CHAPTER II. REVIEW OF RELATED LITERATURE

This chapter includes a review of literature related to financial literacy, financial education, personal financial management, financial well-being, and work outcomes.

Financial Literacy

Financial literacy is a basic knowledge that people need in order to survive in a modern society. People should know and understand credit card and mortgage interest, insurance, and saving and investing for the future. Garman & Forgue (2000) defines financial literacy as knowing the facts and vocabulary necessary to manage one's personal finances successfully. Having knowledge of personal financial management and the marketplace is indicative of a greater ability to manage the family's financial resources (Godwin, 1994). People are more likely to achieve their financial goals with appropriate knowledge. Lack of personal financial knowledge limits personal financial management and may cause financial problems, resulting in lower financial well-being.

Recent surveys show many Americans lack basic financial knowledge. A 1994 Merrill Lynch survey of financial literacy revealed that many Americans did not understand the basic financial concepts and economic data. Less than one-fifth of all respondents passed the test. A 1996 study by the Investor Protection Trust found that only 18% of the investors surveyed were truly literate about financial topics on investing. Most did not know basic financial terms nor were they familiar with the performances of different investments. Only 38%t of surveyed investors knew that when interest rates go up the prices of bonds usually go down ("The Facts on Saving and Investing", 1998)

Another survey by the National Association of Securities Dealers Inc. on investors' financial literacy found that while 63% of Americans know the difference between a halfback and a quarterback, only 14 % can tell the difference between a growth stock and an income stock. While 78% of Americans can name a character on a television sitcom, only 12% know the difference between a load and no-load fund (National Association of Securities Dealers, 1997).

A 1997 survey by John Hancock Mutual Life Insurance found that 50 % of respondents thought money-market funds invest in stocks and bonds, that 40 % were not aware that a balanced fund invests in both stocks and bonds, and that only a quarter knew bond prices move inversely to interest rates (Glass, 1998).

In 1997, "Money" magazine and the Vanguard Group surveyed the investment knowledge of 1,555 mutual fund investors and found that the mean score on a 22-item test was 51% ("Mutual Fund Literacy Test," 1997). Only 20 % of investors could answer 70% of the questions on the test. The 1996 Retirement Confidence Survey found that the majority of American workers have a limited financial knowledge regarding issues important in planning and saving for retirement. Only one-third of workers had a high degree of financial knowledge, while 55% had a moderate level, and 11% had low knowledge levels ("Mutual fund...", 1997).

Young adults were surveyed by the Jump$tart Coalition for Personal Financial Literacy which administered a test on personal finance knowledge to 1509 high school seniors across the country (Jump$tart, 1998). The survey probed the high school seniors' knowledge of credit use, saving and investing, budgeting, taxes, insurance, inflation, and retirement issues. The average score on the test was 57.3%, with only 10% of the seniors

getting a C or better, indicating that young adults graduate from high school with little personal finance knowledge. There was a relationship between not knowing about personal finances and having financial problems, such as being targets of investment fraud; being delinquent on credit cards; and bankruptcy (Jump$tart, 1998). Survey results showed that states with high numbers of adults declaring personal bankruptcy also had high numbers of 12th graders who scored poorly when tested on personal finance subjects. Georgia, Alabama, Mississippi, and Tennessee, where the annual rate of personal bankruptcy filings was the highest per household, were among the seven states with the lowest mean score on tests (Jump$tart, 1998).

Chen and Volpe (1998) studied the financial knowledge level of college students. They found that participants (n=924) got 53% of questions correct. Students with a low knowledge level tended to have wrong opinions and made incorrect decisions.

NationsBank and the Consumer Federation of America supported a telephone interview survey with a representative sample of 1,770 households nationwide on their financial goals, financial strategy, and basic knowledge about important financial matters. Among 1,533 savers, only 8% of respondents got at least three- quarters of the 14-question test of knowledge correct. Sixty-one percent got fewer than half of the questions correct, and the average score was only 42%. Those with higher knowledge scores had higher saving levels than those with lower scores (Princeton Survey Research Associates, 1997).

Another survey by Princeton Survey Research Associates in 1999 studied knowledge about consumer rights and regulations and investment issues. Forty-two percent thought that loan payments could not be deducted from the homeowner's paycheck and 15% were not sure, while 43% answered correctly. Based on four questions, 64% of

respondents were described as having some knowledge or little or no knowledge about investments.

In summary, financial knowledge equips people to manage their money and handle saving and investing decisions. A low level of financial knowledge implies a need for financial education. Financial illiteracy may result in being a victim of investment fraud, mismanagement of credit, bankruptcy, and a lack of preparation for retirement.

Workplace Financial Education

This section is consists of the meaning of, the need for, and the content of workplace financial education.

Meaning of Workplace Financial Education

Financial education is a process that involves learning to manage financial resources and make financial decisions that affect financial well-being. Anderson (1982) suggested a process approach to personal finance education that involves people learning how to a) set goals, b) recognize their income base, c) develop a comprehensive financial plan to achieve goals, d) implement the financial plan, e) adjust the plan, and f) assess their goals, values, and progress. Financial education can enhance financial literacy and reduce financial problems.

Traditionally, workplace financial education focused on investment and retirement information. Although workplace financial education covers different topics, it is often limited to topics relevant to retirement planning and investment, such as basic investment terminology, asset allocation principles, risk tolerance and risk-return tradeoffs, effects of inflation, estimation of retirement income needs and retirement income sources, retirement

strategies, and the impact of pre-retirement withdrawals on retirement income (Bernheim & Garrett, 1996).

The objectives of financial education often focus on a) how to design a personal financial plan, b) how financial markets work, c) how to select among various savings and investment options, d) how to find and use investment information, e) how to recognize and victim-proof yourself against investment fraud, and f) the importance of ethical behavior in buyer and seller relationship (National Association of Securities Dealers, Inc., 199).

Workplace financial education more broadly defined refers to any information, education, and/or services provided by an employer to help its employees make informed financial decisions on 1) retirement plans, 2) employee benefits, 3) credit and money management, and 4) consumer rights (Garman, 1997).

Williams (1997) made a distinction between financial counseling and financial education. Education focuses on the processes of delivery whereas financial counseling focuses on changing behavior. Likewise, education is different from communication. Communication disseminates information to an audience regardless of what the audience does with the information. Education delivers information with the intent to initiate some action or change on the part of a specific audience (Brennan, 1998).

Need for Workplace Financial Education

Employers are realizing that workplace financial education is one way to assist employees in developing financial security. Workplace financial education has become a hot issue in the employer benefits community, since employees today have a greater

responsibility for their own financial security (Blair & Sellers, 1995). Employees need financial knowledge and skills to make informed financial decisions. A survey by American Express Financial Advisors reported that 85% of all employees wanted to get financial information where they work. The February 1997 issue of Financial Planning reported that employees surveyed by the Wisconsin Energy Company rated financial education as one of the most desired benefits ("The 1998 National Summit on Retirement Savings", 1998). In a survey of employee benefits specialists, 43% stated that educating employees about investing was their top priority and 74% stated that evaluation of current level of retirement savings was the top priority for employees ("The Facts on Saving And Investing," 1998). More employers are providing workplace financial education as employees shoulder a greater responsibility for their financial futures. Eighty-eight percent of large employers offered some form of financial education, and more than two-thirds had added these programs after 1990 ("Employees getting more: Investment education, planning help on the increase", 1995). Fifty-six percent of employers offer their employees investment education (KPMG, 1997).

Many researchers have asserted the need for workplace financial education (Atchley, 1998; Bernheim & Garrett, 1996; Blair & Sellers, 1995; Garman, 1997; "Management briefing", 1997; The 1998 National Summit on Retirement Savings, 1998; Pomeroy, 1997). Financial education can be beneficial to both employees and employers. "Management Briefing" (1997) reported that employee investment education has become a priority for employers. It asserted that employee financial education should be offered because it can a) fulfill Department of Labor recommendations, b) help employers avoid

lawsuits, c) improve employee financial well-being, d) remove limits on tax-deferred savings for highly compensated employees, and e) increase workplace productivity.

Pomeroy (1997) observed that employee financial education can a) provide ERISA 404(c) protection, b) increase employee productivity, c) save money for the employer, d) help employees have a greater appreciation for employer-provided benefits, e) create increased loyalty to employer, f) encourage financial readiness to retire, and g) reduce employee theft. Rationale for employee personal finance education include: a) financial education for employees is right thing to do, b) many workers are not participating in employer-sponsored retirement plans, c) highly compensated employees participate in retirement plans, d) employees who are educated about the benefits of retirement plans choose to participate, e) Department of Labor regulations encourage financial education, f) employers fear lawsuits from former employees claiming negligence, and g) employees who experience difficulties with their personal finances often carry those problems to the workplace with negative results for the employer (Garman, 1998b).

Employees indicate a desire for more workplace financial education. Grable & Joo (1999) indicated that there is a demand from workers for workplace financial education, especially on retirement and investment planning as well as debt management, budgeting, and general benefits.

Contents of Workplace Financial Education

Garman (1998b) asserted personal financial education should inform employees about employer- sponsored retirement plans, employer-furnished employee benefits, credit and money management, and consumer rights. Other researchers have suggested that

financial education should be more than a narrowly focused investment education (Atchley, 1998; Blair & Sellers, 1995; Di Paula, 1998; Garman, 1998b; Garnitz, 1998; Tiras, 1997). Atchley (1998) maintained that personal financial knowledge was essential and it supported physical and mental health, and individual satisfaction and success in marriage, family and employment. Personal financial education can also help families resolve conflicts arising from financial difficulties.

Blair and Sellers (1995) suggested the need for workplace financial education to be broader than investment education. They indicated that most employer-provided financial education focused on investing and was not sufficient. Tiras (1997) also maintained that financial education focused on investing for retirement was not sufficient and that employees desired and deserved a far more comprehensive education. He suggested that employees need to learn not only how to invest their retirement savings but how to free up money to save.

Di Paula (1998) asserted that financial education imparts understanding and knowledge. Its goal is to enable people to assume more control over their financial lives. Garnitz (1998) proposed that the employer should offer work/life support programs and services in a way that it educates and empowers employees to make their own "enlightened" decisions in finances. He emphasized the importance of budgeting, debt management, goal setting, and the basics of asset allocation as well as tax-deferred savings.

Education on employee benefits is important, too, because the topics are often about money. These include a medical plan, life insurance, long-term disability insurance, dental insurance, vision insurance, insurance for long-term nursing home care, employer-sponsored medical plan for retirees, on-site or near-site day care for children, day care for

sick children, sick leave and short-term disability, pre-tax flexible reimbursement accounts for child care or unreimbursed health care expenses, and employee assistance program for individual counseling for personal problems ("America @ Work: A focus…", 1998; Garman & Bagwell, 1998).

Credit and money management education includes spending plans, record-keeping, budgeting and money management, setting spending priorities, cutting costs, understanding debts, home equity loans, credit cards, credit counseling advice, and debt management (Anderson, Kerbel, & Xiao, 1997; Cash, 1996; Garman & Bagwell, 1998; Russell, 1997).

Consumer rights can empower workers to use consumer protection laws and regulation when needed. Some examples are as follows: Fair Credit Reporting Act regulations, Fair Credit Billing Act regulations, implied warranty rights, telemarketing solicitations regulations of the Federal Trade Commission and Federal Communications Commission, unordered merchandise regulations of the U. S. Postal Service, cash-on-delivery rule of the U.S. Postal Service, negative option rule of the Federal Trade Commission, and vehicle repair laws (Garman & Bagwell, 1998).

Workplace financial education can be delivered through print materials (brochures, plan descriptions, fund prospectuses, newsletters, and memos), one-on-one counseling or financial planning, seminars, workshops, focus groups, interactive voice response systems, 800 numbers, videos, interactive software, and Intranet/Internet (Bernheim & Garrett, 1996; Renninger, 1997; Wechsler, 1997).

Workplace Financial Education and Personal Financial Management

The rapid growth of workplace financial education has attracted interest in the effects of education on the personal financial decisions of workers. Results from recent studies have supported the efficacy of workplace financial education (Bernheim, 1996; Bernheim, Garrett, & Maki, 1997; DeVaney et al., 1995; DeVaney et al., 1996; Taylor-Carter, Cook, & Weinberg, 1997). Studies show that workplace financial education can be measured within three dimensions of social behavior: attitudes, knowledge, and behavior, which indicate the changes resulted from the learning experience (Ajzen & Fishbein, 1980).

Workplace Financial Education and Financial Attitudes and Knowledge

Financial education may increase financial knowledge and affect attitudes toward financial management (DeVaney et al., 1996; The 1995-1996 High School Financial Planning Impact Survey; The Evaluation of the NEFE High School Financial Planning Program 1997-1998). The 1995-1996 High School Financial Planning Impact Survey found a positive impact of the High School Financial Planning Program on participants' satisfaction with their financial abilities. A pre-and-post program assessment was conducted on the satisfaction with abilities in the following areas of education program: identifying personal money management goals, writing personal money management goals, prioritizing personal money management goals, developing a written spending plan, tracking income, tracking spending, developing a savings plan, understanding the impact of time on the value of money, understanding the cost of using credit, and discussing ideas and information about personal finance with others.

In the evaluation of the 1997-1998 High School Financial Planning Program (N = 4,107), students were asked questions on eight financial management behaviors, three on financial knowledge, and two on financial self-efficacy before and after the financial planning class. Examples were "I track some or all of my expenses", "I compare prices when I shop", "I know the cost of buying on credit", and "I believe the way I manage my money will affect my future." The follow-up survey three months after the program showed that the mean scores for all of the financial questions increased significantly compared to having immediately completed sessions.

At the end of financial seminars or workshops, participants often report that the financial education increased their knowledge and confidence in personal finances. Respondents also report their intentions to change their financial management behaviors (Flethcer et al., 1997; Kim, Bagwell, & Garman, 1998; Russell, 1997; Taylor-Carter et al., 1997). Fletcher et al (1997) did a pre- and post-assessment of financial attitudes, knowledge, and behaviors to evaluate the effectiveness of personal finance workshops delivered by Iowa State University Cooperative Extension to employees at a corporate headquarter. They found that participation in an educational workshop resulted in improved financial knowledge, attitudes, and behaviors. Even though the research design did not include a control group for comparison, the workshop participants reported progress in their financial management knowledge and basic financial skills. However, the sample size of this study was too small (N = 29 in the pre, N = 15 in the post).

Russell (1997) evaluated a workplace financial workshop designed for large audiences in factories. The workshop included the topics of home equity loans, emergency funds, credit records, children and money, mutual funds, renting to own, debt-loan, record-

keeping, spending plans, and debt repayment. The results showed that the workshop increased the participants' financial knowledge. Participants frequently reported that they desired to learn more about developing a spending plan, reducing debt, investing, planning for retirement, and buying a home. Taylor-Carter et al. (1997) studied the relationship between a retirement financial planning seminar and retirement expectations and self-efficacy, or the subjects' confidence in their ability to retire. This study had a small sample size of 36. They found that participation in retirement financial seminars had a positive impact on retirement expectations. Other research studies have found that workplace financial education promoted participants' confidence and attitude toward financial management (The 1998 RCS, 1998; DeVaney et al., 1995; Kratzer et al., 1998).

