

CHAPTER VI. DISCUSSION OF RESULTS

This chapter discusses the results of the study to examine the effects of workplace financial education on workers' personal finances and work outcomes and to determine 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).

The chapter begins with the discussion of profiles of financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes (productivity, absenteeism, work time use, organizational commitment, pay satisfaction, loyalty, and intention to leave). Next, the effects of individual characteristics on financial attitudes, financial knowledge, financial behaviors, and financial well-being will be examined. The effects of individual characteristics on personal finance-work conflict and work outcomes follow. Next, the results of structural equation models testing the relationships among financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes will be discussed. This is followed by a discussion of changes in financial management, financial well-being, and work outcomes between the pre- and post-assessments. Next, the individual profiles of workplace financial education participation will be discussed. Finally, the chapter concludes with further discussion of a follow-up study.

Research Question 1:

The first research question was to examine the profiles of financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes (productivity, absenteeism, organizational commitment, pay satisfaction, loyalty, and intention to leave) using the data from the pre-and post-assessments.

Financial Attitude

As a group, workers' financial attitudes were somewhat positive, a little higher than the mid-point on a scale (56.0%). They were less confident in making investments than dealing with general personal finances. About one in eight workers had extremely negative financial attitudes (12.6% in pre and 13.5% in the post answered negatively to all five statements).

Most respondents had very positive attitudes toward handling general personal financial management but less positive attitudes in specific areas such as making investments. As shown earlier in Table 5, combining categories of agree and tend to agree revealed that about four-fifths of the respondents felt that they had an adequate knowledge of personal finances (80.4% in the pre; 79.4% in the post), and they had control over their personal finances (82.8% in the pre; 75.9% in the post). About three-fifths of the respondents were confident about managing money to achieve their financial goals (62.9% in the pre; 67.0% in the post). About three-fifths did not mind taking risks when they invested (58.3% in the pre; 68.4% in the post). However, only two-fifths were confident in making investment decisions (40.3% in the pre; 47.4% in the post).

The respondents' attitudes toward money management in the present study were similar to those in previous studies. DeVaney et al. (1996) found that the mean for "confident managing money" was 2.63 on a 4-point scale with a sample of participants in women's financial information workshops similar to the finding in this study (2.76 on a 4-point scale shown earlier in Table 5).

Financial Knowledge

The workers were not knowledgeable about personal financial issues, even though the population of this study is workers from an insurance company who were well educated. They were more knowledgeable about employee benefits or risk and returns in investing than interest rates and usage of credit. Three-fifths of workers (60.5%) considered their knowledge about investing as below average.

The average financial knowledge score was quite low (65.0% in the pre; 59.0% in the post). These findings were consistent with consumers in previous studies that showed that Americans have an inadequate knowledge about personal finances (Chen and Volpe, 1998; Fletcher, et al., 1997; Princeton Survey Research Associates, 1998, The 1997 Retirement Confidence Survey). In Chen and Volpe' study, the mean percentage of correct score was 52.9% with a sample of 1,800 college students. The 1997 Retirement Confidence Survey showed that 55% of workers had a moderate level of knowledge (two or three correct answers out of five questions).

In the pre-assessment, four questions regarding retirement plans were asked. Workers were more knowledgeable about risk and returns in investing than about interest rates and asset allocation. Seven in eight workers were knowledgeable about the rate of

returns in investing (87.9% in the pre; 86.5% in the post) and the relationship between risk and diversification (72.7% in the pre; 78.1% in the post). However, only about half of the respondents understood that the people in thirties invest more in stocks or stock mutual fund (46.1% in the pre; 40.2% in the post) and that bond prices usually decrease when the interest rates go up (52.0% in the pre; 52.8% in the post).

In the post-assessment, eight items were added to measure financial knowledge in areas of employee benefits, credit and money management, and consumer rights besides four items for retirement plans. Workers were more knowledgeable about employee benefits, their rights and usage of credit cards than about interest rates and general usage of credit.

Over seven-tenths of the respondents knew about the benefits of pre-tax health account (73.8%) and the costs of life insurance purchased through employer (76.2%). Over six in seven workers were fully aware of their rights when a credit card is lost (87.0%) and also understood that it is not wise to buy any types of credit insurance such as credit life and credit unemployment insurance (83.0%). However, only one-seventh understood the best use of credit (16.3%) and interest rates changed by different financial institutions (17.7%).

The respondents did not consider themselves to be very knowledgeable about investing. When they were asked to rate themselves, no one checked 7 on a seven-point scale to rate themselves as experts about investing. About one-fifth (19.2%) marked above average while three-fifths (60.5%) marked below average. Similar results were discovered in previous studies (John Hancock Financial Services, 1999; “The 1997 Ninth...,” 1997; Princeton Survey Research Associates, 1998). In the Sixth Defined

Contribution Plan Survey by John Hancock Financial Services, only 22% of respondents considered themselves to be knowledgeable, while 39% reported that they were not at all or less than knowledgeable. The 1997 Ninth Annual Merrill Lynch survey showed that two-thirds of the people who had financial plans felt they were knowledgeable about investing while one-third felt they are not at all or not knowledgeable.

Financial Behaviors

Generally, the workers were practicing their financial behaviors fairly well and better than those in previous studies (Joo, 1998; Garman et al., 1999). Participation in 401(k) plan, reallocation of assets in their portfolios, pre-tax programs, and credit and money management were more positive than other financial behaviors such as seeking financial advice and updating estate plans.

