and Anxiety are states of inequality and ill-being/dissatisfaction causing stress to the system.

- Explanation of past events and prediction of future events. Though not fully developed in this thesis, co-genetic logic and efficacy-performance spirals provide some measure of explanation and prediction over time. Further research into developmental sequences, matrix functions, and the principles of systems thinking should greatly expand that capability. The *Flow* model establishes a consistent, independent system of current observations which makes aggregation practical both longitudinally and cross-sectionally.

- Conveyed understanding of subject matter. PRSM attempts to convey the dialectic nature of person-environment interactions; the multiple opportunities for interaction available; the impact of past experience on future perception; the opportunity cost of domain engagement; and the complex, transactional quality of well-being, satisfaction, quality of living and quality of life.

- Ability to generate new ideas and research. The intent of this exercise was to provide fresh concepts and variables for future research. Only time will determine the efficacy of the effort.

- Elements supported by empirical research. Many PRSM elements are familiar concepts from the resource management literature. The base concepts which have been retained were those which were well supported in the literature. The specifics of that empirical support has been covered case by case in the analysis of historical models. As for new developments emerging from the interdisciplinary search, the aspects of the person (physical, emotional, mental) have been the subject of entire

branches of psychology and are extensively researched. The Flow model is supported by a substantial body of research, as is the related topic stress. Systems theory, which defines the nature of the PRSM system, is the focus of an active and growing field of academic inquiry. Efficacy-performance spirals are supported by empirical research. The Foa & Foa model of resource exchange has been empirically tested. However two domain positions, material and natural, were switched in the PRSM, model and that relationship will require further investigation. Further, PRSM labels by category (social, financial, etc.) whereas Foa and Foa labeled by affordance (love, money, etc.). The correspondances may not always hold.

- Elements requiring further research. This is a new theory and model. The logical first question for researchers is whether the concepts portrayed are worthy of examination. Secondly, do the elements selected provide the best understanding of the concepts. And finally do the relationships proposed for those elements seem appropriate. These qualitative questions must be addressed before further empirical research can be justified. Specific implications for further research will be explored in the chapter to follow.
- Parsimony of the model. The PRSM model attempts to combine a variety of existing models used in traditional resource management into a coherent whole. The toroidal system describes the structure of the person-environment transaction, systems function, resource exchange, dialectic and dialogic communication, decision making, choice, values, time use, life cycles, feedback spirals, and human interests in a single model. If the resulting model is comprehensible, it will greatly simplify understanding in the specialty.

- Extensiveness of the model. The model is extensive addressing many aspects of life.

- Internal consistency of the model. Significant attention was devoted to maintaining consistency among and between the elements of the model. Hopefully each element and relationship will be perceived as similar to others in its class. In addition to striving for consistency in the details, the model addressed consistency in the system. Each individual person-environment event has a single solution, and is a consistent, independent system. Prior to engagement of a domain however, the system offers infinite solutions, and forms a consistent, dependent system. These dual aspects of the model make it possible to appeal to both modern and postmodern sensibilities.

- Testability of the model. Elements and relationships are clearly established for testing. Research is on-going in many of these areas. Well-being was defined for specific person-environment transactions as the result of matched skills and challenges. Further research is required to extend the experience of specific events to a more global state. In the implications section which follows a matrix is suggested which might provide a method for accomplishing that goal. There is also a possibility that some form of educational or developmental scale could be applied to the flow model to more accurately target the desired level of engagement.

- Usefulness of the model. The model proposes to be useful for empowering individuals and families in the use of resources, identifying mental models to improve interaction, restoring value to non-financial transactions, and organizing a practice to promote personal well-being.

- Appropriateness of the model to the time. The accommodation of diversity was a major factor in the design of this model. Modern and postmodern sensibilities; personal mobility; age, race, cultural, and gender neutrality; collaborative alternatives to competition and control; self report; and the quantum/relative paradigm of the new physics were all significant considerations; as were the principles of systems theory

Research that possesses catalytic validity
moves those it studies to understand the world
and the way it is shaped
in order for them to transform it.