Workplace Financial Education and Financial Behaviors

There also are studies pertaining to the effects of financial education on actual changes in financial management practices (Bernheim, 1996; Bernheim et al., 1997; DeVaney et al., 1995; DeVaney et al., 1996; Godwin & Caroll, 1986; Varcoe & Wright, 1991). People who have had any type of education in financial management reported more extensive financial management (Godwin & Caroll, 1986). DeVaney et al. (1995) studied the effects of Women's Financial Education Program (WFIP) on the decisions to save and invest for retirement with 815 participants in the financial education programs organized by Cooperative Extension Educators in Indiana, Nevada, and Utah. They found that as a result of financial education, participants gained confidence in making financial decisions and that changes in financial management were positively related to increased savings and investment. The results also indicated that the use of WFIP workbook had a positive

relationship with reviewing and adjusting investment goals and setting up an investment plan.

DeVaney et al. (1996) examined workshop participants' changes in knowledge, attitudes, and behaviors as a result of a financial education program. A pre-assessment occurred at the beginning of the Women's Financial Information Program, and a post-assessment was administered by mail about three months after the program ended. Participants were asked about their changes in financial practices as a result of financial education. The questions were whether they had a) developed or revised a spending plan, b) set up and used a bill paying system, c) started or added to an emergency fund, d) identified and/or reduced spending leaks, e) obtained credit in their own name, f) limited use and/or reduced balances on credit card accounts, and g) began saving on a regular basis or increased savings. Satisfaction with finances included satisfaction with money available for emergencies, amount owed, and level of savings. They found that as a result of financial education, the participants experienced positive changes in feelings and attitudes toward finances and financial management practices.

There is more evidence on the relationship between financial education and behavioral changes. Varcoe and Wright (1991) found that financial education changed financial behaviors. They found that persons with fewer initial financial management skills make more changes after the financial education programs than those possessing more skills. A 1996 study of baby boomers found that workplace retirement education programs increased overall saving rates by 2.2%, raised average rates of saving for retirement by 1.8%, and boosted participation rates in 401(k) plans by 11.8% (Bernheim, 1996).

Bernheim et al. (1997) analyzed the consequences of workplace financial education and the effects of these programs on sources of information and advice concerning retirement planning. The econometric results indicated that workplace financial education strongly influenced household financial behaviors. They found that the rates of saving, for both general purposes and retirement, increased significantly with the provision of retirement education. Financial education also stimulated participation in and contributions to 401(k) plans.

The 1998 Retirement Confidence Survey showed that workplace financial education changed workers financial behaviors. Workers who received workplace financial education reported that they changed their savings or investment behaviors due to the financial education. Two-fifths of workers contributed to a retirement savings plan or changed the allocation of money in a plan (43%) and started to contribute to a workplace retirement plan due to workplace financial information (41%). There were differences in retirement planning and saving between workers who received educational materials and those who did not. Fifty-six percent who received financial educational materials during the past year had attempted to determine how much money they needed to save for a comfortable retirement as compared to 38% of those who did not receive financial education. Thirty-one percent of workers who received educational materials were very confident in their financial preparation for retirement while 22% of those who did not were confident. Fifty-one percent of workers who received financial education materials were not confident about their overall retirement prospects while 35% of those who did not participate were not confident (The 1998 RCS, 1998).

ICMA Retirement Corp., a nonprofit organization that specializes in retirement programs for state and local employees, found some positive impacts of financial education on employees' asset allocation. In 1993, an education campaign about asset allocation tools and long-term investments in diversified portfolios was offered in 5,000 public-sector retirement plans to 350,000 employees. The education dramatically changed the employees' asset allocation. In 1993 participants held 34% of their assets in equities and 66% in fixed-income investments. In 1998, the participants held 62% of their funds in equities and 38% in fixed-income assets (The National Summit on Retirement Savings, 1998).

Full-time workers from United Parcel Services who received professional advice on financial education and financial planning also changed their financial management behaviors. Among those who received education, 50% increased their retirement savings, 70% estimated the savings and assets needed in retirement (versus 38% earlier), 55% used asset allocation strategies (versus 33% earlier), and 74% contributed to tax-deductible accounts (versus 49% earlier) (Di Paula, 1998).

Kratzer et al. (1998) assessed the impacts of workplace financial workshops on workers' asset allocation and financial management with 300 blue-collar workers. Workers reported that workplace financial education enhanced their financial knowledge and they changed their behavior as a result of financial education. Among workshop participants, 75% responded that they became more confident in investment decisions due to financial education and 70% said they changed their investment strategy by diversifying or being more aggressive in their choices. Workshop participants made changes in contributions to their four investment options of money market account, fixed income

account, balanced fund, and equity fund. Fifty-five percent of participants responded that they increased their contribution to the equity fund that historically provided a greater return than fixed income accounts and money market accounts. Nearly half of the workshop participants decreased their contributions to fixed income accounts.

Models of Workplace Financial Education and Personal Financial Management

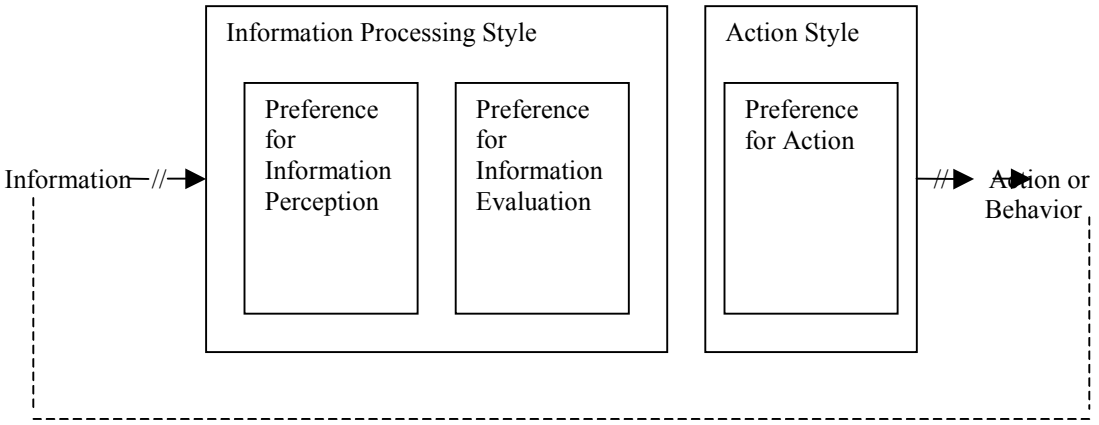
A number of models attempt to explain the concept of personal financial management. Ajzen and Fishbein (1980) developed a conceptual model to explain human behavior. They assumed that people are rational and make use of information available to them. In that model, attitudes were presented as a function of beliefs about performing behavior. Beliefs that underlie the attitude are called behavioral beliefs. Subjective norms are a person's belief about what important behaviors others think should (or should not) be performed. Subjective norms are a function of beliefs called normative beliefs. Intention is the immediate determinant of behavior, and an appropriate measure of intention will provide the prediction of behavior. Intentions can be predicted from attitudes and subjective norms. Changes in beliefs are reflected in attitudes and behaviors and changed attitudes influence behavioral changes. Research showed that financial attitude influenced financial practices (DeVaney, et. al., 1996; Fletcher et al., 1997).

Prochaska-Cue (1993) conceptualized a model of personal financial management style (see Figure 1) based on Deacon and Firebaugh Personal/Managerial System, Gross, Crandall, and Knoll Family System Model, Rettig Cognitive Conceptual Family Decision Making Framework, and McKenney-Keen Information Processing Style Model. This model focuses on the choice of individual. The Double slash (//) in the left in Figure 1

means that an individual selects which information to consider. “The selected information enters the person’s cognitive system and is perceived and evaluated by that person’s preferred information processing style. A predetermined preference for action combines with two information processing preferences for how information is perceived and evaluated ” (Prochaska-Cue, 1993, p.117). Actions or behavior feed back into the system as information.

Figure 1.

Model of Personal Management (Prochaska-Cue, 1988)



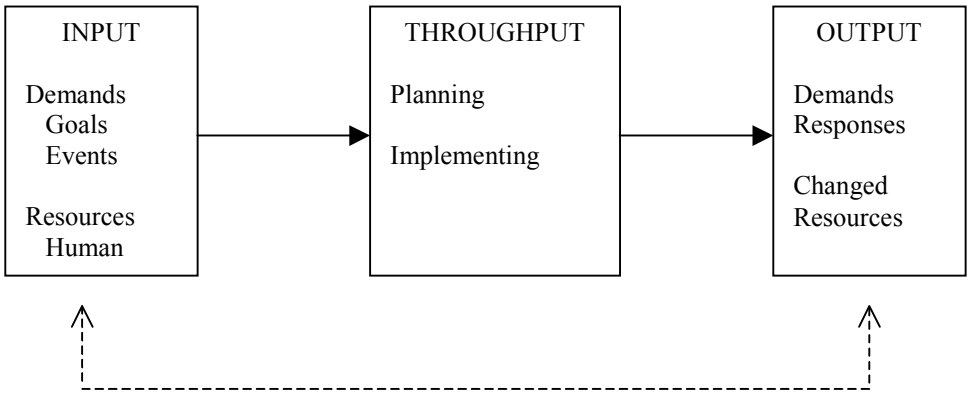
The Deacon and Firebaugh Resource Management Model includes input, throughput, and output. Demands and resources are inputs that enter into the transformation (see Figure 2). Throughput includes planning and implementing. Outputs

are used resources and met demands. Deacon and Firebaugh (1988) applied the systems approach to financial management. Goals, aspirations, and economic risks require financial management. Financial resources, such as income, occupation, education, and location, provide a basis for financial management. "The planning and implementing functions of management translate individual aspirations and resources into spending and saving patterns" (Deacon & Firebaugh, 1988, p.138). Budgeting, long-term planning, handling economic risks, saving, credit use, and record-keeping can be included in planning. Human capital and net worth are discussed as outputs.

Researchers have applied the systems approach to understand the role of financial management practices in determining financial well-being (Davis & Helmick, 1985; Fitzsimmons & Leach, 1994; Hira, Fanlsow, & Vogelsang, 1992; Titus, Fanslow & Hira, 1989). Hira et al. (1992) applied the systems approach to explain financial management practices and preparations for financial emergencies. Age, marital status, household size, education, occupation, and income are socio-demographic variables that indicate demands and resources of households. Throughput includes financial management practices such as developing budgets, record-keeping, credit usage, savings, and risk management. Economic well-being is measured by objective indicators (e.g. net worth, debt-to-income ratio) and a subjective indicator (satisfaction). Fitzsimmons & Leach (1994) modified the Deacon and Firebaugh Systems Model to explain changes in net worth. They discussed the direct effects of inputs on throughputs and the indirect effects on outputs. Throughputs have direct effects on outputs. Resources and goals were inputs, financial management practices were proposed as throughputs, and used resources and met goals were classified as outputs in the model.

Figure 2.

Deacon and Firebaugh (1988) Resource Management System



In Tucker and Rice's financial management model, they suggested demands and resources as inputs into a resource management system. Resources include income, employee benefits, credit, and human capital investment such as investment in self-awareness, self-knowledge, and job-related knowledge. Demands are major life goals including life style, occupation, education, marriage, child education, residence, and retirement. Throughput includes financial management practices such as prioritizing goals, determining record-keeping practices, estimating income and expenses, sequencing bill payment, accumulating savings for unexpected expenses, choosing an investment, reviewing and evaluating spending habits, calculating income taxes, reviewing financial growth, and computing net worth. Financial goal achievements, financial security, and financial independence are the result of financial management.

Financial well-being is an output of personal financial management. Personal financial management can be affected by information, experience, counseling, and training. Financial education influences attitudes toward financial knowledge, enhances financial knowledge and skills, and changes behaviors. Through changing financial management, financial education effects financial well-being.

Joo (1998) developed a model to explain the relationship between personal financial wellness and worker job productivity. Demographic characteristics and financial stressors influence personal financial wellness. The personal financial wellness level produces financial stress through satisfaction or dissatisfaction with personal financial wellness status. The model had two different paths of financial stress. If people with a high level of financial stress did not use the buffering system such as family support and workplace financial education, they may exhibit negative outcomes in the workplace. These negative outcomes in the workplace will also affect personal financial wellness. If people utilize the buffering system, such as financial education, it may produce different work outcomes. The outcomes from the buffering system will influence personal financial wellness.

Personal Financial Management

Personal financial management refers to "the management of the personal and family resources to achieve financial success. Financial success is the achievement of financial aspirations that are desired, planned, or attempted" (Garman & Forgue, 2000). Financial management requires systematic and disciplined thought and action. Financial management is the planning, implementing, and evaluating behavior involved in the allocation of families' current flow of income and their stock of wealth toward the end of

meeting the family's financial goals (Godwin & Koonce, 1992). Investigators have used very different items to measure financial management. Measures often include who makes financial decisions, attitudes about credit, whether the family has financial problems, and satisfaction with financial status, along with the behavioral measures of planning, budgeting, and record-keeping (Godwin, 1994). Goldsmith (1996) defined financial management as "the science or practice of managing money or other assets." Financial management is a transformation process involving the identification of financial goals, collection of information, analysis of resources, decisions about whether to spend, invest, or save, and evaluation of resources. Personal financial management includes three dimensions: financial attitudes, financial knowledge, and financial behaviors.

Financial Attitudes

Attitude, say Ajzen and Fishbein (1980), is defined as "readiness for attention or action of a definite sort." Attitude is a product of beliefs. Attitude toward behavior is one of the important factors that influence behavior (Ajzen & Fishbein, 1980).

Lytton and Grable (1997) tested 62 attitude statements toward financial management broadly classified as: the meaning of money, perceived financial success, financial management strategies, and sex role attitudes toward financial management. Attitudes toward financial management that differed by gender were as follows:

"Saving money for retirement is important for everyone regardless of income level",
"In most situations, I feel capable of handling my personal finances",
"I like to set financial goals for myself that may take months or years to reach",
"I like to read magazines about managing personal finances",
"I understand income taxes well enough to know which records to keep to reduce my taxes",

"As long as my retirement plan will pay me an income, I do not really care how it works",
"I have an adequate knowledge of insurance", and
"I do not mind taking risks when making investments".

There have been several studies on financial management attitudes and behaviors (DeVaney et al., 1996; Fitzsimmons & Leach, 1994; Godwin, 1994; Godwin & Caroll, 1986; Godwin & Koonce, 1992; Schnittgrund & Baker, 1983). Godwin and Caroll (1986) examined financial management beliefs and practices. Even though respondents felt that recommended practices were important, they did not perform those practices.

Godwin and Koonce (1992) studied financial attitudes toward financial management and the financial behaviors of 106 low-income newlywed couples. Low-income couples differed from higher-income couples in the way they felt about cash flow management and patterns of cash flow management behaviors. Cash flow management attitudes were assessed by the following 15 items:

(1) Family should concentrate on the present when managing their finances
(2) Financial planning for retirement is not really necessary for assuring one's security during old age
(3) Having a savings plan makes it difficult to make financial investment decisions
(4) It is really essential to plan for the possible disability of a family wage earner
(5) Making sure your property is insured against reasonable risks is not really necessary to successful financial management
(6) Planning is an unnecessary distraction when families are trying to just get by today
(7) Tried to think of ways to decrease your expenses to match your income
(8) Estimated your fixed expenses during some future period
(9) Estimated your flexible expenditures during some future period
(10) Set a financial goal that you hoped to reach within five or ten years
(11) Assessed the value of things you own
(12) Set a financial goal that you hoped to reach within a year
(13) Assessed the amount of money you can use during an emergency
(14) Re-estimated your future expenditures after finding that they will exceed your estimated income
(15) Assessed whether the expenditures you'll need to make are less than or equal to your income

Low-income couples showed more positive attitudes about planning for success, feelings about the need for planning, and attitudes about the role of skills in success than moderate- or high-income couples. This study was limited to newlywed couples who have limited income.