The workers' financial behaviors regarding 401(k) retirement plans were generally positive. About half of the respondents had tried to determine how much they needed to live comfortably in retirement (48.1% in the pre; 54.9% in the post) and started contributing to employer's 401(k) retirement plan (68.2% in the pre; 48.1% in the post), increased the amount of their contributions to the 401(k) plans (51.1% in the pre; 32.7% in the post), and changed their investment strategies by diversifying or being more aggressive in their choices of investments (57.0% in the pre; 37.3% in the post) while more than one-third did not change their investments because they did not need to (32.5% in the pre; 50.6% in the post).

Relatively few workers practiced other positive financial behaviors beyond their 401(k) plans. About three-tenths of the respondents consulted with a financial advisor

(29.8% in the pre; 20.9% in the post) and updated their risk management strategies (28.3%, asked only in the pre). A few people updated their estate plans (11.8% in the pre; 7.3% in the post). The percentage (48.1%) of the people who determined how much they needed to save for their retirements in the present study was similar to 49% in the 1999 Retirement Confidence Survey.

The respondents in this study showed very high participation rates in the pre-tax program. Between seven-tenths and half of the respondents agreed that they participated in the “pre-tax health care program” (70.9% in the pre; 51.8% in the post). Less than one-fifth of the respondents participated in pre-tax dependent care (22.6% in the pre; 13.6% in the post). To the question about life insurance, a number of people changed the amount of life insurance purchased through their employer (38.3% in the pre; 15.4% in the post).

The majority of respondents of this study practiced positive financial behaviors in credit and money management. About half of the respondents (55.7%, asked only in the pre) paid credit card bills in full to avoid financial charges. The percentage of the people who paid credit card bills in full was higher than those of previous studies (Joo, 1998; Kratzer et al., 1998). In Joo’s study (1998), 17.2% said that they always paid credit card bills in full, Kratzer et al.’s study (1998) showed 45.2%. In the present study, about three-fifths (59.4%) of the workers paid credit card bills on time. Also, the majority of the workers (69.9% in the pre; 44.4% in the post) reduced their debts and increased their savings (49.5%, asked only in the post).

Objective Financial Well-being

Workers were in fairly good condition in terms of objective financial well-being. Regarding the amount of emergency funds, about two-thirds reported that their emergency funds would last more than three months when they lost their jobs (65.4% in the pre; 62.5% in the post). Nine in ten were regularly contributing money to their 401(k) plans (91.0% in the pre; 90.9% in the post) and only one in ten borrowed from their 401(k) plans (9.3% in the pre; 10.6% in the post). Three-quarters regularly saved money for other financial goals (74.5% in the pre; 77.0% in the post).

However, a sizeable number of workers were not saving for their retirement or for other purposes at all. One out of eight workers had no emergency funds (15.4% in the pre; 15.0% in the post) and were not saving at all for other financial goals (25.5% in the pre; 23.0% in the post).

In addition, the amount of monthly retirement plan savings was not enough for retirement considering the workers' median personal income of \$35,000 per year from the current employer. The majority of the respondents (50.2%) were contributing less than \$300 every month (less than 10% of their income). This finding support previous studies that found that workers were not saving enough for their retirement (Fidelity Investments, 1999; Joo, 1998; The 1999 Retirement Confidence Survey). The levels of objective financial well-being in this study were a little higher than those in previous studies (Fidelity Investments, 1999; Joo, 1998; Kratzer et al., 1998; The 1999 Retirement Confidence Survey).

The percentage of workers who did not have any emergency funds in the present study (15.4% in the pre; 15.0% in the post) was somewhat lower than that of another study (35.4% reported in Joo's 1998 study).

In the present study, the 401(k) plan participation rate (91.0% in the pre; 90.9% in the post) was higher than those in previous studies (Fidelity Investments, 1999; Joo, 1998; The 1999 Retirement Confidence Survey). Another survey by Fidelity Investments (1999) showed that the participation rate of the similar plan size (100-499) companies as the company in the present study was 74% and that of the similar industry was 78% (Finance and Real Estate).

About one-tenth of the respondents in this study (9.3% in the pre; 10.6% in the post) reported that they borrowed from their 401(k) plans. This is in contrast to the findings of another study that 20% of the 401(k) plan participants had a loan outstanding (Fidelity Investments, 1999).

Overall Financial Well-being

Even though other objective indicators of financial well-being indicated that workers were in the fairly good financial condition, half were not satisfied with their personal finances. And, a sizeable number of workers were seriously dissatisfied.

The level of financial well-being was about the mid-point (50.2%) when the financial well-being index score was converted into a percentage. Half (54.6% in the pre; 50.2% in the post) were not satisfied with their general personal finances. Previous studies showed that 52.8% of the clerical workers were not satisfied with their personal

finances (Joo, 1998) and that 21.5% of blue collar workers were not content (Garman et al., 1999).