(It) will not only display
the reality-altering impact of the inquiry process,
it will also direct this impact

so that those under study
***will gain self-understanding and self-direction.***

Patti Lather
Handbook of Qualitative Research
N.K. Denzin & Y.S. Lincoln, eds.
1991

# Chapter VII
# IMPLICATIONS FOR FURTHER RESEARCH

This thesis was an exercise in exploration, a first step toward the concept of personal resource systems management (PRSM). It is only a beginning. Further research is required to perfect the concepts developed thus far, extend the power of the model with further theoretical development, and to test the model empirically.

## Perfecting the Concept

Credibility and utility set the standard for evaluating qualitative research, replacing the validity and reliability criteria commonly used in quantitative studies. As this thesis neared completion, seven reviewers were enlisted from within the Family and Consumer Sciences community at Virginia Tech to assess the value of this beginning effort and to determine directions for further development. All were Ph.D's and six of the seven were practicing professionals. The seventh reviewer recently retired from teaching but is still active in the profession and the professional organization. Five of the reviewers were educated in, and practice within, the resource management subject matter. The remaining two were chosen for their expertise in global issues and housing. Six were female. One was male. All were experienced adults in their 40s (4), 50s (1), 60s (1), and 70s (1). Only one of the seven failed to respond. The reviewers were working from a summary of the theory, the figures illustrating the model, the evaluation framework, and the Key and Firebaugh (1987) article summarizing the state of theory in resource management and calling for further theoretical development. They had not read the full text of the thesis. Further, the summary article the reviewers evaluated included a description of the person-environment matrix which was subsequently removed from the main body of the thesis to await further development.

### Credibility

Credibility in qualitative research has to do with description and explanation, and whether or not a given explanation fits a given description (Janesick in Denzin and Lincoln, Ed., 1994). For the most part the reviewers felt that the *description* offered by the model was credible within the Family and Consumer Sciences and resource management tradition. The following is a sample of their responses.

- *I find your PRSM theory to be very interesting. The mental, emotional and physical format seems quite logical. Figures 2, 3, and 4 work well. From there I became lost. Since I am not familiar with the flow concept research and literature, I was unable to make the connection with the matrix figure and QOL.*

- *[PRSM] provides a way to evaluate people, programs, and impacts. You have examined a lot of theories and give support. [PRSM] helps to focus client goals and resources related to QOL. [PRSM] provides a more global, participatory assessment of factors related to a problem. Assumptions are not made when you <u>really</u> examine*

*all areas and not lessen non-monetary factors such as nature. The client analyzes the situation and progress.*

- *The quality of life or personal well-being as an outcome is [a] desirable resource management measure, and the person-environment interaction is needed.*

Only one reviewer took issue with the assumptions adopted for the theory. She responded

- *I think my management background got in the way of reading the piece labeled abstract and PRSM Theory because I kept looking for something about management as a "phenomenon of interest" (to use Kerlinger's term). Instead well-being seems to be the phenomenon of interest, but what happened to the "management" that is the focus of the theory - or so I had thought from the name PRSM.*

This individual is a well respected leader in the field and her comments must be carefully considered. Henry's (1995) findings indicate that lack of consensus regarding the assumptions of the discipline (specifically regarding the focus on well-being) is widespread. Further research is needed to verify the credibility of the assumptions adopted for theory development in this thesis.

The consensus on the *explanatory power* of the model (as presented in the summary packet) was that there is still much to be done. Some of the criticisms rendered are more clearly addressed in the full text of the thesis and were short-changed in the summary article due to researcher inexperience. Others were inevitable due to the rudimentary state of the current theoretical development. Theory (at least in my mind) develops very slowly. The insights refuse to be rushed, appearing in their own time and not before. Degree programs, on the other hand, demand conclusions. This thesis established what I hope will prove to be solid markers for future theoretical development. Still, the project is far from complete. Several themes for further research and clarification emerged from the reviewer comments.