DeVaney et al. (1996) studied the effects of a financial education on cash flow management and credit use. Financial management practices were closely related to the financial feelings of respondents. Respondents were asked if they were a) confident managing money, b) anxious about finances, c) comfortable about spending, d) prepared to make decisions, e) confident to set priorities, f) knowledgeable about where to get assistance, g) able to solve problems, h) able to identify appropriate goals, i) able to achieve goals they set, and j) skilled enough to positively affect financial outcomes. The respondents reported that they became more positive in terms of financial attitude and management after the education.

Godwin (1994) studied attitudes toward planning and financial management practices. The scales were "Planning is essential to successfully managing one's life," "Thinking about where you will be financially in 5-10 years is essential for financial success," and "Planning for the future is the best way of getting ahead." A positive relationship was found between practices and attitudes.

Other studies have found that there is a relationship between attitudes toward financial management and satisfaction (Wilhelm, Varcoe & Fridrich, 1993; Lown & Ju; 1992). Wilhelm et al. (1993) analyzed the impact of objective economic indicators and money attitudes on financial satisfaction and financial progress. They found differences between genders. Lown and Ju (1992) analyzed the relationship between credit attitudes

and practices and financial satisfaction with credit union members. Attitudes toward the use of credit were the most important factor for financial satisfaction in that study.

Financial Knowledge

Financial knowledge has become a basic life skill for individuals to survive in today's society. Research has found that financial knowledge is related to financial management behaviors (Hira et al., 1992; Mugenda, Hira, & Fanslow, 1990; Princeton Survey Research Associates, 1997). Hira et al. (1992) studied the relationship between insurance knowledge and insurance coverage and determined the predictors of satisfaction with preparations for financial emergencies. Personal interviews with 123 household money managers showed that men and highly-educated people had more insurance knowledge than did women and less-educated money managers. They found that the household in which the money manager was knowledgeable about insurance issues tended to have broad insurance coverage.

Mugenda et al. (1990) studied the causal relationship between financial knowledge, money management practices, and satisfaction with financial status. They operationalized financial knowledge as a 22-item scale on money manager's knowledge in the areas of credit management practices and investments. Interviews with 123 household money managers found that financial knowledge was one of the primary determinants of financial management practices. They concluded that financial knowledge helped people carry out financial management activities. Knowledge also had an effect on financial satisfaction. "Planning for…" asked a 14-question test of knowledge on investments and savings. Those

who had more knowledge had a higher savings rate than others with less financial knowledge.

Financial Behaviors

Previous studies have been conducted to examine financial behaviors and process people use in managing their financial resources to achieve financial success. Financial behaviors have been measured in different ways (Fitzsimmons et al., 1993; Godwin, 1994; Godwin & Koonce, 1992; Prochaska-Cue , 1993).

Godwin and Koonce (1992) studied financial attitudes and behaviors of 106 low-income newlyweds. Their financial behavior scales were:

(1) Record in writing most spending
(2) Record in writing actual income
(3) Assessed the amount of money you spent on fixed expenses
(4) Recorded every dollar of spending
(5) Assessed total amount of debt
(6) Assessed the amount of money spent on flexible expenses
(7) Monitored spending to see if it is within your income
(8) Monitored spending to see if it is going for the things you wanted
(9) Monitored income to see if it is in line with what you expected
(10) Thought of ways to increase your future income to match your needs or wants
(11) Tried to think ways to decrease your expenses to match your income
(12) Estimated your fixed expenses during some future period
(13) Estimated your income expected during some future period
(14) Estimated your flexible expenditures during some future period
(15) Set a financial goal that you hoped to reach within five or ten years
(14) Assessed the value of things you own
(15) Set a financial goal that you hoped to reach within a year
(16) Assessed the amount of money you can use during an emergency
(17) Re-estimated your future expenditures after finding that they will exceed your estimated income
(18) Assessed whether the expenditures you'll need to make are less than or equal to your income

Low-income couples differed from high-income counterparts in record-keeping, monitoring their income and spending, and projecting a budget. Interestingly, the low-income couples practiced more positive financial management. However, this finding may not be representative of all low-income families as it was limited to young people whose financial situations and management were temporary.

Cash flow management refers to short-term planning, implementing and evaluating that is involved in allocating the family's income in order to meet their tacit or explicit financial goals as a subset of financial management (Godwin, 1994). Cash flow management included budgeting (estimate income, estimate fixed expenses, estimate flexible expenses, re-estimate expenditures, monitor balance, monitor income, monitor expenditures, balance budget, and assess fixed spending), goal setting and balance sheet (set short-term goal, set long-term goal, assess assets, assess emergency funds, decrease spending, assess debt, and increase income), and record-keeping (record income in writing, record every dollar of spending, assess fixed expenses, assess flexible expenses).

Prochaska-Cue (1993) developed 16 items to identify personal financial management styles by considering twelve areas of financial management activity: financial planning; budgeting; record-keeping; using a checkbook; savings and emergency fund; investing; insurance; taxes; credit; estate planning; property ownership; and shopping. Factor analysis using data from 128 adults identified 14 possible items for the Analyzing Scale and eight possible items for the Holistic Scale.

Fitzsimmons et al. (1993) developed financial management scales through factor analysis (N = 301). Reliability and validity of 23 family resource management variables were assessed. Factor analysis categorized 23 scales into two scales of financial problems

and frequency of financial management. The four major financial management items were a) make plans on how to use your money, b) write down where money is spent, c) evaluate spending on a regular basis, and d) use a written budget.

Davis and Weber (1990) investigated the use of four recommended financial management practices (N = 672). The four financial management practices were budget, cash flow management (record-keeping), comparison of the income/expense statement to the budget, and estimating net worth. Respondents indicated that keeping records of expenditures was the most common financial management practices, followed by budgeting, comparing records to the budget, and estimating net worth.

Scannell (1990) analyzed the financial management practices, debt-to-asset ratio, and financial wellbeing of 154 dairy farm families. The financial management practices surveyed were a) make a spending plan, b) keep written records, c) compare planned to actual expenses, d) estimate net worth, e) have place for financial records, f) separate utility expenses, g) separate telephone expenses, h) separate electricity expenses, i) separate auto fuel expenses, j) separate auto insurance expenses, k) separate auto repair expenses, and l) separate other joint expenses, such as taxes and insurance.

Porter & Garman (1993) identified the six domains of financial management: cash management, credit management, capital accumulation, risk management, retirement/estate plan, and general management using a random sample of Virginia citizens (N = 1500). Financial management behaviors have been found to be associated with financial satisfactions (Lawrence, Carter, & Verma, 1987; Mugenda et al., 1990; Scannell, 1990). Results showed a positive relationship between financial management practices and satisfaction.

Financial Well-being

Economic well-being can be measured on situational (objective) and psychological (subjective) dimensions. Objective measurements such as income, wealth, or other objective indicators of the material situation affect an individual's sense of well-being. Subjective economic well-being encompasses an individuals' satisfaction with income, savings, and job; perception of opportunities and capacity or inclination to capitalize on them; ability "to make ends meet", sense of material security, sense of the fairness of the reward distribution system and so forth (Strumple, 1976).

Financial well-being is a function of individual characteristics, financial management, and financial knowledge and skills. Goldsmith (1996) referred to economic well-being as the degree to which individuals or families have economic adequacy or security. Porter (1990) defined economic well-being as "a sense of one's financial situation that is based on objective attributes and perceived attributes that are judged against standards of comparison to form evaluated attributes of that financial situation" (p. 22).

Williams (1983) suggested that economic well-being is a function of money income, real or full income, agreement about distribution, psychic income or perceived adequacy of income. McGregor and Goldsmith (1998) suggested that financial well-being is a function of money income, transfers and in-kind income, financial assets, human assets, community resources, durable goods and services, time, deferred consumption, attitude toward money, ability to manage, control over financial affairs and resources, values, insurance-risk management, job security and employee benefits, ability to adjust to life transition, and lifestyle decisions.

Researchers have assessed financial well-being with different indicators. Wilhelm, Iams, and Rudd (1987) used four dimensions to measure financial well-being, which were objective-actual, objective-relative, subjective-actual, and subjective-relative. Income, debt, and assets were items for objective-actual dimensions. Items used to measure an objective-relative were identical to those for objective-actual dimension but included a relative change of income from the previous year to present. Subjective-actual questions were satisfaction with various economic factors including level of income money for necessities, ability to handle financial emergencies, amount of debt, amount of savings, and money for the future. Items used to measure subjective-relative economic well-being were the changes that respondents perceived occurred in their financial situation during the last five years and the change they felt would occur during the next five years.

Shinn (1992) suggested income, income adequacy, consumption, material resources such as financial assets and goods, wealth, and community and environmental resources as objective measures of economic well-being. Subjective well-being included perceived changes, improvements, and a sense of progress.

Joo (1998) described financial well-being in terms of satisfaction with material and non-material aspects of one's financial situation, perception (or subjective assessment) of financial stability including adequacy of financial resources, and the objective amount of material and non-material financial resources that each individual possessed.

Objective Measures of Financial Well-being

Objective measures include quantifiable economic indicators such as net worth, income, savings, debt, and financial ratios. Disposable personal income has been utilized

as a most important indicator of financial well-being (Hong & Swanson, 1995; Joo, 1998; Moon, 1977; Porter, 1990; Shinn, 1992; Stum, Bauer, & DeVaney, 1993). Stum et al. (1993) employed an adjusted money income measure of economic well-being. They found economic well-being differed significantly by age, marital status, gender, race, types of income sources, and education. Emergency fund adequacy has also been used to measure economic well-being (Hanna, Chang, Fan & Bae, 1993; Hong & Swanson, 1995). Adequate emergency funds were used as an objective scale to measure financial well-being by researchers (Hong & Swanson, 1995; Joo, 1998).

Financial ratios can provide measurement of the current financial situation and, if any, changes in financial progress over time (Lytton, Garman, & Porter, 1991). Various financial ratios such as consumption-to-income ratio, liquidity ratio, housing expense ratio, solvency ratio, savings ratio, and investment assets-to-net worth ratio were used in examining financial well being (DeVaney, 1994; Mason & Griffith, 1988; Prather, 1990; Garman & Forgue, 2000; Porter, 1990). Net worth has been used in previous studies (Fitzsimmons & Leach, 1994; Titus, Fanslow, & Hira, 1989; Wilhelm et al., 1987). Scannell (1990) used the debt-to-asset ratio as an indicator of financial well-being. DeVaney (1994) suggested solvency ratio, investment asset/net worth ratio, liquidity ratio, and the annual consumer debt payments/ disposable income ratio for financial well-being research. Lytton et al. (1991) used nine financial ratios such as consumption-to-income ratio, basic liquidity ratio, housing expense ratio, consumer debt-service ratio, annual debt-service ratio, debt-to-income ratio, solvency ratio, saving ratio, and investment assets-to-net worth ratio.

Subjective Measures of Financial Well-being

Subjective measures of financial well-being include satisfactions with and perceptions of one's financial situation. Subjective economic well-being can include economic attitudes and expectations such as satisfaction with income, savings, standard of living, sense of past economic progress, economic expectations, sense of fairness of income received, and sense of opportunities (Strumple, 1976). Subjective economic well-being measures used in previous studies include 1) overall financial well-being, 2) satisfaction with general personal finances, retirement plans, employee benefits, credit and money management, and consumer rights, and 3) perception of financial situation changes (Joo, 1998; Porter, 1990; Walson, & Fitzsimmons,1993; Wilhelm et al., 1987; Williams, 1983).

Overall satisfaction with one's financial situation has been used as a subjective measure (Joo, 1998; Morgan, 1992). Joo (1998) examined overall financial satisfaction and subjective perceptions of personal finances. The overall financial satisfactions were measured by satisfaction with one's personal financial situation, perceived financial wellness, and feelings about the financial situation. The subjective perceptions included such domains as cash management, credit management, income adequacy, personal financial management, and consumer shopping skills.

Porter (1990) defined perceived attributes as "an individual's subjective evaluation of his/her own financial situation." She used satisfaction with income, level of living, net worth, general financial management, cash management, credit management, risk management, capital accumulation, and retirement/estate management for perceived indicators of financial well-being.

Williams et al. (1996) discussed eight items of financial satisfaction: level of household income, money for family necessities, money for family emergencies, current level of savings, amount of money owed, amount for future needs, the way money is handled in family, and who handles the family money. Scannell (1990) analyzed satisfaction with present standard of living, emergency savings, past investments and savings, and general financial situation presently, in five years, last year, and next year. Households who used financial management practices had higher satisfaction with their financial situation.

Perception of income adequacy has often been used as one of the subjective measures of financial well-being (Shinn, 1992; Williams, 1983; Wilhelm et al., 1987). Satisfaction with financial status is commonly used to measure financial well-being (Beutler & Mason, 1987; Godwin & Carroll, 1986; Sumarwan & Hira, 1993; Schnittgrund & Baker, 1983; Strumple, 1976). Schnittgrund and Baker (1983) studied financial satisfaction and expectations using domains of income, savings, possessions, and family jobs with a sample of 199 interviews. Also included were expectations for higher income in the future, expectation for more things in the future, and expectation to have a more satisfying job. The respondents were fairly optimistic regarding the future and less optimistic toward having a more satisfying job in the future. There were found differences by race.

Godwin & Carroll (1986) used a 10-item financial management satisfaction scale to examine levels of satisfaction. The items were satisfactions with consumption of durable goods, non-durable goods and services, savings, and the process of management. Hira (1986) studied financial satisfaction level among 201 money managers in Iowa. The

domains established for her study were satisfaction with money management practices, level of living, level of saving, ability to stay out of debt, ability to pay back money owed, level of assets, willingness to discuss money matters, and ability to meet large emergency expenses.

Perception of financial situation changes can be a measure of subjective financial well-being. Past financial experiences in assets, debts, savings, and incomes were used to describe one's perception of financial situation changes (Porter, 1990; Scannell, 1990; Schnittgrund & Baker, 1983).

Financial Well-being and Financial Management

Financial well-being is the outcome of the financial management process, and it is affected by financial attitudes, knowledge, and behaviors. Researchers have suggested that financial well-being is an outcome of financial management (Beutler & Mason, 1987; Fitzsimmons & Leach, 1994; Rice & Tucker, 1986). Financial management practices are essential to financial well-being (Beutler, & Mason, 1987; Dickinson, 1996; Fitzsimmons & Leach, 1994; Godwin & Carroll, 1986; Hira, 1987). Attitudes toward financial management have been found to influence financial well-being (Wilhelm, et al., 1993). Financial knowledge also has been found to be related to financial satisfaction (Hira et al., 1992; Mugenda et al., 1990).

Personal Finance-Work Conflict

Since Kanter (1977) noticed the interrelationship between work and family, researchers have been interested in the family and work interface. Family-work conflict is

defined as “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985). A worker’s family life influences his or her work life and one’s work life impacts family life.