In addition, a quarter (26.4% in the pre; 25.6% in the post) felt like that they were always in financial trouble and found it hard to pay bills (23.4% in the pre; 26.0% in the post). The percentages were slightly lower than those in another study (29.1% and 35.1%, respectively, in Joo's study)

Satisfaction with Personal Finances

The level of satisfaction with personal finances was slightly higher than the midpoint (53.3%) on a scale. However, a number of workers were more seriously dissatisfied with their personal finances. Slightly less than a half of the respondents were not satisfied with their personal finances (46.5% in the pre; 50.3% in the post). About two-fifths were dissatisfied with their retirement savings (42.3% in the pre; 46.6% in the post) and worried about the amount of the debt (39.0% in the pre; 37.3% in the post). One-fifth found that their incomes were not enough to meet their monthly living expenses (20.4% in the pre; 24.4% in the post).

Personal Finance-Work Conflict

Workers rarely admitted that their financial concerns interfered with their responsibilities at work. Almost all workers did not agree with direct questions as to whether or not their financial concerns interfered with their responsibilities at the workplace in the pre-assessment (shown earlier in Table 25). In the post-assessment, the response categories were changed from a 4-point scale (agree-disagree) to a 5-point scale

(never-sometimes-very often) in order to pull out more variance, if any, in responses. The findings were similar to those in the pre-assessment. Over nine-tenths of the respondents reported that the financial concerns never interfered with their responsibilities at work (shown earlier in Table 27).

However, a concern about confidentiality may have biased the responses. Each respondent was asked to give the full digits of his/her social security number voluntarily in the pre-assessment and the last four digits in the post-assessment. Responses may have also been biased due to the phrasing of the questions. Personal finance-work conflict measures in this study were developed and adapted from family-work conflict measures in previous studies (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) and were used for the first time in this study. These measures may be too negatively phrased.

Productivity

Workers considered themselves as very productive workers. The great majority of the workers reported that they were above average in productivity. About eight-tenths (88.5% in the pre; 79.9% in the post) reported that the quantity of their productivity was above average. Over nine-tenths reported their quality as above average (94.4% in the pre; 90.4% in the post). In addition, eight-tenths of the respondents (81.7% in the pre; 81.5% in the post) reported that their performance rating from the boss during the previous year was above average.

The self-evaluation of productivity measures can be biased because workers often give high marks on their own evaluation (Katzell et al., 1992; Lawler et al., 1974;

Netemeyer et al., 1996). Productivity in the present study was based on self-report questions and the actual performance rating from personal records was not available. The reliability of the self-report of productivity may be questioned.

Absenteeism

Actual absenteeism is underestimated when only physical absences are considered. The reported frequency of absences from work was very low in the present study, and it may be due to self-reports. In this study, workers reported that they were occasionally totally unable to work at capacity and/or had to cut down on work even though they were present in the office. These work loss days should be added to absenteeism.

Absenteeism costs employers because of lost productivity. Worker absenteeism costs employers. The annual average cost of absenteeism was \$757 per employee in 1998 (“Workplace absenteeism”, 1998). And, this cost did not include such indirect costs as paying other workers overtime or hiring temporary workers.

Workers in the present study missed 1.9 work days a year on average, which is lower than those in previous studies (“An Overview of Employee Commitment in America,” 1998, Joo, 1998). A survey showed that the average worker missed 6.1 work days (“An Overview...,” 1998). Bias from self-reports may have affected the findings in the present study. Subjective measures based on self-reports more often underreport the absenteeism than do objective measures such as personal records (Mathieu and Kohler, 1990).

The majority of workers were experiencing work loss even though they were present in the office. One in seven were totally unable to carry out normal activities (19.1% in the pre; 13.2% in the post) and three-fifths had to cut down their work for one or more days during the last month (60.8% in the pre; 55.0% in the post).

When these work loss days were added to the absenteeism numbers, the average of total absent days was 17.6 (13.2 in the post) when one sums the frequency of absences and work loss days. These numbers are similar as those of a survey (“An Overview...,” 1998) that showed that the average number of days missed was 15.1 (due to stress, personal matters, caring for a sick child, no available day care, caring for elderly dependents, time spent at work on personal matters, missed work due to other employee sick time).

Work Time Used for Personal Financial Matters

More than nine out of ten (92.5%) reported in other questions that they spent some work time on dealing with financial matters at the workplace. The substantial percentage of work time used for handling personal financial matters reduces worker productivity. The concept of work time used for financial matters suggests that there is additional productivity loss due to time attending to personal financial matters. When the work time use items are categorized into negative and positive financial issues, positive work time use, such as searching for financial information and talking about retirement planning and employee benefits, is linked to taking a pro-active approach to securing a financial future. Negative work time use suggests the existence of financial difficulties.

About four-fifths of the respondents (81.3% in the pre) spent some work time dealing with financial matters that are appropriate for improving financial opportunities. More than half (53.9% in the pre) reported that they spent some work time dealing with matters resulting from poor financial behaviors.

A study (“An Overview...,” 1998) showed that workers spent 5.4 days handling personal matters. The present study showed that workers spent some work time on personal financial matters. These results support Joo’s finding (1998) that many workers spent some work hours handling their personal financial matters.

Organizational Commitment

The great majority of the workers were very committed to their organization. Over nine-tenths of the respondents were proud to be a member of the organization (93.1% in the pre; 94.2% in the post), they were willing to work harder than they have to in order to help the organization succeed (91.2% in the pre; 90.4% in the post), and they found that their values were similar to the organization’s values (87.0% in the pre; 87.8% in the post). Eight-tenths would recommend their organization as one of the best places to work (79.8% in the pre; 81.9% in the post), they found that the organization inspired them to do their best in job performance (77.1% in the pre; 80.5% in the post), and they thought that the organization was one of the best for which to work (81.7% in the pre; 80.7% in the post).