Because the project involves significant interdisciplinary research there is a problem with language. I was so immersed in the literature that I did not hear the lapse into "jargon." In most cases the terms in question represent significant theoretical and research directions in other disciplines. Simple definitions are inadequate to describe the complex paradigm shifts encompassed by Gibson's "affordances," Herbst's "co-genetic logic," Csikszentmahalyi's "flow," McNeil's "toroidal systems" and the "efficacy-performance spirals" described by Lindsley, Brass and Thomas. The terms were used in the summary article partly because I was insensitive to my readers needs, and partly because I needed to properly acknowledge the contributions from, and establish research connections to, other disciplines. The reviewers clearly expressed their confusion and irritation.

- *This is very difficult for me to understand. Much of the terminology is new to me, at least in the context of resource management. What is co-genetic logic, domain engagement, etc.?*

- *I kept looking for propositions that together "added up" to an explanation of management defined in the terms customarily used in the field. Sorry - I really couldn't respond to the evaluation questions because I couldn't get on the right wave length.*

- *This [the abstract] was hard to understand if read before the article. What's that...toroidal system, flow, ZPD, QOL, efficacy-performance spirals?*

- *No definitions. Systemic well-being...how defined? Quality of Life...defined?*

- *I need definitions of what is included [in the matrix]. Where do the historic resource management concepts of value, goals, time, energy, decision making, planning, and implementing fit in this [matrix] model?*

- *These concepts for the most part are not familiar to resource management or human ecology - at least not in this context.*

Further work is obviously needed to integrate the concepts gleaned from psychology, education, sociology, philosophy, mathematics and systems science into the language familiar to resource management practitioners.

The PRSM process networks also need further definition. The processes of the PRSM conceptualization were imported to resource management as current developments from other disciplines. These few interdisciplinary developments were selected for incorporation into the model from among thousands of articles and abstracts perused across a wide variety of disciplines, because each seemed to contribute significantly to the understanding of personal resource systems management (the process) toward the goal of well-being. The scope of this thesis, as an evaluation of existing resource management models and *proposal* for theory development, was insufficient to allow for full exploration of these concepts. Process concepts were handled even more lightly in the summary article, a fact that so frustrated one reviewer that she responded to only one of fourteen questions on the evaluation. To the question "In terms of your own practice, does PRSM theory provide an acceptable theory of person-environment interaction leading to well-being?" she answered

- *No - [It is a] graphic representation but offers no explanation of the process to accomplish well-being.*

The interaction of these processes in a system is very difficult to follow in the abstract form of theory development. Development of case studies in which the interactions are diagrammed (much like diagramming sentence structure) using the PRSM concepts might provide a more useful description of process.

The PRSM assessment instrument is currently the least well developed portion of the project. Although full consideration of assessment was beyond the scope of this thesis, assessment needs are under investigation. The flow diagram provides the platform for further development in this area. The work of Mihaly Csikszentmihalyi provides a

beginning from which researchers can establish the value (positive or negative) of individual transactions. Boredom and anxiety would be rated negatively, while flow would be rated positively. Beyond single transactions assessment becomes significantly more difficult.

### Utility

The second criteria for evaluating qualitative research is utility. The work must serve some useful purpose. With the "baby boomers," of which I am one, approaching retirement age, I anticipated an increased interest in issues related to crafting a productive and satisfying life outside the career. I had hoped that the framework would eventually serve to support both research and practice related to a broader based understanding (beyond economic issues) of well-being and quality of living. I also thought that PRSM might serve as an evaluation tool to identify the complexities involved in interventions such as the welfare to work initiative. I also see opportunity for additional research into possible connections between flow and Vygotsky's "zones of proximal development" to determine if there are connections between learning and well-being. If such connections do exist, as I suspect, PRSM with its evaluation of maintenance and growth in multiple domains could serve as a significant tool for life-long learning.