Family-Work Conflict

Over the last two decades, many studies were conducted on the relationship between family life and work life. Based on various theories, relevant studies of the interaction between work and family have been conducted. Three major theories are those of “spillover”, “compensation”, and “segmentation”. Spillover theory suggests that there is a similarity between what occurs in the work environment and what occurs in the family environment (Staines, 1980). Spillover theory suggests that home experiences can influence a person’s work life and some work experiences will be carried into a person’s family life (Crouter, 1984; Voydanoff, 1987). This theory proposes that family experiences have an effect on a worker’s performance while on the job (Caligiuri, Hyland, Joshi, & Bross, 1998, p. 600) because emotions and attitudes from family life spill over into work life..

The second theory, “compensation theory,” postulates that there is an inverse relationship between work and family such that work and non-work experiences tend to be antithetical (Staines, 1980). Compensation theory suggests a process of compensating in one domain for what is lacking in the other or seeking satisfaction in one domain as a result of a lack of satisfaction in the other (Healy, 1994). Thirdly, “segmentation theory” assumes that the two spheres are distinct so that an individual can be successful in one

without any influence on the other and it assumes that one can compartmentalize competing role demands, (Zedeck, 1992). This view is that the family is the realm of affectivity, intimacy, and significant ascribed relations, whereas the work world is impersonal, competitive, and instrumental rather than expressive (Zedeck, 1992).

Researchers have focused more on the impact of work on the family rather than the reverse (Patton-Hunsberger, 1991; Voydanoff, 1987). Studies have been conducted in the areas of work and family life satisfaction, work and child development, and work and marital satisfaction. Voydanoff (1987) found that the impacts of work-related geographic mobility and travel on family life vary according to their extent and timing, family characteristics, and the availability and use of coping strategies and social supports. She also proposed that psychological characteristics were related to the spillover of work into family life.

Family also impacts work life. Family structures, family responsibilities, family support, and family stress have direct impacts on work performance, job commitment, job satisfaction, and turnover intentions (Pittman & Orthner, 1989; Patton-Hunsberger, 1991; Voydanoff, 1980)

Work-family conflict is "the interference of work with family activities where as family-work conflict means the interference of family activities with work responsibility" (Judge, Boudreau, & Bretz, Jr., 1994). Three forms of work-family conflict were identified by Greenhaus and Beutell: a) time-based conflict; b) strain-based conflict; and c) behavior-based conflict in the other role (Greenhous, 1988). Time-based conflict occurs when the amount of time devoted to the work- (family) role interferes with performing family- (work) related responsibilities. Strain-based conflict occurs when strains are created by the

work- (family) role interferes with performing family (work) responsibilities. Behavior-based conflict in other roles occurs when conflict occurs regarding responsibilities, requirements, expectations, duties, and commitments associated with a given role (Netmeyer, Boles, & McMurrian, 1996).

Work-family interaction has a bi-directional conceptualization (Greenhaus, & Beutell, 1985). Researchers distinguish between work interfering with family and family interfering with work (Frone, Russell, & Cooper, 1992; Greenhaus & Beutell, 1985). Work-family conflict is an important concern because such conflict, as a source of stress, has been correlated with negative consequences, including increased health risks for employed parents, poorer performance of the parenting role, decreased productivity, tardiness, absenteeism, turnover, poor morale, reduced life satisfaction, and lower mental health (Bromet, Dew, & Parkinson, 1990; Duxury & Higgins, 1991; Eckenrode & Gore, 1990; Forthofer, Markman, Cox, Stanley, & Kessler, 1996; Frone el al., 1992; Voydanoff, 1987).

Some studies have found that family-based stressors enter the workplace and are reflected in worker turnover, absenteeism, and low productivity. Stressors originating in the family may influence such work outcomes directly via the employee's mental or physical health or that of other family members (Eckenrode & Gore, 1990). The majority of married blue-collar women in a study reported that family problems spilled over into work problems (Bromet et al., 1990). Voydanoff (1987) examined the effects of family responsibilities on work role performance and found that family responsibilities increased married men's work hours, income, and involvement. Married women's rates of absenteeism and turnover were not different from those for men and unmarried women.

Crouter (1984) conducted research on spillover effects from family to work. Two-thirds of her sample of 38 male and 17 female workers reported that their family life affected their work in either a positive or negative way. However, the ratio of negative (absenteeism and tardiness) to positive spillover was far greater for women. Adams, King & King (1996) studied the relationships of job and family involvement, family social support, and work-family conflict with job and life satisfaction. Family-work conflict was measured by work interfering with family and family interfering with work. They found that work interfering with family was negatively related to job satisfaction and life satisfaction.

Judge et al. (1994) studied the job and life attitudes of male executives. They found that family–work conflict influenced job satisfaction, job stress, and life satisfaction. Family-work conflict represented the interference of family activities with work responsibilities. Frone et al. (1992) tested a model of the work-family interface by distinguishing the work interfering with family and family interfering with work. In their model, family-work conflict, family interfering with work is affected by family involvement and stressors, and work-family conflict is affected by job involvement and job stressors. They found that family stressors affected family-work conflict and family-work conflict influenced job distress. Forthofer et al. (1996) studied the relationships between marital distress and work loss. They analyzed data from the national Comorbidity Survey to examine the extent to which problems within marriage spilled over to produce work loss. They found that marital distress was positively related to work loss and calculated based on the average earnings of participants $6.8 billion work loss due to marital distress.

Family concerns, such as child care, time pressure, and financial problems, have been found to affect work performance ("Work and Family Survey", 1986). A report by the Conference Board showed that work-family problems, such as stress, affected the company in terms of recruitment, productivity, absenteeism, and turnover ("Linking work-family issues to the bottom line", 1991).

Personal Finance-Work Conflict

Personal finance-work conflict is the extent to which personal financial concerns interfere with employees' workplace responsibilities. Since a worker is a personal financial manager, work and personal finances are interrelated.

In examining the relationship between personal finance and work, previous studies relied on strain-based conflict and examined the relationship between financial concerns and work outcomes. Financial stress is associated with such things as decreased productivity, increased tardiness, increased absenteeism, increased turnover, poor morale, and reduced job satisfaction (Garman et al., 1996; Hendrix, Steel, & Shultz, 1987; Joo, 1998; Pittman & Orthner, 1989). Researchers asserted that financial concerns negatively influence workers' responsibilities at the workplace (Brown, 1993; Garman et al., 1996; Williams et al., 1996). Brown (1993) suggested that 10% of American workers are experiencing financial difficulties. Garman et al. (1996) estimated that 15% of employees experience productivity loss due to financial stress from poor financial behaviors.

Financial stress from mismanagement spill over into workers' performance at workplace. Williams et al. (1996) argued that there is a direct relationship between financial problems and productivity. They emphasized the indirect effect of personal

finance concerns on potential turnover. Cash (1996) found a positive relationship between stress level and absenteeism. In spite of these studies, there is little research on how much financial concerns influence workplace behaviors. Joo (1998) examined the relationship between financial well-being and worker productivity. Joo found that the level of financial well-being was negatively related to worker productivity. Orthner & Pittman (1986) found that worker's income adequacy is related to work commitment.

Few studies assess the extent to which how much workers feel their financial concerns interfere with their work life. Since workers manage their personal finances at home as well as at the workplace, personal finance interferes with work and work interferes with personal finance.

Work Outcomes

Work outcomes reflect workers' attitudes, behavior, and performance at the workplace. Robbins (1998) suggested four major concerns in organizational behavior: productivity, absenteeism, turnover, and job satisfaction. Benton (1998) proposed two major goals related to the worker at the workplace: which are productivity and human satisfaction. Job performance, worker productivity, tardiness, absenteeism, retention, turnover, work commitment, job satisfaction, morale, and loyalty are human satisfaction indicators of employee outcomes at workplaces (Benton, 1998; Families and Work Institute, 1997; Robbins, 1998).

Work outcomes are associated with characteristics of employees, characteristics of their lives off the job, aspects of their personal well-being, and characteristics of their jobs and workplaces (Families and Work Institute, 1997). Robbins (1998) discussed four

individual variables: (1) biographical characteristics; age, gender, marital status, and tenure, (2) ability; intellectual and physical ability, (3) personality; locus of control, machiavellianism, self-esteem, self monitoring, risk taking, and type A personality, and learning.

Productivity

Productivity refers to the overall effectiveness and performance of individuals or organizations (Katzell & Yankelovich, 1975). Productivity is a performance measure along with effectiveness and efficiency. Productivity usually indicates the amount of output over input. Work productivity refers to the "output per hour of an individual performing a specified task" (Ruch & Hershauer, 1974, p. 10).

Worker productivity has received attention for such reasons as: a) the long standing notion that productivity is rooted in human effort, b) it seems easier and more efficient to induce people to work harder than it is to move toward higher technology, and c) any increase means some gain in total production (Macarov, 1982).

The concept of productivity includes less tangible features such as turnover, tardiness, amount of work, quality of work, performance, and absenteeism, as well as the quality of output per person. Direct incentives -- money, discipline, promotion, and employee benefits--are related to productivity (Macarov, 1982). Benton (1998) suggested that determinants of job performance include rewards, coworkers, management competence, the intrinsic quality of the work itself, promotion, opportunities, and other social external conditions.

Job performance has been used to measure worker productivity. Measuring performance attempts to determine how specific behaviors match predetermined performance standards (Benton, 1998). Kenny & Dunk (1989) proposed that performance measures related to employees include variance between standard times allowed for jobs and actual times taken, absenteeism, customer complaints, general output per employee, and accident levels of employees in a department. Most job performance is not easy to measure. Performance can be measured by immediate superior, peer, self-evaluation, and immediate subordinates (Robbins, 1998). Self-reported job performance can be measured by asking workers to rate the quality and the quantity of their work performance (Katzell, Thompson, & Guzzo, 1992; Netemeyer et al., 1996). However, self-evaluation can be easily biased as workers often give high mark on their own performance evaluation.

Absenteeism

Absenteeism is a major human relations problem for managers and supervisors (Lewis, 1983), and it can be defined as non-attendance of an employee from scheduled work (Porter & Price, 1974). Absenteeism is the practice by an employee of being away from work.

March & Simon (1958) classified absence into two different types: involuntary (e.g., certified sickness, funeral attendance) and voluntary (e.g., vacation, uncertified sickness). Voluntary absences are under direct control of workers while involuntary absences are beyond the workers' control. Sagie (1998) measured voluntary and involuntary absences by data from self-reports and personal records. He found that

organizational commitment and job satisfaction were strongly related to voluntary absence, but not to involuntary absence.

The 1998 America @ Work survey asked workers about their total amount of missed work time during the past year and categorized absenteeism by the reason for the missed time. The respondents were also asked to identify how much time they spend at work weekly on the telephone handling personal matters. The results showed that the average employee misses an equivalent of 11.5 days per year to handle personal and family matters. Missed days due to stress, personal matters, caring for a sick child, no available day care, and caring for elderly dependents were 6.1 days and time spent at work on personal matters were 5.4 days. The average number of absent days was 15.1 per year, if sick time was included.

In two surveys conducted by Aon Consulting, it was found that missed days due to personal matters increased from 9.1 in 1995 to 11.5 days in 1998 and the average number of missed days increased by 10%. Specified reasons were stress, personal matters, caring for a sick child, no available day care, caring for elderly dependents, time spent at work on personal matters, and employee sickness. The survey concluded that the total of missed time due to personal reasons and sickness averages 6% of pay, almost as much as vacation/holiday time off.

Steers & Rhodes (1978) conceptualized a model for employees' attendance. Based on previous studies, attendance was directly influenced by employees' attendance motivation to attend and ability to come to work. Attendance motivation was indirectly affected by pressure to attend and job situation such as economic conditions, incentives, work group norms, personal work ethic, and organizational commitment. Personal

characteristics, such as education, tenure, age, gender, and family size indirectly affect one's ability to attend work. Ability to attend work included illness and accidents, family responsibilities, and transportation problems. They also found that workers were absent more than twice as much as they had indicated in their self reports.

Leigh (1986) proposed four different categories of factors that influence absenteeism: demographic variables, health variables, aspects of the job, and economic incentives. Being overweight, suffering insomnia, working in hazardous situations, working inflexible hours, and lack of childcare were found to be significant factors. Mathieu & Kohler (1990) suggested determinants of absenteeism: employees' individual characteristics, employee's attitudes related to the job, motivation, and job characteristics.

Considerable research studies have been conducted on absenteeism from work and related attitudes, such as organizational commitment and job satisfaction. A study conducted by Brooke and Price (1989) tested a causal model of absenteeism. The empirical model included routinization, centralization, pay, distributive justice, work involvement, role ambiguity, conflict and overload, kinship responsibility, organizational permissiveness, job satisfaction, job involvement, organizational commitment, health status, and alcohol involvement as the determinants of absenteeism. Results indicated that of these variables, kinship responsibility, organizational permissiveness, role ambiguity and alcohol involvement, and negative direct effects of centralization, pay and job satisfaction had direct effects on absenteeism. Job satisfaction mediated the effects of routinization, work involvement, centralization, and role ambiguity.

"Absenteeism is often used as the class example of worker deviance" (Runice, 1988, p.134). Absenteeism is viewed as problematic because it can be expensive,

disruptive, and indicative of contractual violation (Johns, 1994). Johns used a deviance model to predict employees' and managers' estimates of absenteeism levels. Absenteeism has been closely related to turnover. Newman (1974) examined the Fishbein's attitude-behavior model and traditional job attitude measures as predictors of absenteeism and turnover. He found that traditional job attitude measures using a Job Descriptive Index were effective predictors of absenteeism, and that overall job satisfaction more effectively predicted turnover.

In one study, family problems explained about one-half of absences from work (Galinsky & Hughes, 1987). Forthofer et al. (1996) examined the relationship between marital distress and work loss from the National Comorbidity Survey. Work loss days were measured by combining responses to two questions about the number of days "when the respondents were able to work and carry out normal activities, but had to cut down on what you did or did not get done as much as usual." They found marital distress was positively associated with work loss. Approximately $6.8 billion was estimated as work loss associated with marital problems. In another study, family related absences were also influenced by the following factors: presence, number and age of children, marital status, gender of the employed parent, form of child care used, occupational level, family income, and company policies ("Linking work-family issues to the bottom line", 1991).

Stress has been found as a factor that is related to job dissatisfaction, absenteeism, and voluntary turnover (Ivancevich, Matteson, & Preson, 1980). Hedges (1977) found that absenteeism had a positive relationship with level of stress. Herman (1973) suggested three limitations on attendance behavior: a) illness and accidents, b) family responsibilities, c) and transportation problems. Financial stress is associated with absenteeism (Hendrix,

Steel, and Schultz, 1987; Joo, 1998). Hendrix et al. (1987) hypothesized that intraorganizational factors are the primary predictors of job stress, extraorganizational factors are the primary predictors of life stress, and job and life stress indirectly affect job performance and absenteeism. They found that extraorganizational factors, family/spouse relations and financial problems, directly affected life stress and indirectly affected absenteeism. Joo (1998) found that financial well-being was positively related to absenteeism. Workers who had lower financial well-being showed higher absenteeism.