Workers in the present study showed higher levels of commitment to their organization than those in another study. In another survey (“An Overview...,” 1998), only 56% would recommend their company as one of the best places to work.

Pay Satisfaction

Levels of pay satisfaction of workers were fairly high. About two-thirds of the respondents felt that they were being paid in a fair amount (66.1% in the pre; 77.1% in the post). Three-fifths felt appreciated by their employer when they thought about what they were paid (62.1% in the pre; 65.1% in the post), and felt satisfied with their chances for salary increases (57.7% in the pre; 59.7% in the post). They were less satisfied with raises, and half of the respondents perceived that raises from the employer were too few and far between (49.9% in the pre; 50.7% in the post).

These findings were similar to those in another survey (“An Overview...,” 1998) that showed that 72.0% of the respondents perceived that they are fairly paid, and 63.0% reported that their expectations were met for overall rewards.

Other Work Outcome Variables

Workers in this study had favorable attitudes toward their work environment when asked about their degree of comfort in talking about money with their supervisors. About a third (35.3% in the post) indicated that they were comfortable with going to their supervisor to talk about money issues. About half of the workers (48.0% in the post) felt that their supervisor would be willing to help them when they had routine financial concerns. Findings on this topic have not been reported in the literature.

Also, a link between workplace financial education and retention exists in the present study. More than a quarter of the respondents (28.1%) perceived that workplace financial education is important in their decisions to continue working for the current employer.

Research Question 2

The second research question examined whether the profiles of financial attitudes, financial knowledge, financial behavior, and financial well-being differed by the individual characteristics using the data from the pre-assessment. Included in this discussion are financial attitudes, financial knowledge, financial behaviors, three objective indicators of financial well-being, overall financial well-being, and satisfaction with personal finances.

As discussed below, some individual characteristics influenced financial attitude, financial knowledge, financial behavior, and financial well-being. The health condition of workers was determined to be a significant variable in understanding worker's financial attitudes and behaviors. Work years and household income were consistently significant in explaining financial management and objective and subjective financial well-being.

Financial Attitudes

Health and gender were significant variables in understanding financial attitudes. Healthier workers tended to have more positive attitudes toward their personal finances controlling for other variables. Men were likely to have more positive attitudes than women. These results support Lytton and Grable's finding (1997) that financial attitudes differed by gender. However, household income was not a significant predictor unlike Godwin & Koonce's finding (1992).

Financial Knowledge

Education, work years with current employer, household income, and gender had significant effects on financial knowledge scores. Workers who had higher levels of education and more household income exhibited higher financial knowledge scores. Workers who had worked more years with the current employer were likely to be more knowledgeable about financial issues than others. Men tended to have higher scores than women. These findings support those in previous studies (DeVaney & Su, 1997; Hira et al., 1992) that levels of financial knowledge differed by gender and education.

Financial Behaviors

Health and marital status were significant variables in explaining financial behaviors. Healthier respondents practiced more positive financial behaviors. (Another study showed the relationship between health and overall financial well-being [Garman et al., 1999] but that relationship was not found in the present study.) The present finding suggests that health is one of factors that may affect worker's ability to practice positive financial behaviors.

Also, respondents who are married or living with a significant other were likely to practice more positive financial behaviors than those who were separated, divorced, or single. These findings support another study that showed financial management was influenced by marital status (DeVaney et al., 1996). Unlike previous studies (Godwin, 1994; Godwin & Koonce, 1992; Sumarwan & Hira, 1992), age, income, and education were not significant variables in the present study.

Amount of Emergency Funds

The amount of emergency funds was explained by family size, household income, work years with current employers, age, and gender. Workers with larger families reported less emergency funds. People who had more household income and those who had worked more years with current employer reported that their emergency funds would last longer if they lost their job. Older people had more emergency funds than younger people. Men were likely to have more emergency funds than women. Family size had a significant effect on the amount of emergency funds in other study (Joo, 1998).

Amount of Monthly Retirement 401(k) Plan Savings

Education, age, and marital status were important determinants of the amount of monthly 401(k) retirement savings. Older people and those who had higher levels of education contributed more money to their 401(k) plans. In addition, people who had been working more years with current employer and those who were married or living with a partner had more retirement savings than others.

These findings were consistent with those in previous studies (Fidelity Investments, 1999; Foster, 1996; Yuh & DeVaney, 1996). In a recent survey (Fidelity Investments, 1999), the average account balance increased with age and work tenure with current employers. Yuh & DeVaney (1996) found that education and work years had significant effects on the amount of the retirement funds.

Amount of Monthly Savings Excluding 401(k) Plan

Household income and work years with current employer had positive effects on the amount of monthly savings beyond savings within a 401(k) plan. People with more household income and those who had worked more years with current employer put more money into savings and investing beyond their 401(k) plans than others. These findings support another study that suggested the significant effect of income on people's saving behaviors (Xiao, 1995).

Overall Financial Well-being

The overall financial well-being was affected by work years with current employer, household income, family size, and gender. Workers with higher household incomes and those who had worked more years with current employer were more satisfied with their personal finances. Female workers and those who had larger families exhibited lower levels of overall financial well-being. These findings are consistent with those in previous studies (Joo, 1998; Sumarwan & Hira, 1993; Wilhelm et al., 1993; Wozniak et al., 1993).