Further development (perhaps a workbook) is needed to demonstrate application of the PRSM model to real life situations. Applications were not readily apparent from the theory and model. On the subject of utility, the majority of reviewers were silent and a few were negative. Few of my respondents shared my vision of PRSM. Those who did however made the whole effort worthwhile. One called to say she was driving from Blacksburg to Roanoke to deliver her evaluation in person. A recent acquaintance and colleague in Family and Consumer Sciences from outside resource management, she alone had completed every question on the evaluation (in red and purple ink). She had devoured the material, attempting to apply it to examples of food security and changing diet due to a chronic disease. To the question of acceptability she answered an enthusiastic yes with multiple underlining and commented that many factors influence eating and the changing of dietary habits. She expressed concern about how the matrix would be scored and how long it would take, fearful that it might become too involved to be useful. She applied her example to the matrix with fairly respectable results. In her return envelope she had enclosed a friend's dissertation Factors related to membership satisfaction in extension Home Economics advisory committees, (Berntson, 1983). Berntson's research had used a matrix to measure satisfaction. That respondent was the youngest of my reviewers, and she had caught the vision. The most experienced of the reviewers was equally supportive. She wrote

- *In your abstract you seem to me to have answered your own questions. I am glad to see you take this approach. The mental aspects of resource management have always been in need of further study and have been beyond the reach of the training of professionals in this field. Work with various aspects of Psychology should be most illuminating and fulfill a need.*

- *You are to be commended for your initiative in striking out into new territory. There is a need for the development of new ideas and theories. This should come from the new professionals in the field. Best wishes for your success.*

## Extending the Concept

Several key aspects of the model which emerged in the course of this research remain undeveloped at this time. Further theoretical development is required to render the model fully operational.

### Matrix Organization

One of the most powerful aspects of the PRSM concept is that it establishes person-environment relationships which can be expressed in matrix form. In earlier drafts of the thesis, model development extended through the description of a 3 x 6 person-environment matrix (Figure 35). Time did not permit full development of that concept within the scope of this project. The reviewers said

- *[The element of PRSM theory that would benefit most from further research is] scoring and testing the matrix.*

- *I was unable to make the connection with the matrix ... and QOL.*

In light of the tremendous explanatory power of matrix algebra this is an avenue well worth exploring in the near future.

### Life-long Learning

Another lead that was not pursued due to time constraints was the concept of relationship specific or domain specific development. There seems to me to be an intuitive connection between Vygotsky's (1978) "zone of proximal development" (ZPD) and Csikszentmihalyi's (1990) "flow." If that turns out to be the case, there may also be a connection to Bloom's taxonomy (1956), Gagne's capabilities (1974, 1979), Maslow's hierarchy (1954, 1970), or some other developmental scale. If such a scale could be superimposed on the flow stream, a) the current state of development could be established and b) predictions might be made as to the level of engagement that would deliver future quality of living in a specific person-environment relationship. Such direction could further elaborate connections between growth and well-being to structure an intrinsically satisfying program of life-long learning. I found interesting research in this direction in the educational literature mentioned above as well as in Howard Gardner's (1983, 1993) work on multiple intelligences. The career development literature has explored this concept in terms of "congruence and coherence" as has the psychology, marketing, and quality of life literature (Sirgy, 1986). Graphically, if the concept of domain specific development could be accurately outlined in PRSM, we would be able to