Absenteeism can be measured by frequency of absences and time loss indices. Frequency of absence is often used to measure absenteeism (Brooke, & Price, 1989; Iverson, Olekalns, & Erwin, 1998; Price & Mueller, 1986; Sagie, 1998). Work time loss is used as an indicator of absenteeism ("America @ Work: An overview…", 1998; Forthofer et al., 1996). Data can be gathered from personal records or self-reports. Mathieu and Kohler (1990) utilized objective (personal records) and subjective (self-report) measures of absenteeism. Determinants of absenteeism can be employees' individual characteristics, an employee's attitudes related to the job, motivation, and job characteristics.

Turnover

Turnover, or separation from the job, is closely related to absenteeism (Lewis, 1983). Turnover can be classified as voluntary or involuntary. Flowers & Hughes (1973) classified turnovers into four categories: voluntary but uncontrollable, involuntary but uncontrollable, involuntary and controllable, and voluntary and controllable (Lewis, 1983). Lewis (1983) proposed that job dissatisfaction may lead to absenteeism, which can lead to

turnover. Turnover is expensive for employers. A total model for computing turnover costs can be represented by the following equation:

Employee Turnover Costs = Sc +Rc +Tc
Sc = separation costs
Rc = replacement costs
Tc = training costs

Turnover is considered one of the causes of reduced productivity. Philips (1989) conducted a survey on the costs of lagging productivity at Merck & Company. and found that "losing one exempt employee costs the company about 1.5 times the individual's annual salary. Turnover costs are estimated to be about .75 times the annual salary of a given position" (Linking…", 1991, p.12).

Determinants of turnover have been studied. Job satisfaction and organization commitment were related to turnover (Porter, Steers, Mowday, & Boulian, 1974). Sager, Griffith, & Hom (1998) examined and assessed the discriminant validity of three turnover cognitions constructs--thinking of quitting, intention to search, and intention to leave--as predictors of turnover. Turnover involves the role of various turnover cognitions as mechanisms for translating dissatisfaction into actual turnover.

O'Quin & LoTempio (1998) found that job security is related to job satisfaction, turnover intentions, and pessimism about the future of the organization. Lam, Foong, and Moo (1995) analyzed the relationship between career commitment, job satisfaction, and withdrawal cognition among 350 student interns. They found that career commitment and job satisfaction were important predictors of withdrawal cognition.

Organizational Commitment

Organizational commitment reflects the linkage between work and worker. Work commitment is defined as "the strength of an individual's identification with and involvement in a particular organization" (Porter et al., 1974). Such commitment can be characterized by a) a strong belief in and acceptance of the organization's goals and values, b) a willingness to exert considerable effort on behalf of the organization, and c) a definite desire to maintain organizational membership.

Brooke and Price (1989) defined work commitment as loyalty to the organization. Porter et al (1974) included the subject' s perceptions concerning loyalty toward the organization, willingness to exert a great deal of effort to achieve organizational goals, and acceptance of the organization's value to measure organizational commitment. They found a relationship between attitudes and actual turnover over time.

Organizational commitment has been widely measured as a uni-dimensional construct (Porters et al., 1974, Mowdays, et al, 1979). A recent approach has suggested the multidimensionality of organizational commitment (Mathieu & Zajac, 1990; Mayer & Schoorman, 1992; Mayer & Schoorman, 1998; Schechter, 1985). March and Simon (1958) suggested two ongoing decisions: decision to participate and decision to produce. Based on March and Simon's theoretical differentiation, Schechter (1985) developed an organizational commitment questionnaire of continuance commitment and value commitment. Mayer and Schoorman (1992) used Schechter's two organizational commitment measures to predict workers' behavioral outcomes at the workplace. They found that turnover was significantly more correlated with continuance commitment, while performance, organizational citizenship behaviors, and satisfaction were significantly more

correlated with value commitment. Mayer and Schoorman (1998) differentiated the antecedents of two organizational commitment dimensions. They found that organizational tenure, retirement benefits, education, and age were more highly correlated with continuance commitment, while felt participation, perceived prestige, job involvement, and role ambiguity were more highly correlated with value commitment.

Work commitment has been found to be associated with worker, job and organizational characteristics. Glisson and Durick (1988) assessed the following effects of characteristics of the workers (years in the organization, years of experience, age, sex, education, salary), job-task characteristics (role conflict, role ambiguity, skill variety, task identity, task significance), and organizational characteristics (workgroup size, workgroup budget, organization age, workgroup age, leadership, residential services, and residential/walk-in). Role conflict, role ambiguity, task identity, task significance, organization age, leadership, residential services, residential/walk-in, age, sex, education, and salary were significantly correlated to work commitment.

Blackhurst, Brandt, and Kalinowski (1998) examined the effects of personal and work-related attributes such as organizational role orientation, professional role orientation, locus of control, role conflict, and role ambiguity on organizational commitment. Based on a survey of 140 women student affairs administrators, organizational role orientation, professional role orientation, role conflict, and role ambiguity were significantly correlated to organizational commitment.

Shore,Thornton, and Shore (1990) analyzed the distinctiveness of work attitudes: job involvement, organizational commitment, and career salience and examined the determinants of the organizational commitment. The survey results of 449 employees

showed that organizational commitment was strongly related to age, but not to sex, marital status, tenure and education.

Much research has examined the effects of the family life and work commitment and job performance. Campbell, Campbell, and Kennard (1994) examined the impact of family responsibilities on women's job performance and work attitudes among 94 non-professional women. They found that women with children showed lower work commitment. However, women with young children had higher job performance ratings that were provided by their managers than women with older children.

A survey by the Families and Work Institute in 1997 showed that most employees were committed to the success of their companies and loyal to their employers. Ninety-one percent of employees agreed that they were willing to work harder than they have in order to help their employers succeed. And 73% reported that they were very loyal (43%) or extremely loyal (31%) to their employers. In a 1993 survey by the same institute 64% said that they were very loyal to their employer and 90% said they would work harder than they have to help their company to succeed. The quality of jobs and workplace support were related to loyalty to employer. Income had no relationship to loyalty.

Worker characteristics have been important predictors of organizational commitment. Workers' personality, personal needs, and values were related to commitment (Robbins, 1998; Shore et al., 1990). Work years with current employer, education, age, gender, and ego involvement have been reported as predictors (Glisson & Durick, 1988). A relationship has been found between family life and worker's commitment (Brown & Peterson, 1994; Pittman & Orthner, 1989). Pittman and Orthner (1989) surveyed 1,037 Air Force members and spouses to examine predictors of job

commitment. They found that income adequacy had an indirect effect on job commitment, by way of marital satisfaction, organizational support of families, and fit between work organization and self/family. Perceived income adequacy also had a significant direct effect on job commitment.

Pay Satisfaction

Job satisfaction is an important variable in understanding the worker's attitude at work. Job satisfaction is "a workers' perception of his or her degree of satisfaction with the job" (Gice, 1995, p.180). Job satisfaction is defined as "affective response to work. It is a positive and negative emotional state associated with one's work that has been thought to be associated with productivity, turnover, absenteeism, and other job related variables. Job satisfaction includes various facets of work, including attitudes toward co-workers, supervisors, top management, pay, and work environment" (Bullok, 1984, p. 1).

The job satisfaction survey by Spector (1994) included nine-dimension scales to assess employee attitudes about the job and aspects of it. The nine facets were pay, promotion, supervision, employee benefits, contingent rewards (performance based rewards), operating procedures (required rules and procedures), coworkers, nature of work, and communication.

There are a number of approaches to explain the meaning of job satisfaction (Herzberg, Mausner, & Snyderman, 1959). Need hierarchy theory concerns how well individual needs are satisfied. When the worker is deprived in some particular need category, a state of tension exists. The state of this tension is called " dissatisfaction" and the absence of the tension is called "satisfaction." A second approach is discrepancy-theory

that presents job satisfaction as the difference between desired and actual outcomes. Satisfaction/disatisfaction is an emotional state of tension or lack of tension that comes from a cognitive evaluation of the relationship between expected outcomes and actual outcomes. A third approach is called "equity theory" or "balance theory" that suggests that satisfaction is based on equity, compared to other people. This theory says that satisfaction results when there is equity between an individual's input-outcome balance as compared to relevant others. Fourth, a two-factor theory was developed by Herzberg et al. (1959).

The two-factor theory split job satisfaction into two separate continuums: job satisfaction and job dissatisfaction. They developed the Factor-Attitudes-Effect paradigm that conceptualized the causal relationship between factors and attitudes. Attitudes influence effects. Factors included achievement, recognition, work itself, responsibility, advancement, possibility of growth, salary, status, interpersonal relations, supervision technical, company policy and administration, working conditions, factors in personal life, and job security. Attitudes result in performance effects, turnover, attitude towards the company, mental-health effects, interpersonal relationship as effect, and other attitudinal effects.

Job satisfaction is a function of work characteristics, worker's characteristics, and their perceptions. "Wages and employee benefits are often considered primary determinations of job satisfaction. However a research study showed that the quality of employees' job and the supportiveness of their work environments are far more important predictors of job satisfaction than earnings and benefits" (Families and Work Institutes, 1998, p.121). The survey results indicated that workplace climate and support was a more

important factor in explaining job satisfaction than employee's age, gender, race/ethnicity, education, years in labor force and occupation, and wage and fringe benefits.

Judge et al. (1994) tested a hypothesized model of male executive attitudes involving job satisfaction, life satisfaction, job stress, and work-family conflict. The results showed that family-work conflict was not significantly related to job satisfaction but had a positive relationship with job stress.

Individual variables can be predictors of job satisfaction (Staw, Namcy, & Cluasen, 1986; Staw & Ross, 1985). Staw et al. (1986) provided evidence that job satisfaction is a primarily a function of an individual's disposition. Glisson and Durick (1988) studied predictors of job satisfaction. They analyzed the relationships between characteristics of workers such as years in organization, years of experience, age, sex, education, salary, satisfaction, and organizational commitment. They found skill variety and role ambiguity were the best predictors of satisfaction.

Research has found that job satisfaction is also associated with worker behaviors including productivity, turnover, and absenteeism in the workplace. Job satisfaction is related to intentions to turnover (O'Quin & LoTempio, 1998). Job satisfaction had been associated with absenteeism (Newman, 1974; Sagie, 1998; Dwyer & Ganster, 1991; Zaccaro & Collins, 1988). Gellatly (1995) conceptualized absence behavior as a consequence of one's work-related attitudes, which could be job satisfaction and organization commitment.

The relationship between job and family satisfaction has also been discussed by researchers (Adams et la., 1996; Bedeian, Burke, & Moffet, 1988; Healy, 1994; Pleck, 1977; Rice, Frone & McFarlin, 1992; Voydanoff, 1980). Their results showed that job

satisfaction was influenced by nonwork variables as well as work variables. Near, Rice, and Hunt (1980) suggested race, religious preferences, the community of origin and the present community, and family concerns as factors influencing job satisfaction. Family concerns were the amount of money one brings home, the amount of time one is able to spend with family and the work ethic the family endears. While some research indicates that there is a causal relationship between family and job satisfaction (Howard, 1992), another approach indicates a non-causal correlation between family and job satisfaction (Frone et al., 1992). Adams et al. (1996) found that there is a relationship between job and family satisfaction.

Overall job satisfaction scales measure attitude. An attitude can be defined as a feeling, belief, or action tendency toward a psychological object. Job satisfaction usually measures two components of attitudes: feeling and/or belief (Landy & Trumbo, 1976). Landy and Trumbo used a "semantic differential " scale to measure job satisfaction. The worker was asked to mark on the continuum of two bipolar adjectives. Judge et al. (1994) used Brayfiled-Rothe (1951) scales to measure overall job satisfaction. The scales included "I feel fairly well satisfied with my present job", "Most days I am enthusiastic about my work", "Each day of work seems like it will never end (reverse coding)", "I find real enjoyment in my work", and "I consider my job rather unpleasant (reverse coding)." Porter et al. (1974) measured five aspects of worker's job satisfaction: supervision, co-workers, work, pay, and promotion.

Frone, Russell, & Cooper. (1994) assessed job satisfaction with a six-item scale developed by Kandel, Davies and Raveis (1985). The scale measured emotional reactions to daily work experience. Six emotional reactions (bothered or upset, relaxed, frustrated,

fortunate, unhappy, and pleased) in a 4-point scale were used to indicate the extent of respondents' feelings when they thought of their experiences on the job. Hackman and Oldham used a five-item job satisfaction scale. The questions included "Generally speaking, I am very satisfied with this job" and "I am generally satisfied with the kind of work I do in this job."

Previous studies on pay satisfaction assumed that pay satisfaction was a multidimensional construct. Heneman and Schwab (1979) developed the Pay Satisfaction Questionnaire, which included satisfaction with various components of compensation. Heneman and Schwab (1985) hypothesized five components of pay satisfaction (pay level, pay raises, benefits, structure, and administration) and found four dimensions. Judge and Welbourne (1994) found four factors in the 18-item Pay Satisfaction Questionnaire developed by Heneman and Schwab with a series of factor analyses.

Many researchers have been interested in the relationship between actual pay and pay satisfaction. Pay satisfaction is determined by not only actual salary but workers' personal standards of comparison (Rice, Philips, & McFarlin, 1990).

Workplace Financial Education and Work Outcomes

Workplace financial education may enhance financial well-being by changing workers' financial attitudes, knowledge, and behaviors. Workplace financial education influences personal finances that, in turn, may affect work outcomes.

Employee assistance programs (EAPs), which are designed to handle employee problems, have resulted in positive impacts on health care cost, productivity, turnover, tardiness, absenteeism, accidents, job satisfaction, and worker morale (Landauer, 1997;

"Linking...", 1991). When an employee is faced with marital or family distress, substance abuse, financial difficulties and/or job-related conflicts, the employer incurs a significant financial loss, resulting from poor performance, low productivity, accidents, high turnover, absenteeism, increased insurance claims, low morale, co-worker conflicts, drug/alcohol abuse, and other on-the-job problems (CorpCare Associates, Inc, 1998).

Workplace financial education assists employees in dealing with financial concerns that affect work outcomes. Similar to other training programs, workplace financial education can affect work outcomes.

Phillips (1996) discussed measuring the return on investment for training and development. Development programs offered by employers can be evaluated at different levels. At level 1, the reactions to the program and completed action plans are measured. Level 2 evaluations focus on the measures of learning (confidence and knowledge). Level 3 measures program application. Level 4 evaluates the impact on business of the training program. Phillips suggested that the training program should be evaluated by the changes in participants' confidence, knowledge, and/or applications.

Kirkpatrick (1996) discussed measuring the workplace development program, suggesting that training programs can be measured at each level: reaction, learning, behavior, and results. At the final level, results, which occurs due to training, should include increased sales, higher productivity, bigger profits, reduced costs, less employee turnover, and improved quality.

There is some evidence that basic skills training, such as upgrading literacy skills, stress management training (Kuri, 1996), fitness programs ("The economic benefits of regular exercise", 1991), and work/life programs (Rachor, 1998; Scott, 1997) promote

productivity, boost morale, and reduce stress and absenteeism. In a Plan Sponsor/Ernst & Young survey (1997), it was revealed that employee financial education reduces turnover, attracts employees, improves morale, and limits exposure to litigation (Wechsler, 1997). Maxwell (1997) asserted that "workplace financial education could reduce employees' financial anxiety and increase their productivity" (p.103). Financially well workers focus more on their job and less on their personal finances. Cash (1996) found that personal financial stressors were a great concern that impacted employees' performance.