Satisfaction with Personal Finances

There were significant effects of work years with current employer, household income, family size, and gender on the satisfaction with personal finances. Workers with larger families and higher household income reported lower levels of financial satisfaction than others. Men were likely to be more satisfied with their personal finances than women. The results support those in previous studies (Joo, 1998; Porter, 1998;

Sumarwan & Hira, 1993; Wilhelm et al., 1993; Wozniak et al., 1993). In the present study, age had no effect on satisfaction with personal finances unlike another study (Scannell, 1990).

Research Question 3

The third research question was to examine whether the profiles of personal finance-work conflict and work outcome variables differed by the individual characteristics using data from the pre-assessment.

Health, age, work years with current employer, household income, and family size were important in explaining personal finance-work conflict or work outcome variables. Health condition is a key to understanding work outcomes. Workers who were not healthy experienced more productivity loss at the workplace. Healthier workers reported that they experienced less conflict between personal finances and work, were more productive, were less frequently absent from work, and spent less work time handling financial matters at the workplace.

No individual characteristics influenced organizational commitment or pay satisfaction. These findings were not consistent with those in previous studies that showed individual characteristics, such as age, education, and gender, were related to organizational commitment (Glisson & Durick, 1988; Shore et al., 1990).

Personal Finance-Work Conflict

The personal finance-work conflict was significantly affected by family size and health. People with larger families and those who had poorer health experienced more

personal finance-work conflict than others. Effects of gender and household income on work-family conflict were found in other studies (Duxbury & Higgins, 1991; Weigel et al., 1995) but were not supported in the present study.

Productivity

Health, family size, and age had significant effects on worker's job productivity measures. Healthier workers reported that they were more productive in terms of the quality of job productivity and performance rating. Workers with larger families reported that they received higher performance rating from the boss during the past year. Younger workers and those who had worked more years with current employer showed higher performance ratings. These findings support effects of worker's individual characteristics on productivity in previous studies (Benson, 1998; Robins, 1998; Garman et al., 1999)

Absenteeism

The number of work years with the current employer and gender were important variables in understanding the frequency of absences from work over the past year. Controlling for other factors, respondents who had worked longer with the current employer were less frequently absent from their work than others. Female workers reported that they missed more work days than male workers.

Health, age, and family size were significant in explaining the variance of work loss days. The workers with poorer health reported more lost work days. Older people and those who had larger families reported lower absenteeism than others. These results support the previous studies that showed gender, health, age, and family size were

significant in explaining the absenteeism (Brooke & Price, 1989; Newman, 1974; Sagie, 1998; Steers & Rhodes, 1978)

Work Time Use

Only gender had a significant effect on the work time use. Male workers were likely to spend more work time dealing with personal financial matters than female workers. When the work time use items are categorized into negative and positive work time use, positive work time use such as, searching financial information and talking about retirement planning and employee benefits, are illustrative of dealing with financial matters at work that are appropriate for improving financial opportunities. Negative work time use such as, talking about money problems and worrying about personal finances on the job, suggest the existence of financial difficulties.

The effects of individual characteristics on positive and negative work time use are different. Gender and household income had significant effects on the positive work time use. Male workers and those who had more household income reported more positive work time use. The negative work time use was affected by health and work years with current employer. The workers with poorer health and those who had shorter work years spent more work time dealing with such negative financial matters resulting from poor financial behaviors.

Research Question 4

The fourth research question was to determine the relationships among financial attitude, financial knowledge, financial behavior, financial well-being, personal finance-

work conflict, and work outcomes with the data from the pre-assessment. This section includes the discussion of financial well-being, personal finance-work conflict, productivity, absenteeism, negative work time use, organizational commitment, and pay satisfaction.

Financial Well-being

Financial attitudes and financial knowledge were significant contributors in predicting workers' financial well-being. The structural model explained 34.3% of the variance in financial well-being. People who had more positive attitudes toward their personal finances reported higher levels of financial well-being. Also, higher financial knowledge scores were related to higher levels of financial well-being. These relationships support those in previous studies (Davis & Weber, 1992; Godwin, 1994; Hira, 1987; Schnittgrund & Baker, 1983; Wilhelm et al., 1993). However, the relationship between financial behavior and financial well-being was not supported in this study unlike in previous studies (Godwin, 1994; Porter, 1990; Scannell, 1990; Sumarwan & Hira, 1992). The low reliability of financial behavior measures may contribute to these findings. Overall, these findings suggest that it is critical to improve workers' attitudes toward financial management and increase their financial literacy as ways to advance their financial well-being.

Personal Finance-Work Conflict

Financial well-being had a negative effect on personal finance-work conflict, controlling for financial attitude, financial knowledge, and financial behavior. Workers

who had higher levels of financial well-being experienced less conflict between personal finances and work. The structural model with financial attitude, financial knowledge, and financial behavior, and financial well-being accounted for 10.6% of the variance in personal finance-work conflict. This relationship supports the notion that employees who are not financially well bring their financial concerns to their place of employment. The present study suggests that there may be a direct relationship between workers' personal finances and their work life.

Productivity

Workers who had more positive financial attitudes were more productive. This causal relationship suggests that effective workplace financial education can improve workers' job productivity by improving workers attitudes toward financial management. However, effects of financial well-being and personal finance-work conflict on productivity were not significant in this study.