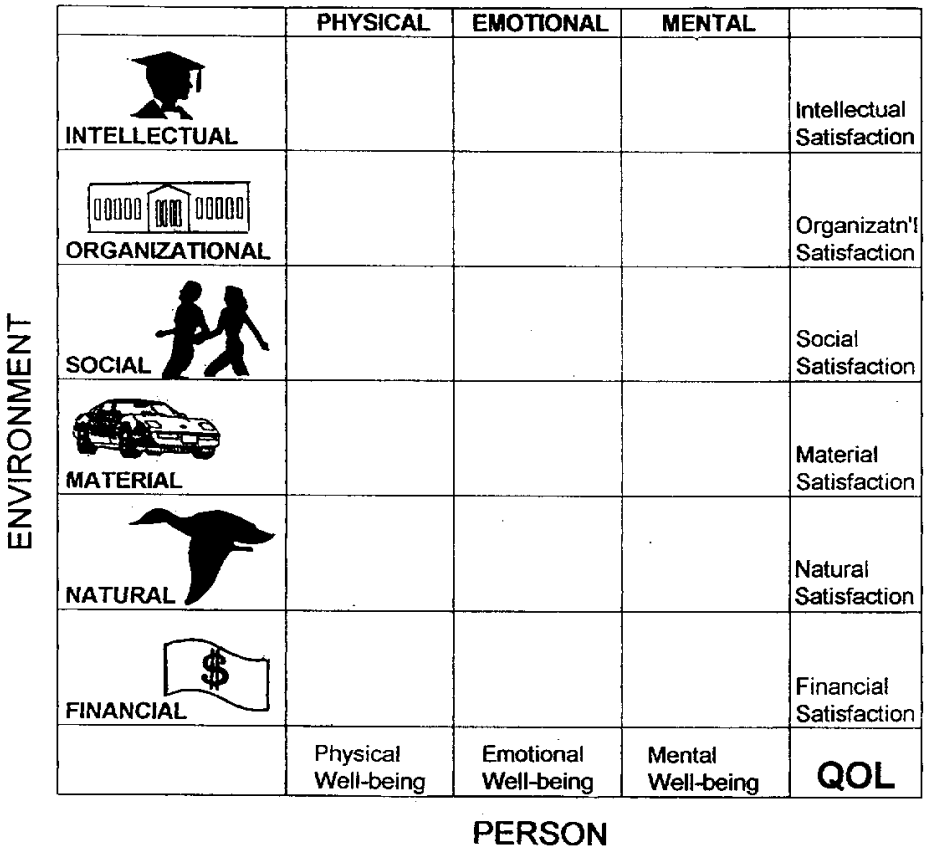


**Figure 36. The suggested PRSM matrix**

The PRSM Matrix is not yet fully developed. However, a row and column organization resembling this one (with entries reflecting quality of living) would account for personal aspects, environmental categories, well-being, satisfaction, and quality of life.

render the PRSM boundary such that each system resembled a puzzle piece with areas of strength protruding and areas of lesser interest receding. Such a tool would be most useful in designing learning programs as well as in team building.

Scenario Planning

Only the briefest mention was given to systems and change in the presentation of the PRSM model. All aspects of this very important topic require further research. Herbst's co-genetic logic was introduced but not fully explored or developed. That system requires full development in terms of the PRSM model. Given sufficient historical data, that logic could provide a first glimpse of whether change could be expected in the person, in the environment, or in the relationship between the two. The impact of feedback patterns on the direction of change as established by Lindsley, Brass and Thomas needs to be further explored and explained in terms of PRSM. The efficacy-performance spiral tells us whether to expect maintenance, growth, or retrenchment behavior from the PRSM system. Systemic influences bear further investigation as well (Germana, 1989, 1996; Sawyers & Moran, 1985). The current literature in systems theory and systems thinking provides a rich vein for further research in this regard. Systems concepts identify the enablers and constraints in the change process.