Zimmer and Dolan (1997) examined the impact of employees' perception of their work performance on their judgments of distributive fairness. They suggest that financial security will promote job satisfaction. Based on justice theory, job satisfaction derives from perceptions of justice relative to employer policies on wages and rewards such as benefits, and other work related factors. Workers judgements regarding wages and rewards, are perceptions of distributive justice, while their judgments regarding supervision and other work-related factors relate to procedural justice. Zimmer and Dolan reported that workplace financial education assists employees in dealing with financial issues and establishing financial security. Financial security would affect distributive justice and this would result in improved satisfaction with pay and benefits.

A Mercer study of 800 employers found that 64% said morale increased when employees were offered benefits that helped them with their personal lives ("The National Summit on Retirement Savings", 1998). This study concluded that employee benefits help attract and retain workers and improve employee morale, corporate efficiency and productivity. Further, workplace financial education helped employees understand, appreciate or utilize the benefits offered by employers.

Researchers have asserted a need for further research on the efficacy of workplace financial education. Garman (1997) asserted that there is a need for research on the effects of financial education. He suggested that the evidence needs to accumulate in one or more of six areas, which are a) increasing employee motivation, self-confidence and job productivity, b) decreasing absenteeism due to matters associated with personal finances, c) decreasing healthcare costs, particularly for stress-related illnesses, d) saving work time by not attending to personal finances during the workday, e) securing employee loyalty and retention, and f) avoiding lawsuits from employees claiming employer negligence.

Pomeroy (1997) proposed five financial outcomes resulting from workplace financial education. The likely outcomes from workplace financial education include the following: increases in employee productivity, employees saving more money in their retirement plans, more informed participation in employer-sponsored benefits, increased commitment to employers, and reduced employee theft. There is little research on the effects of workplace financial education on work outcomes.

CHAPTER III. KIM MODEL OF WORKPLACE FINANCIAL EDUCATION, PERSONAL FINANCES, AND WORK OUTCOMES

To explore the effects of workplace financial education on employees' personal finances and work outcomes, a conceptual model explaining how workplace financial education affects employees' financial well-being and work outcomes was created and the empirical model was tested.

Kim Conceptual Model

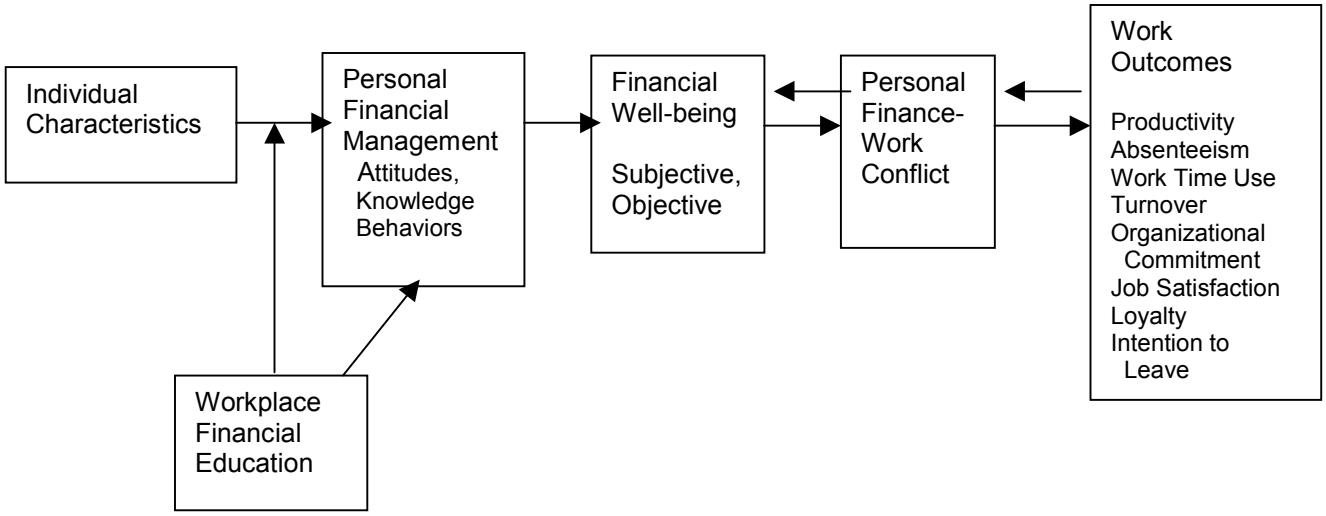
The model of the effects of workplace financial education (Figure 3) was developed by Kim based on the Deacon and Firebaugh (1988) system model, the Rice & Tucker (1986) model, the Prochaska-Cue (1993) model, family and work adjustment model (Caligiuri et al., 1998), and Joo model (1998). The Deacon and Firebaugh systems approach includes input, throughput, and output as basic components. Input to the management system is composed of resources and demands. Both individual and workplace characteristics represent demands and resources. Workplace financial education is represented as input. Personal financial management is throughput and is comprised of attitudes, knowledge of personal finances, and financial behaviors. Output includes personal finance outcomes and work outcomes.

The model proposes that individual characteristics affect personal financial management. Workplace financial education, with support from the employers, changes attitudes toward personal financial management, increases personal financial knowledge, and changes financial management behaviors. Changes in personal financial management

enhance financial well-being. Financial well-being in this model may be measured by subjective and objective indicators. Financial well-being affects the worker's personal finance-work conflict productivity, absenteeism, work time use, turnover, organizational commitment, job satisfaction, loyalty, and intention to leave.

Figure 3.

Kim Conceptual Model of Workplace Financial Education, Financial Well-being, and Work Outcomes



Explanation of Variables

This section includes a discussion of the variables in the conceptual model. Individual characteristics, financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance work conflict, and work outcomes will be discussed.

Individual Characteristics

Individual characteristics have been found to influence personal financial management and financial well-being. Individual characteristics such as gender, ethnicity marital status, education, age, life cycle stage, income before taxes, debts, assets, housing tenure, number of financial dependents, household size, employment status, and occupation have been suggested as predictors of personal financial management and financial well-being (Davis & Weber, 1990; Fitzsimmons & Leach, 1994; Garman, Kim, Kratzer, Brunson, & Joo, 1999; Joo, 1998; Porter, 1990; Schnittgrund & Baker, 1983; Wilhelm et al, 1993; Families and Work Institute, 1997).

Individual variables such as age, gender, marital status, work years with current employer, health, education, years of work, and family size have been found to be related to work outcomes including productivity, absenteeism, organizational commitment, and job satisfaction (Glisson & Durick, 1988; Leigh, 1991; Robbins, 1998; Families and Work Institute, 1997).

Financial Attitudes

In the conceptual model, workplace financial education influences attitudes toward personal financial management. Previous studies have found that financial education

changed participants' financial attitudes ("Evaluation of the…", 1998; Fletcher et al, 1997; DeVaney et al., 1995). Attitudes toward financial management have been found to be related to financial well-being (Wilhelm et al., 1992). Godwin (1994) measured attitudes toward personal financial planning and management with the following scales: "Planning is essential to successfully managing one's life", "Thinking about where you will be financially in 5 - 10 years is essential for financial success," and "Planning for the future is the best way of getting ahead."

Financial Knowledge

Financial knowledge has been found to influence one's financial situation (Mugenda et al., 1990; Princeton Survey Research Associates, 1998). Mugenda et al. (1990) tested financial knowledge using a 22-item scale of the money manager's knowledge in the areas of credit management and investments to examine relationships among financial knowledge, money management practices, and satisfaction with financial status.

A financial knowledge test has been used to evaluate financial education ("Evaluation of the…", 1998; Fletcher et al., 1997). Financial knowledge may include knowledge about general personal finances, retirement plans, employee benefits, credit and money management, and consumer rights. Workplace financial education can increase the level of financial knowledge, and sometimes increased financial knowledge improves the individual financial well-being.

Financial Behaviors

Workplace financial education influences personal financial behaviors. Changed financial behaviors are related to financial well-being. Financial behaviors include four fundamental areas: general personal finances, retirement plans, employee benefits, credit and money management, and consumer rights.

Financial Well-being

Financial well-being includes objective and subjective measures. Objective indicators may include the amount of monthly retirement saving, amount of monthly saving, amount of monthly credit cards payment, amount of monthly 401(k) loan payment, emergency funds, and amount of monthly loan or credit card payment (Joo, 1998; Porter, 1990). Subjective indicators include 1) overall financial well-being, 2) satisfaction with general personal finances, retirement plans, employee benefits, credit and money management, and consumer rights, and 3) perception of financial situation changes.

Personal Finance-Work Conflict

Personal finance-work conflict is the extent to which financial concerns interfere with a worker's workplace responsibilities. This concept is based on family-work conflict. Financial concerns spill over into work life and work concerns spill over into personal finances.

Work Outcomes

Work outcomes represent worker's attitudes, behaviors, and performance at workplace. Work outcomes are related to financial well-being. Worker's individual

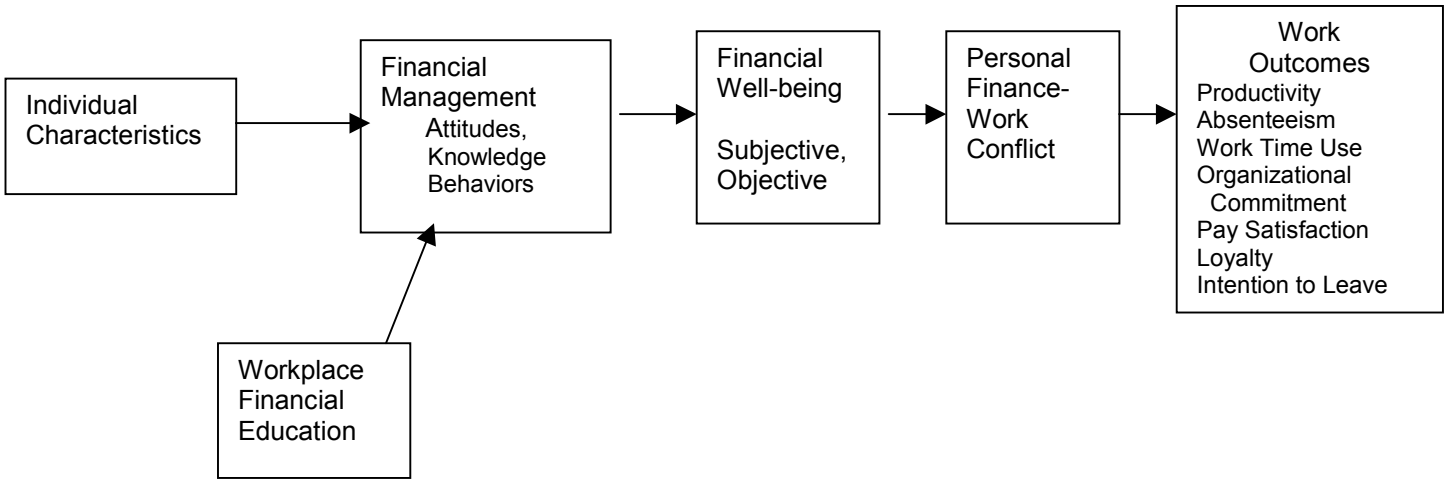
characteristics, financial management, and financial well-being are related to personal finance-work conflict, productivity, absenteeism, turnover, work time used for personal finance matters, organizational commitment, job satisfaction, loyalty, and intention to leave.

Empirical Model

Figure 4 represents the empirical model of this study. The Kim empirical model focused on (1) describing the profile of worker's personal financial management (financial attitudes and behaviors), financial well-being, personal finance-work conflict, and work outcomes, (2) determining the differences in financial management (attitudes and behaviors), financial well-being, personal finance-work conflict, and work outcomes according to individual characteristics, and (3) examining the effects of workplace financial education on financial management (financial attitudes, knowledge, and behaviors), financial well-being, personal finance-work conflict, and work outcomes.

Figure 4.

Empirical Model of Workplace Financial Education, Financial Well-being, and Work Outcomes



Each of the measures is described below. All variables were measured by a self-administered survey.

Individual Characteristics

Individual characteristics which have been found to influence personal financial management, financial well-being, and work outcomes were examined. Nine variables included gender, marital status, education, ethnicity, age, household size, household

income, health, and work years with current employers. In the post-assessment, personal annual income was added.

Financial Attitudes

Financial attitudes included profiles of current financial attitudes and identified whether the workers made changes in their financial attitudes as a result of workplace financial education. The financial attitudes included five statements related to general attitudes toward financial management. These items were developed from measures developed by Godwin (1994), Godwin and Carroll (1986), Godwin and Koonce (1992), and Lytton and Grable (1997). The statements were “I feel I have an adequate knowledge of personal finances”, “I feel that I have control over my personal finances", “I am confident in managing money to achieve financial goals”, “ I am confident in managing money to achieve financial goals”, “I feel confident in making investment decisions”, and ”I do not mind taking risks when making investments.” Each item used a 4-point Likert-type scale: agree (4), tend to agree (3), tend to disagree (2), and disagree (1). A total financial attitude index was obtained by summing the coded numbers.

Financial Knowledge

Financial knowledge was measured with a 12-item test on personal finance. Test questions covered retirement plans, employee benefits, credit and money management, and consumer rights. Ten questions were adapted from previous published measures (Evaluation of the…”, 1998; Fletcher et al., 1997; Mugenda et al., 1990; Princeton Survey Research Associates, 1998). Two items were developed specifically for this study.

(1) Retirement plan (Pre-and post-assessment)

Over the last 30 years, which investment had the highest rate of return?

1. Saving accounts
2. Certificates of deposit
3. Stock mutual funds*
4. Bond mutual funds

For people who are in their thirties, how much of their retirement savings should be invested in stocks or stock mutual funds?

1. 70-80%*
2. 40-50%
3. 10-20%
4. None

When an investor diversifies his/her investments, does the risk of losing money in the portfolio?

1. Usually increase
2. Usually decrease*
3. Stay about same

When interest rates go up, what happens to bond prices? Do they?

1. Usually go up
2. Usually go down*
3. Stay about same

\

(2) Employee benefits (Post-assessment)

If an average worker puts $1,000 a year into his/her employer's pre-tax health account, about how much less in federal income taxes will the worker probably owe?

1. $75
2. $280*
3. $450
4. $600

If a worker in excellent health buys life insurance through his/her employer, the cost will likely be

1. Higher than a policy purchased elsewhere*
2. About the same as a policy purchased elsewhere
3. Lower than a policy purchased elsewhere

(3) Credit and Money Management (Post-assessment)

Which of the following lenders probably charges the highest interest rate for a $500 consumer loan?

1. Consumer finance company*
2. Credit union
3. Local bank
4. Credit card issuer

Your credit card is lost. If your card was used to make unauthorized charges but you reported it, you are responsible for

1. All charges
2. All charges made within 30 days
3. All charges made within 60 days
4. No more than $50 of unauthorized charges*

The best use of credit is probably to

1. Consume expensive products earlier
2. Obtain discounts
3. Obtain an education*
4. Consolidate debts

Which of the following is a wise choice when signing a credit contract?

1. Buying credit life insurance
2. Buying credit disability insurance
3. Buying credit unemployment insurance
4. None of these is a wise choice*

(4) Consumer Rights (Post-assessment)

Under the FTC door-to-door sales regulations, how long do consumers have to cancel a contract where their homes are put up as security?