The structural model explains 10.4% of the variance in performance rating. These findings do not support the previous studies that found a relationship between financial well-being and productivity (Joo, 1998; Garman et al., 1999), although they reveal some relationship between personal finances and productivity.

Absenteeism

Workers who had lower levels of financial well-being reported that they missed more work days. Financial well-being had a negative effect on absenteeism. The structural model with financial attitude, financial behavior, financial well-being, financial

well-being, and personal finance-work conflict accounts for 25.6% of the variance in absenteeism. These findings support previous studies that found a relationship between worker's personal life and absenteeism (Forthofer et al., 1996; Glinsky & Hughes, 1987 "Linking work-family...", 1991). Some studies also found a relationship between financial stress and absenteeism (Hendrix et al., 1987; Joo, 1998). The present study provides some support that there is a spillover from poor financial well-being to productivity at work.

Negative Work Time Use

Financial well-being had direct and indirect effects on worker's negative work time use. Workers who had lower levels of financial well-being spent more work time dealing with negative financial matters, such as talking about debts and worrying about personal finances. The structural model explains 20.1% of the variance in negative work time use. There was a direct effect of financial well-being on negative work time use, and financial well-being also had an indirect effect on negative work time use by way of personal finance-work conflict. People who experienced more conflict between personal finances and work spent more time dealing with matters resulting from poor financial behaviors. These findings underscore the relationship between financial well-being and productivity loss due to attending financial matters at work.

Organizational Commitment

Financial well-being and personal finance-work conflict have some effects on organizational commitment. Financial well-being had an indirect effect on organizational

commitment through personal finance-work conflict. Workers who experienced less conflict between personal finances and work were more committed to their organization. The structural model accounts for 5.7% of the variance in organizational commitment.

These findings are consistent with significant relationships between worker's family life and organizational commitment in previous studies (Campbell et al., 1994; Families and Work Institute, 1997; Pittman & Orthner, 1989; Shore et al., 1990). Pittman & Orthner (1989) found worker's income inadequacy had an indirect effect on work commitment.

Financial well-being and personal finance-work conflict had indirect or direct effects on organizational commitment even though no individual characteristics influenced organizational commitment in this study (mentioned earlier in the section of Research Question 3). These findings are quite noteworthy. Workers' attitudes toward their organization are associated with job productivity (Institute for Health and Productivity Management, 1999; Pfeffer, 1998). These finding suggest that financial well-being and personal finance-work conflict indirectly impact job productivity.

Pay Satisfaction

A higher level of financial well-being was correlated with a higher level of pay satisfaction. This finding indicated that the pay satisfaction was determined by worker's financial well-being. Pay satisfaction was influenced by financial well-being, controlling for other variables, such as financial attitude, financial knowledge, financial behavior, and personal finance-work conflict. The structural model accounts for 6.9% of the variance in pay satisfaction. Like organizational commitment, no individual

characteristics had any significant effects on pay satisfaction. These findings suggest that employers also can enhance workers' pay satisfaction by helping them improve their financial well-being as well as their pay and benefits.

Research Question 5

Research Question 5 was to determine the effects of workplace financial education on personal finances and work outcomes with the data from the pre-and post-assessments. This section includes the discussion of financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcomes.

No significant changes were found in personal finances and work outcomes between the pre- and post-assessments. These findings were not consistent with previous studies that found financial education improved financial attitudes, financial knowledge, and financial behaviors (The 1995-1996 High School Financial Planning Impact Survey; DeVaney et al., 1995; DeVaney et al., 1996; Fletcher et al., 1997; Kim et al., 1998). However, the financial education workshop in this seminar was limited to one time, 1 hour and 30 minutes workshop on general personal finances unlike more comprehensive financial education in previous studies (at least 10 hours in The 1995-1996 High School Financial Planning Impact Survey; 8 weeks of education program in DeVaney et al.'s 1995 study).

Out of 40 variables in financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcomes which were analyzed in this study, only six had significant mean differences between pre-and post-assessments. These findings suggest that the 1 hour and 30 minutes workplace financial education workshop

was not enough to have effects on personal finances and work outcomes. In addition, the direction of five of the six changes was opposite of that expected. The financial education workshop had negative effects on financial behaviors and a positive effect on the amount of savings and investing beyond 401(k) saving.

Five financial behaviors had significant changes between pre-and post-assessment. Fewer people agreed with the following statements in the post-assessment than in the pre-assessment, “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 investments,” “I determined that I did not need to change my investments in my 401(k) retirement plan,” “I changed the amount of life insurance purchased through my employer,” and “I reduced some of my personal debts.” Still, the amount of savings and investing excluding their 401(k) retirement plan increased.

Some workers reported that their financial behaviors became worse after the workplace financial education and some of these changes were not logically possible. For example, the number of people who reported that they “increased the amount of their contributions to 401(k) plan, “changed the amount of life insurance purchased through their employer” reportedly dropped three months after the financial education. They were allowed to change their contribution and purchase life insurance during a window of opportunity only once a year, in the fall.