No effort has been made at this point in development to connect PRSM with any personality system, however PRSM is clearly concerned with patterns of personal engagement. A study exploring connections between PRSM and some of the leading personality systems could be very interesting as could further investigation of the long-term impacts of stress on the behavior of both persons and environments. Also, I played with Gibson's (1979) concept of "affordances" throughout the development of PRSM and in the end did not present that aspect of the model because the concept was not amenable to brief introduction. I believe that his transactional view of the world is very important to the PRSM concept, however, and feel that that connection must be explored in future theoretical development, particularly as it might be applied to ZPD and other educational or developmental scales.

Empirical Testing

Individually, each of the concepts established in the construction of the model and proposed for further investigation requires empirical testing to determine if PRSM is on the right track. In addition to types of research we have traditionally done in resource management (i.e. controlled experiment, survey research, etc.) we might want to develop some case studies (of successful and unsuccessful patterns of resource use or of the impacts of change on resource use patterns, etc.). The case study method has worked well for business as a tool to study complex systems. I would also like to see PRSM researchers engage in meta-analysis of potential affordances in different domains. Medical researchers are using the meta-analytic technique to move the vast amount of medical research available into practical application. Moving research into application seems to be what resource management is all about. Further meta-analysis could provide

a method by which a small cadre of researchers could make a major impact on the field. The PRSM structure could provide collection sites for the findings.

As I said in the opening lines of this document, Personal Resource Systems Management (PRSM) is an emerging concept, a proposal, a work in progress. It is a beginning and only a beginning. There is much research yet to be done, but a direction has been indicated. Perhaps that is enough for a beginning. It has certainly been a wonderful learning experience.

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# VITA

(540) 989-8752 **Barbara Skerry McFall** PO 21301
Roanoke, VA 24018

## Education

MS Virginia Tech (Blacksburg, VA)
Human Resources - HIDM
Resource Management option

*Thesis* - Personal Resource Systems Management (PRSM): A proposal for interactive practice.

BS Queens College (Charlotte, NC)
Business Management

## Employment

1995-1998 Graduate Teaching Assistant - Resource Management

1985-1994 Owner/Operator with Robert McFall
McFall's Framing and Art, Roanoke, VA

1977-1984 Owner/Operator with Robert McFall
Business Financial Center and Excalibur Financial Corporation, Houston, TX.

1976-1977 Houston Business Service, Houston, TX

1973-1976 Headen & Company, Construction Division and
Metrolina Contracting & Cleaning, Charlotte, NC

1971-1975 Residential Interior Design freelance and
with Gene McDonald Interiors, Fayetteville, NC

## Professional Organizations

1995- Pres. American Association of Family and Consumer Sciences
Virginia Association of Family and Consumer Sciences
(Currently serving as scholarship chair)
Eastern Family Economics and Resource Management Association
International Society for Quality-of-Life Studies

1995-1996 Academy of Marketing Science

1985-1994 Professional Picture Framers Association
League of Roanoke Artists

1976-1984 American Management Association
National Association for Female Executives
International Association of Financial Planners

**Honorary Organizations and Awards**

1995- Pres. Kappa Omicron Nu, Omicron Beta Zeta Chapter
National Honor Society (Currently serving as president of the VT chapter and on the national scholarship committee)

1996-1997 Bragg Scholarship, Crestar Bank $3,000

1994-1995 Dean's List Queens College
1967-1968 Dean's List East Carolina College

**Community Service**

1970-Pres. Parent Teacher Association (PTA) in a variety of elementary, junior high and high schools for two children. Current delagate from Cave Spring High School to the "Quest" program, a collaboration between the Appalachian Educational Laboratory and high schools in VA, WVA, NC & TN to improve education through research and development.

1996-1997 Saturday Sessions - assisted Lytton & Lytton with a program to introduce 4-H youth ages 10-14 to the College of Human Resources programs at Virginia Tech (AAFCS grant)

1989-1990 Junior Achievement - Entrepreneur in the classroom program.

1966-1976 American Red Cross - Fundraising

**Other Interests**

Family, organic gardening, herbs, self-sufficiency, quality of living, and applied philosophies.