1. 1 day
2. 3 days*
3. 5 days
4. 10 days

When you order by mail and if a delivery time is not specified, you can cancel the order if the product is not shipped to you in _____

1. 2 weeks
2. 4 weeks
3. 6 weeks
4. 8 weeks*

Note: * correct answer

Financial Behaviors

Financial behaviors were used to describe the profiles of current financial management practices and identify whether the workers made changes in their financial behaviors as a result of workplace financial education. The financial behaviors included three concepts: retirement plan, employee benefits, and credit and money management (Davis and Weber, 1990; DeVaney et al., 1996; EBRI, 1997; Fletcher et al. 1997; Godwin & Koonce, 1992; Joo, 1998; Kratzer et al., 1998; Porter, 1993). A total of 13 questions were adapted from previous published research or developed for this study. In the pre-assessment survey, respondents answered whether they have done these behaviors in the last year. In the post-assessment survey, questions were asked about whether the respondents have done these behaviors as a result of workplace financial education. Five

possible answers were agree (4), tend to agree (3), tend to disagree (2), disagree (1), and not applicable (5). The thirteen statements were as follows:

(1) Retirement plan

I have tried to determine how much money I will need to live comfortably in retirement

I started contributing to my employer's 401(k) retirement plan

I increased the amount of my contributions to the 401(k) retirement plan

I changed my investment strategy by diversifying or being more aggressive in my choices of investment

I determined that I did not need to change the investment mix in my 401(k) retirement plan

I updated my estate plan

I consulted with a financial advisor

I updated my risk management (insurance) strategies (Pre-assessment)

(2) Employee benefits

I participated in the pre-tax dependent care program

I participated in the pre-tax health care program

I changed the amount of life insurance purchased through my employer

(3) Credit and money management

I reduced some of my personal debts

I paid credit card bills in full to avoid financial charges (Pre-assessment)

I paid my credit card bills on time (Post-assessment)

I increased my savings (Post-assessment)

Financial Well-being

Financial well-being was measured by objective and subjective indicators. A four–item objective measure included the amount of emergency funds, amount of monthly retirement saving, amount of 401(k) loan payment, and amount of monthly saving excluding than 401(k) plan. The subjective indicators were comprised of overall financial well-being, satisfaction with personal finances, and perception of financial situation changes.

Objective Measures of Financial Well-being

Objective financial well-being included quantifiable economic indicators such as the amount of emergency funds, amount of monthly retirement saving, amount of monthly 401(k) loan payment, and amount of monthly saving excluding 401(k) plan. The amount of savings and debt payments are recommended from previous literature (DeVaney et al., 1993; Joo, 1998; Kratzer et al., 1998; Lytton et al., 1991; Porter, 1990). The item on the amount of 401(k) loan payments was developed for this study. The amount of emergency fund has been also used as an objective scale to measure financial well-being (Hanna, Chang, Fan & Bae, 1993; Hong & Swanson, 1995). It was measured with one item of "if you lost your job today, how many months could you live using your savings?" Responses were coded into 9 categories: 0 months, 1 - 2 months, 3 - 4 months, 5 - 6 months, 7 - 8 months, 9 - 10 months, 11 - 12 months, 13 - 24 months, and over 24 months. The twelve

possible answers to the amount of monthly retirement savings were as follows: $0, $1 - $100, $101 - $200, $201 - $300, $301 - $400, $401 - $500, $501 - $600, $601 - $700, $701 - $800, $801 - $900, $901 - $1000, and not sure. The twelve possible answers to the amount of 401(k) loan payments were as follows: None, $1 - $100, $101 - $200, $201 - $300, $301 -$400, $401 - $500, $501 - $600, $601 - $700, $701 - $800, $801 - $900, $901 - $1000, and above $1,000. The amount of monthly saving excluding 401(k) plan were as follows: $0, $1 - $50, $51 – $100, $101 - $150, $151 - $200, $201 - $250, $251 - $300, $301 – $350, $351 - $400, $401-$450, $451 - $500, and above $500.

Subjective Measures of Financial Well-being

Subjective economic well-being may include economic attitudes and expectations in such areas as satisfaction with income, savings, standard of living, sense of past economic progress, economic expectations, sense of fairness of income received, and sense of opportunities (Strumple, 1976). In this study, the subjective financial well-being scales included overall financial well-being, satisfaction with personal finances, and perception of financial situation changes. Measures were adapted from the items used in the previous studies (Joo, 1998; Porter, 1990; Stum et al., 1993; Sumarwan & Hira, 1993; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993). Overall satisfaction with personal finance items were taken from the previous study (Joo, 1998). The overall satisfaction with personal finance were measured with three items: satisfaction with one's personal financial situation (10-point stair-step scale coded as 1 = dissatisfied, 10 = satisfied), perceived financial wellness (5-point scale: coded as 1 = feel like I am always in financial trouble, 5 = feel like

I am doing well), and feeling about the financial situation (5-point scale: coded as 1 = I find it is hard to pay bills and 5 = I save more than I spend).

Satisfaction with personal finances has been used as a subjective evaluation of one's personal finances. Four items for this study were developed based on previous published literature (Beutler & Mason, 1987; Garman et al., 1999; Joo, 1998; Kratzer et al., 1998; Porter, 1990; Scannell, 1990; Schinittgrund & Baker, 1983; Schinn, 1992; Sumarwan & Hira, 1993; Williams, 1996). The scales included satisfaction with present financial situation, income adequacy, debt, and saving and investment. The responses were coded as 4-point Likert-type scale, 4 = agree to 1 = disagree. The four items are as follows:

(1) I am satisfied with my present financial situation

(2) My income is enough for me to meet my monthly living expenses

(3) I worry about how much money I owe (reverse coding)

(4) I am satisfied with the amount of money that I am saving and investing for retirement

Perceptions of financial situation changes were about one's perception of financial situation changes over a period of time (Porter, 1990; Scannell, 1990; Schinittgrund & Baker, 1983). The three items asking the respondent's perception of financial situation changes in income, savings, and debts "compared to the situation three months ago [before workplace financial education]" were measured on a 3-point scale: increased = 3, no change = 2, and decreased = 1. This variable was added in the post–assessment survey.

Personal Finance-Work Conflict

The personal finance-work conflict measure was developed for this study to assess the extent to which personal financial concerns interfere with a worker's workplace responsibilities. This variable conceptually came from various measures that were developed and used to assess family-work conflict in previous literature (Adams et al., 1996; Duxbury et al., 1991; Families and Work Institute, 1997; Frone et al., 1992; Judge et al., 1994; Netemeyer et al., 1996). The five items were adapted from the Netemeyer et al. (1996) family-work conflict scale and rephrased for personal finances instead of family. It examined the extent to which money matters interfere with workers at their workplace. Each item was coded on a 4-point Likert-type scale, 4 = agree to 1 = disagree in the pre-assessment. For the post-assessment, the response categories changed to 5-point Likert-type scale; 1= never to 5= very often. The five items were summed to create a personal finance-work conflict index.

The five questions were as follows:

(1) I have had to put off doing things at work because of personal money matters

(2) Personal money matters have kept me from getting things done on time at my job

(3) Personal money matters interfere with my responsibilities at work such as accomplishing daily tasks and working overtime

(4) Personal money matters interfered with my work-related activities

(5) Personal money matters interfere with my ability to perform job-related duties

Productivity

Productivity was measured by a self-report of the quality and quantity of job performance and the performance rating from a worker's boss the previous year. Various scales were used to measure worker's productivity in previous studies (Campbell et al., 1994; Katzell et al, 1992; Netemeyer et al. 1996; Robbins, 1998). The two items of measuring the quality and quantity of job performance were adapted from Netemeyer et al (1996). Questions are "how do you rate yourself in terms of the quality of your performance at work" and "how do you rate yourself in terms of how much work you accomplish?" The performance rating from a worker's boss the previous was included. The three items of productivity measure used a 5-point scale (ranging from 1-poor to 5-excellent).

Absenteeism

Absenteeism is the practice by an employee of being away from work. Absenteeism has been measured by frequency of absences, reasons for absences, and work loss ("America @ work: An overview…", 1998; Brooke & Price ,1989; Iverson et al., 1998; Johns, 1994; Joo, 1998; Price & Muller, 1986). Absenteeism in this study was measured by a self-report of frequency of absences, reasons for the absences, and work loss in this study.

The frequency of absences measure has been commonly used in absence research (Brooke & Price, 1989; Iverson et al., 1998; Johns, 1994; Mathieu & Kohler, 1990; Price & Mueller, 1986; Sagie, 1998). One item was used to measure the number of absent days for personal reasons over the past year. A measure of the reasons for absences was

developed for this study. The 13 reasons were identified based on previous research ("America @ work: An overview…", 1998; Brooke & Price, 1989; Sagie, 1998). Sample items included 'personal illness', 'family illness', 'family responsibilities', 'child care', 'accident or injury', 'family money matters', 'personal business', and 'just take a day off.' 'Funeral' was added in the post-assessment.

The two items for work loss were developed by Forthofer et al. (1996). Two questions are "on how many days during the last month, were you totally unable to carry out your normal work activities?" and "on how many days during the last month, were you able to work and carry out your normal activities, but had to cut down on what you did or did not get done as much as usual?" Coding for responses yields the possible range from 0 for none to 12 for eleven or more days. The two responses were summed, based on the logically deduced assumption in the literature that each cutback day is equivalent to half of one work loss day (Forthofer et al., 1996; John D. and Catherine T. MacArthur Foundation, 1993).

Work Time Used for Personal Finance Matters

Work time use index measured work time loss due to attending to personal finances at work. Respondents were asked to indicate whether they spend work time to handle personal finances. Eighteen statements were developed for this study. The measure included 11 negative behaviors such as "took time to handle personal financial matters," "spent time worrying about personal finances," "talked about money problems, "talked about consolidating debts," "made calls to family or friends to discuss financial problems" "received calls from creditors," "asked about borrowing money from 401(k) plan,"

"consulted with a credit counselor," " talked to a collection agency about past due payments," "asked about obtaining a payroll advance," and "consulted with a lawyer." The seven positive behaviors were "talked with co-worker(s) about investments," "talked to HR personnel," "reallocated the assets," "consulted with a financial planner," "searched for information on personal finances," "talked with a lender about a home equity loan," and "used personal finance computer software." Each response was coded as yes (1) and no (0) in the pre-assessment. Information about actual hours spent on each category was collected in the post-assessment. The 18 items from the pre-assessment were summed for further analyses. Eighteen items from the pre-assessment and two items added to the post-assessment were as follow:

(1) I talked with a co-worker(s) about money problems

(2) I talked with a co-worker(s) about investments or retirement plans

(3) I talked to Human Resources personnel about changing my employee benefits

(4) I searched for information on personal finances (e.g. magazines, Internet)

(5) I reallocated the assets in my investment portfolio

(6) I used personal finance computer software for money management

(7) I consulted with a financial planner

(8) I have received telephone calls from creditors regarding overdue debts

(9) I talked to a collection agency about past due payments

(10) I talked with a lender about consolidating debts

(11) I talked with a lender about a hone equity loan or 2nd mortgage

(In the pre-assessment)

I talked with a lender about financing a home (In the post-assessment)

(12) I spent time worrying about personal finances

(13) I took time to handle personal financial matters

(14) I consulted with a lawyer regarding money problems

(15) I asked about obtaining a payroll advance

(16) I asked about borrowing from my 401(k) retirement plan

(17) I consulted with a credit counselor

(18) I made calls to family or friends to discuss financial problems

(19) I read or studied about money matters while at work (Post-assessment)

(20) I talked to an EAP professional about personal financial matters (Post-assessment)

Organizational Commitment

Organizational commitment as a construct reflects a general affective response to the organization as a whole (Mowday et al., 1979). In this study, organizational commitment was assessed by a six-item, adapted from Mayer & Schoorman (1992)'s value commitment questionnaire. Using a 4-point Likert-type scale (from agree = 1 to disagree = 4), the respondents were asked to indicate the extent of their feelings about the organization. The six items were summed with a higher score indicating a higher level of positive organizational commitment. The items were as follows:

(1) I am proud to be a member of this organization

(2) I would recommend this organization as one of the best places to work for

(3) I find that my values and the organization's values are very similar

(4) I am willing to work harder than I have to in order to help this organization succeed

(5) This organization inspires me to do my best in the way of job performance

(6) For me, this is one of the best organizations for which to work

Pay Satisfaction

To measure global satisfaction with the job, one item, suggested from previous literature (Benton, 1998; Brooke et al., 1988; Judge et al., 1998) was used. On a 4-point Likert-type scale (from agree = 1 to disagree = 4), respondents were asked the following question " In general, I am very satisfied with my job."

Instead of including all the dimensions of job satisfaction, only pay satisfaction was identified as an important variable of work outcomes in this study. Pay satisfaction was measured with satisfaction with three dimensions of payment, including pay level, pay structure, and pay raise. Pay satisfaction was measured with a 4-item pay satisfaction scale from the Job Satisfaction Survey (Spector, 1994). A summated rating scale format was used with a 4-point Likert-type scale (from agree = 4 to disagree = 1). Items were as follows:

(1) I feel I am being paid a fair amount for the work I do

(2) Raises from my employer are too few and far between (reverse coding)

(3) I feel unappreciated by my employer when I think about what I am paid (reverse coding)

(4) I feel satisfied with my chances for salary increases

Other Work Outcome Variables

Job Satisfaction: This variable was used to measure a worker's overall satisfaction with his/her job on a 4-point Likert-type scale (ranging from 1 = agree to 4 = disagree).

Intention To Leave: This variable was used as a proxy of turnover. It was measured with one item, which has been used in previous studies (Netemeyer et al., 1996; O'Quin & LoTempio, 1998; Price & Mueller, 1981; Sager et al., 1998). On a 4-point Likert-type scale, the respondents were asked to answer the following question, " I intend to leave my present employer."

Loyalty To Employer: One item, " I am very loyal to my employer," which has been used in other studies (America @ work: An overview…", 1998; Netemeyer at al., 1996), was used to assess loyalty to employer on a 4-point Likert-type scale (ranging from 1 = agree to 4 = disagree).

Supervisor and Financial Issues: Two questions were used to measure the work environment related to financial issues. Respondents were asked to answer the following questions, "I am comfortable going to my supervisor to talk about money issues," and "My supervisor is willing to help me when I have a routine financial concern" on a 4-point Likert type scale (ranging from 1 = agree to 4 = disagree).

Workplace Financial Education Program and Retention: One question, "the workplace financial education program is important in my decision to continue working for my present employer" on a 4-point Likert type scale (ranging from 1 = agree to 4 = disagree) was included to measure the relationship between workplace financial education program and retention.

CHAPTER IV. METHODOLOGY

This chapter contains the methodology and procedures that were employed in order to identify the effects of workplace financial education on workers' personal finances and work outcomes and to determine relationships among financial management, financial well-being, personal finance-work conflict, and work outcomes. This chapter provides a description of the population, the instrument development, the data collection procedures, and the data analysis utilized in this study.