There are some likely explanations for no significant effects of workplace financial education on personal finances and work outcomes. First, three months may not be long enough to observe changes, if any, in personal finances and work outcomes as a result of workplace financial education workshop. Second, a one-time workshop for only

1 hour and 30 minutes on general retirement plans was not comprehensive enough to create significant changes among the workers. Third, the skewed distributions in some of work outcome variables, such as productivity and absenteeism, may have made it difficult to ascertain changes, if any occurred. Fourth, there may be some phrasing problems in certain questions. Workers were asked whether they practiced financial behaviors “during the past year” in the pre-assessment and they also were asked whether they practiced financial behaviors “since the financial education” in the post assessment. Some people may have misunderstood the questions as “whether they started to practice financial behaviors as a result of financial education during the past three months” instead of “whether they practiced financial behaviors during the last three months.”

Research Question 6

Research question 6 was to describe the individual profiles of the participation of 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 with the data of the post-assessment.

The most frequent reason for not participating in the workplace financial education (41.7%) was the time-conflict, and the next reason (11.9%) was that they were not aware of workshops offered. About one-tenth of the respondents said that they did not need financial education (10.7%) and obtained such from other sources (10.7%). One in ten (9.5%) thought that they already had enough information on personal finances. A few people (6.0%) indicated other reasons such as “education was not specific” and “the education was not applicable to them.” These findings suggest that appropriate

scheduling and effective communications can increase participation in workplace financial education. However, a number of workers thought that they already had enough education on the subject and, if offered, desired more specific information.

Workplace financial education satisfied the workers' need to learn more about financial topics, however most workers valued the workplace financial education workshop only moderately. Almost nine-tenths (88.3%) responded that they participated in the workplace financial education workshop in order to learn more about financial topics. Seven in ten (69.5%) valued the workplace financial education workshop at less than \$100, while 22.9% valued more than \$100.

Most workers desired additional workplace financial education on specific topics, such as retirement planning and investing, and they also expressed a desire for a financial checkup from an outside financial planner. Seven in ten (69.7%) wanted a financial checkup from an outside financial planner. Many workers wanted additional workplace financial education workshops on specific topics, such as retirement planning (69.9%), investing (63.0%), and Roth IRA's (38.2%), as well as budgeting (38.2%).

Further Discussion

Even though workplace financial education workshops had little effect on personal finances and work outcomes in the present study, a follow-up study of these workers found that some changes in workers' financial attitudes and financial behaviors did occur as a result of a combination of the financial education workshop and individual financial counseling advice sessions.

One month after the individual counseling advice sessions were provided in July 1999, an additional survey was conducted in August and September 1999 (usable response rate 58.4%, 52/89) following provision of a free 30-minute, one-on-one individual counseling advice session to the workers. The results from this follow-up study are shown in Appendix 23. Ninety-one received the financial counseling advice provided by the same provider as the workplace financial education workshop.

There were significant changes in workers' financial attitudes as a result of combination of the workplace financial education and the individual counseling advice session. About four-fifths of the respondents had a more adequate knowledge of personal finances (80.8%) and felt more confident in managing money to achieve their financial goals (73.1%). About two-thirds (65.4%) reported that they felt that they were in more control of their personal finances. More than half of the respondents agreed that they had a better understanding of the relationship between risks and returns in investing (57.7%) and they felt more confident in making investment decisions (51.0%).

Additionally, workers reported that they improved their financial behaviors in their 401(k) retirement plans as a result of workplace financial education and individual counseling advice. Over half of the respondents (56.0%) tried to determine how much they would need to live comfortably in retirement. One-tenth (9.6%) of the respondents decided to start making contributions to the 401(k) plan. One-fifth (17.3%) decided to increase the amount of their contribution to 401(k) up to the maximum and a few (6.7%) decided to increase the contribution but not to the maximum. A quarter of the respondents (25.5%) changed the way the money in their 401(k) plan was invested as a result of financial education and advice while 54.0% did not change their 401(k) plan

investments because they found that it was unnecessary. Of those who were making 401(k) loan repayments (9.3% in the pre; 10.6% in the post), 1.9% increased the amount they repay on the 401(k) loan.

Regarding basic money management, the workplace financial education and individual counseling advice together were found to be effective. More than two-fifths of the respondents (44.2%) developed a plan for their financial future. One-third reduced some of their personal debts (37.2%), increased the amount of their savings outside of the 401(k) plan (36.5%), paid their credit card bills on time (35.3%), and developed a budget or spending plan (32.7%).

Even though participation rates in the pre-tax programs were very high before the education or counseling advice, a few workers decided to make changes in the pre-tax programs. A handful of workers (3.8%) reported that they decided to participate in or increase their contributions to the pre-tax dependent care program and the pre-tax health care program. A similar number decided to change the amount of life insurance they purchase through the employer.

The workplace financial education and individual counseling advice also encouraged the workers to seek additional professional financial services. One in seven sought financial advice from another financial advisor (15.6%). One in eight (13.5%) sought advice from an attorney to develop or update a will or for other estate planning purposes.

Three-quarters (76.5%) reported that they may need more comprehensive analysis on financial planning. Plus, almost all workers (92.3%) were willing to pay for a

comprehensive financial analysis provided by a different outside financial planner if the government paid for some of the cost.

The findings have some remarkable meanings in terms of workplace financial education and individual financial counseling advice. First, while no significant effects of workplace financial education on personal finances and work outcomes were found in the present study (discussed earlier in the section Research Question 5), the findings of the follow-up study suggest that a combination of workplace financial education and individual financial counseling advice changed the participants' financial attitudes and behaviors. This combination may be more effective in changing participants' financial attitudes and behaviors than workplace financial education alone. Second, there is a substantial demand for professional financial planning services. Most workers expressed a desire for individual financial counseling advice from an outside financial planner as well as additional group workplace financial education workshops.