Population

The population for this research was white-collar workers of an insurance company in three different locations. The employer had 476 employees in March 1999 (during the pre-assessment survey) and 482 in July (during the post-assessment survey). In the home office, there were 210 workers in insurance specific divisions and 155 workers in non-insurance divisions. The rest of the workers were in the insurance divisions in the two other offices. The insurance division included commercial underwriters and underwriting assistants, claims adjusters and claims customer service representatives, and sales/marketing managers. The non-insurance division included finance-controllers, accountants, treasury, investments, planning, legal staff, human resources, maintenance, café staff, cleaning, purchasing, and printing.

The survey was conducted with the entire population of the companies (476 in the pre- and 482 in the post-assessment). The mailing list was obtained from the employees' database from the employer.

Development of Instrument

A mail survey instrument was developed to explore the effects of workplace financial education on workers' personal finances and work outcomes and to determine relationships among financial management, financial well-being, personal finance-work conflict, and work outcomes. A preliminary draft was developed in December 1998 and numerous reviews and revisions of the instrument were made. These included consultations with the dissertation advisory committee, faculty, graduate students, family financial management undergraduate students, and a pilot test.

The following areas provided the basis of questionnaire items in the pre- and post-assessment: individual profiles of workplace financial education, financial management, financial well-being, personal finance-work conflict, work outcomes, and individual characteristics. For the post-assessment questionnaire, some of the questions from the pre-assessment questionnaire were reworded, dropped, replaced, and others added. These questions were not compared between the pre-and post-assessment.

Individual Profiles of Workplace Financial Education

In the pre-assessment, four questions about workplace financial education were asked: 1) whether workers participated in the previous workplace financial education, 2) how much they valued the education, 3) the topics in which workers were interested, and 4) willingness to have a free financial checkup from an outside financial planner. Two questions, reasons for participating in the financial workshop and reasons for workshop non-participation, were added in the post-assessment. Respondents were asked to indicate the most important gain from the financial education workshop in the post-assessment.

Financial Management

The financial attitude measure included five items to measure general attitudes toward personal finances in the pre- and post-assessment. Four items were used to test the workers' financial knowledge in the pre-assessment and 8 items were added in the post-assessment. A new item for self-rating about investing knowledge also was added in the post-assessment. A 13-item financial behavior measure in areas of retirement plans, employee benefits, and credit and money management were used. One item was replaced and two items were rephrased in the post-assessment.

Financial Well-being

Financial Well-being included objective and subjective indicators. The objective financial well-being measure consisted of four economic indicators such as amount of emergency funds, amount of monthly retirement savings, amount of monthly 401(k) loan payments, and amount of monthly savings excluding 401(k) plan. The subjective financial well-being measure included overall financial well-being (3-items) and satisfaction with personal finances (4- items). The perception of financial situation changes (3-items) during the three-months period (between the pre-and post-assessment) was added in the post-assessment.

Personal Finance-Work Conflict and Work Outcomes

Three items were utilized to measure the self-reports of the worker's productivity. The absenteeism measure consisted of the frequency of the absences, the reasons for the absences, and two work time loss questions. Eighteen statements were used to measure the

work time use by workers. Measures for personal finance-work conflict (5-items), general job satisfaction (1-item), organizational commitment (6-items), pay satisfaction (4- items), intention to leave (1-item), loyalty (1-item), supervisor and financial matters (2-items), and workplace financial education and retention (1-item) were included. Categories of responses to the questions for personal finance-work conflict and work time use changed in the post assessment. Eighteen items were used to explore the work time use in the pre-assessment and two items were added in the post-assessment.

Individual Characteristics

Individual characteristics included nine demographic variables: age, gender, education, ethnicity, marital status, household annual income, family size, work years with current employer, and four health questions. The personal annual income was added in the post-assessment.

The final form of the instrument was entitled "Workplace Financial Education Research." The final instrument for the pre-assessment (Appendix 1) was printed front and back on two sheets of 11X 17 inch buff paper (three sheets for the post-assessment instrument). The eleven sections of questions included in the pre-assessment instrument were (a) workplace financial education, (b) financial attitudes, (c) financial behaviors, (d) financial knowledge, (e) objective financial well-being, (f) overall financial well-being, (g) subjective financial well-being, (h) productivity, absenteeism, and health, (i) organizational commitment, pay satisfaction, and personal finance-work conflict, (j) work time use, (k) selected demographics of respondents. The post-assessment questionnaire (Appendix 2) included 12 sections and personal finance-work conflict was separated into a new section.

Additional items measuring asset allocation, the use of financial services provider web sites, and health care cost were included on the instrument for other use. These data were not analyzed in the present study.

Data Collection

The respondents for this survey were drawn from the payrolls of the employer. The research design was a pre- and post-assessment survey. A pre-assessment survey was conducted in February and March 1999 before workplace financial education was provided during March 1999. Three months after the workplace financial education was provided, a post-assessment survey was conducted from June to August 1999.

A pre-assessment questionnaire was mailed to all 476 workers. The mail survey procedure outlined by Dillman (1978) was used. A cover letter, which introduced the research study, assured confidentiality and stressed the need for participation with the survey instrument was printed on white 8 ½ X 11 Virginia Tech's National Institute for Personal Finance Employee Education business letter head paper (Appendix 3). A cover letter, one stamped return envelope, and an index card for entering the lottery drawing as an incentive for return were placed in the business manila envelope and mailed. Those who wanted to enter the free $200 prize drawing submitted their names and addresses with the answered questionnaire. A total of 476 survey packets were mailed on the 17th of February 1999.

A week after the first survey instrument was mailed, on February 24 1999, a thank-you-and-reminder postcard was mailed to 476 workers. It was designed to serve as a thank

you for those who had completed and mailed questionnaires and as a courteous reminder for those who had not (Appendix 4).

A little over three weeks later, on March 15, 1999, a replacement questionnaire and a second follow-up cover letter were sent to non-respondents (n = 330). To avoid duplicate mailings to the respondents, names were deleted from the initial mailing list based on the returned index cards. Respondents who submitted their addresses and names for the free $200 lottery drawing with completed questionnaires were deleted from the initial mailing list. Since the questionnaires did not have an identification number, those who completed the questionnaire but did not submit their addresses and names received the second mailing packets.

The second cover letter stressed the confidentiality of the questionnaire and appealed for its return (Appendix 5). A second cover letter that explained the research and emphasized the importance of the participation was written by the Human Resources vice-president in the company and printed on the company business letterhead paper (Appendix 6). A total of 330 packages were sent to the workers.

Of the original population of 476 workers, five questionnaires were returned by the postal services as undeliverable. A total of 270 questionnaires were returned and of these eight returned questionnaires were not usable due to missing data. Two daily return rates were prepared; Table 1 shows daily return rates and the cumulative return rates. For the data analysis, 262 responses were utilized (55.9% of usable return rate; 262/471).

The workplace financial education workshops were provided by the outside financial education provider on March 17, March 19, and March 23 1999. A 1 hour and 30 minutes seminar was offered at no cost to employer or employees. The educational seminar

included retirement planning, investing, asset allocation, and risk management (Appendix 7).

The same survey method was followed for the post-assessment survey from June through August 1999. The first mailing occurred on June 18, three months after the workplace financial education seminar was conducted. Due to the changes in the payroll list of the employer, a total of 482 mailing packets were sent to workers. A cover letter from National Institute for Personal Finance Employee Education, the second cover letter from the employer, a survey instrument, a stamped return envelope and an index card were enclosed in the business envelope.

One week after the initial mailing was conducted on June 25 1999, a follow-up post card was sent to 482 workers. A little over three weeks later on July 14, a replacement questionnaire was sent with two cover letters, a stamped return envelope, and an index card for free lottery drawing. Since the respondents who submitted their questionnaires with the index cards were removed from the initial mailing list, 380 mailing packets were sent to the non-respondents. On July 28, a third mailing with the replacement questionnaire was conducted due to the low response rate. A total of 370 mailing packets were sent to the non-respondents.

Of the 482, five questionnaires were returned by the postal services as undeliverable. A total of 192 questionnaires were returned and three of these were not usable due to missing data. Table 2 contains daily return rates and cumulative return rates. For the data analysis, 189 responses were utilized (40.0% of usable return rate; 189/477).

Table 1.

Daily and Cumulative Response Rate: Pre-assessment Survey (N = 262)

Date Returned	Number Returned	Returned but Unusable	Daily %	Cumulative %
2/24/99	2	0	0.43	0.43
2/25/99	46	2	9.40	9.83
2/26/99	36	0	7.69	17.52
3/1/99	32	0	6.84	24.36
3/2/99	14	2	2.56	26.92
3/3/99	27	1	5.56	32.48
3/4/99	16	0	3.42	35.90
3/5/99	14	0	2.99	38.89
3/8/99	11	0	2.35	41.24
3/9/99	7	0	1.50	42.74
3/10/99	8	1	1.50	44.23
3/11/99	7	0	1.50	45.73
3/12/99	6	0	1.28	47.01
3/15/99	3	0	0.64	47.65
3/16/99	1	0	0.21	47.86
3/17/99	8	0	1.71	49.57
3/18/99	1	0	0.21	49.79
3/22/99	21	1	4.27	54.06
3/23/99	10	1	1.92	55.98
Totals	270	262	55.98	55.98

Table 2.

Daily and Cumulative Response Rate: Post-assessment Survey (N = 189)

Date Returned	Number Returned	Returned but Unusable	Daily %	Cumulative %
6/21/99	4	0	0.85	0.85
6/22/99	22	0	4.65	5.50
6/23/99	7	0	1.48	6.98
6/24/99	12	0	2.54	9.51
6/25/99	6	0	1.27	10.78
6/26/99	5	0	1.06	11.84
6/28/99	9	0	1.90	13.74
6/29/99	16	0	3.38	17.12
6/30/99	10	0	2.11	19.24
7/1/99	5	0	1.06	20.30
7/2/99	2	0	0.42	20.72
7/5/99	6	0	1.27	21.99
7/6/99	1	0	0.21	22.20
7/8/99	4	0	0.85	23.04
7/11/99	6	1	1.06	24.10
7/12/99	1	0	0.21	24.31
7/18/99	3	0	0.63	24.95
7/22/99	1	0	0.21	25.16
7/23/99	15	0	3.17	28.33
7/26/99	1	1	0.00	28.33
7/27/99	6	0	1.27	29.60
7/29/99	1	1	0.00	29.60
8/4/99	1	0	0.21	29.81
8/5/99	1	0	0.21	30.02
8/6/99	3	0	0.63	30.66
8/9/99	6	0	1.27	31.92
8/10/99	7	0	1.48	33.40
8/11/99	5	0	1.06	34.46
8/12/99	3	0	0.63	35.10
8/13/99	2	0	0.42	35.52
8/16/99	6	0	1.27	36.79
8/17/99	4	0	0.85	37.63
8/18/99	2	0	0.42	38.05
8/19/99	1	0	0.21	38.27
8/20/99	1	0	0.21	38.48
8/23/99	2	0	0.42	38.90
8/24/99	1	0	0.21	39.11
8/25/99	1	0	0.21	39.32
8/31/99	3	0	0.63	39.96
	192	189	39.96	39.96

Data Coding

Data from the 262 usable questionnaires for the pre-assessment and 189 for the post-assessment were coded into the computer for the statistical analysis. The Statistical package for the Social Sciences 8.0 was used for data coding. The first column was an identification number, given by the order in which the questionnaires were received. Actual data were entered from the second column according to the question number. Each column was labeled with a variable name. Coding schemes for questionnaires are shown in Appendix 8 and 9. All missing variables were coded as 999. The data were checked for out-of range responses with the descriptive statistics including frequency distributions, means, and ranges. Doubtful data were compared with the questionnaires and all errors were corrected.

Dummy Variables

Categorical and nominally-scaled variables had to be recoded for regression analysis. Membership in a certain group or sample was given 1, while non-membership was assigned 0 (Pedhazur, 1982). Gender was coded "1" if the respondent was identified as male, and was coded "0" if the respondent was female. Marital status was recoded into "0" if the respondents were in a first marriage, remarried, and not married but living with partner and into "1" if never married, separated/divorced, and widowed.

Reversal of Codes

In order to vary the responses and prevent all positive answers, some of items were negatively stated. For example, in the section of financial behaviors, financial satisfaction,

and pay satisfaction, responses were coded as 4=agree, 3= tend to agree, 2= tend to disagree, and 1= disagree. For the negative statements, responses were coded as 4 as disagree, 1 as agree (Question 14, 36, 51, 52).

Data Transformation

Some of the questions from the pre-assessment database were summed to create one index for further analyses: financial attitudes (5-items), financial behaviors (13-items), financial knowledge (4-items), pay satisfaction (4-items), organizational commitment (6-items), personal finance-work conflict (5-items), overall financial well-being (3-itmes) satisfaction with personal finances (4-items), and work time use (18-items). The family size was obtained by summing the number of each response category.

Data Analysis

All the data analyses were conducted using SPSS for Windows and SAS. Descriptive analysis with the pre- and post-assessment data was used to describe the respondents in this study. Descriptive analysis was used to describe the profiles of financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, productivity, absenteeism, work time use, organizational commitment, pay satisfaction, loyalty, and intention to leave (Research question 1).

Multiple regression analysis with the pre-assessment data was used to investigate whether financial attitudes, financial knowledge, financial behaviors, and objective and subjective financial well-being differed by the individual characteristics (Research question 2). A total of 10 regression equations were developed with dependent variables:

financial attitude index, financial knowledge index, financial behavior index, overall financial well-being index, satisfaction with personal finances index, the amount of emergency funds, amount of monthly retirement saving, amount of monthly 401(k) loan payment, and amount of monthly saving excluding 401(k) plan. Nine regression equations were statistically significant but the amount of 401(k) loan payment was not. The research question 3 was to determine whether selected individual characteristics influence personal finance-work conflict index, three productivity measures, three absenteeism measures, work time use index, organizational commitment index, and pay satisfaction index. A total of thirteen different regression equations were developed and six of them were significant.

Structural equation models were identified and estimated to establish the causal relationships among financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes (productivity, absenteeism, organizational commitment, and pay satisfaction) of the empirical model with CALIS in SAS program (Research question 4). Identification was relevant for both the measurement models and the structural equation models. Covariance structure models support inferences of causality.

The path analysis equations were as follows:

Financial Well-being = a + b1 FA + b3 FK + b3 FB,

Personal Finance-Work Conflict = a + b1 FA + b3 FK + b3 FB + b4FWB,

Productivity = a + b1 FA + b3 FK + b3 FB + b4FWB + b5 PWC,

Absenteeism = a + b1 FA + b3 FK + b3 FB + b4FWB + b5 PWC,

Work time use = a + b1 FA + b3 FK + b3 FB + b4FWB + b5 PWC,

Organizational commitment = a + b1 FA + b3 FK + b3 FB + b4FWB + b5 PWC, and

Pay satisfaction = a + b1 FA + b3 FK + b3 FB + b4FWB + b5 PWC,

where, FA: financial attitudes scales

FK: financial knowledge scales

FB: financial behavior scales

FWB: financial well-being (overall financial well-being), and

PWC: personal finance-work conflict

To identify changes in financial attitudes, financial knowledge, financial behaviors, and financial well-being between pre- and post-assessment, paired t-test analyses were used to examine the mean differences (Research question 5).

Descriptive analysis was used with the data from post-assessment. Research question 6 was to describe the participation in workplace financial education, value of workplace financial education, reasons for participation and non-participation, desire for financial check-up, and desired topics for workplace financial education in the future.