Summary of Discussion

This chapter presented the discussion of the results to examine the effects of workplace financial education on personal finances and work outcomes and to determine the relationships among financial attitude, financial knowledge, financial behavior, financial well-being, personal finance-work conflict, and work outcomes.

The chapter included the discussion of 1) profiles of financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes, 2) the effects of individual characteristics on financial attitudes, financial knowledge, financial behaviors, and financial well-being, 3) the effects of individual

characteristics on personal finance-work conflict and work outcomes, 4) the results of structural equation models testing the relationships among financial attitudes, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes, 5) the effects of workplace financial education on financial management, financial well-being, and work outcomes, 6) the individual profiles of workplace financial education participation, and 7) further discussion of a follow-up study.

CHAPTER VII. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of statement of the problem, a summary of research design, a summary of the results, conclusions, and recommendations.

Statement of the Problems

The purpose of this research was to examine the effects of workplace financial education on workers' personal finances and work outcomes and determine relationships among financial management (attitudes, knowledge and behaviors), financial well-being, personal finance-work conflict, and work outcomes with data of white-collar workers in an insurance company in mid-western states.

Research questions were (1) What are 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?, (2) Do the profiles of financial attitudes, financial knowledge, financial behaviors, and financial well-being differ by the individual characteristics?, (3) Do the profiles of personal finance-work conflict, productivity, absenteeism, work time use, organizational commitment, and pay satisfaction differ by the individual characteristics?, (4) What are the relationships among financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcomes (productivity, absenteeism, organizational commitment, and pay satisfaction)?, (5) What are the effects of workplace financial education on financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcomes?, and (6) What

are the individual profiles of workplace financial education including participation, value of workplace financial education, reasons for participation and non-participation, desire for financial check-up, and desired topics of workplace financial education?

Research Design

A survey research design was adopted to examine the effects of workplace financial education on personal finances and work outcomes and to determine the relationships among financial management (financial attitude, financial knowledge, and financial behavior), financial well-being, personal finance-work conflict, and work outcomes.

The population of this research was white-collar workers of an insurance companies in three different locations. 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. One-and one-half hour workplace financial education workshops were provided by an outside financial education provider no cost to employer or employees in March 1999. Three months after the workplace financial education was provided, a post-assessment survey was conducted from June through August 1999.

The employees' database from the employer was available for the mailing list. A pre-assessment questionnaire was mailed to all 476 workers (five were undeliverable) and 262 responses were utilized for data analysis. In the post-assessment, 482 questionnaires were mailed to workers and five were undeliverable. Usable return rates

for the data analysis were 56.0% in the pre-assessment (262/471) and 40.0% in the post-assessment (189/477).

A Summary of the Results

Overall, the respondents in this study were somewhat positive toward financial management, were not knowledgeable on financial matters, and were practicing their financial behaviors fairly well.

Objective financial well-being measures showed that workers were in fairly good financial condition. Most were regularly saving for their retirement and for other financial goals. Half were satisfied with their personal finances. The levels of the overall financial well-being and satisfaction with personal finances were about the mid-point on a scale, when each score was converted into a percentage.

Workers were very hesitant to admit to direct questions asking about whether or not their financial concerns interfered with their responsibilities at the workplace. The workers reported that they were very productive, did not miss work days frequently, were highly committed to their organization, and they showed fairly high levels of pay satisfaction. However, workers reported that they were not always able to do normal work even though they were present in the office and spent some work time handling financial matters.

Some of individual characteristics influenced financial attitude, financial knowledge, financial behavior, and financial well-being. The health condition of workers was determined to be a significant variable in understanding worker's financial attitudes and behaviors. Healthier workers had more positive attitudes and behaviors. The number

of work years with current employer and household income had consistently positive effects on financial well-being.

Health, age, work years with current employer, household income, family size, and gender were determined to be significant variables in explaining personal finance-work conflict or work outcome variables.

Health condition is a key in understanding work outcomes. Workers who were not healthy experienced more productivity loss at the workplaces. Healthier workers were experiencing less conflict between personal finances and work, were more productive, missed fewer work days, and spent less work time at the workplace attending to financial matters. No individual characteristics had significant effects on organizational commitment or pay satisfaction.

Worker's personal finances had direct and indirect effects on work outcomes. Those who were financially better were more productive workers. The tests of the structural equation model indicated that the model was overall quite successful in accounting for the relationships among financial attitude, financial knowledge, financial behaviors, financial well-being, personal finance-work conflict, and work outcomes. The financial attitude and financial knowledge scores had positive effects on financial well-being. More positive financial attitudes and higher financial knowledge scores were associated with higher levels of financial well-being.

Financial well-being had a negative effect on personal finance-work conflict. Financial well-being did not have a significant direct or indirect effect on productivity, but had direct effects on negative work time use and pay satisfaction. Financial well-being had indirect effects through personal finance-work conflict on absenteeism,

negative work time use, and organizational commitment. Financial well-being was significant in explaining worker's organizational commitment and pay satisfaction even though other individual variables were not significant.

To examine the effects of workplace financial education on personal finances and work outcomes, the mean differences in financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcome variables were examined with paired t-test. The finding suggests no significant changes in personal finances and work outcomes between the pre- and the post-assessment.

Almost nine-tenths (88.3%) responded that they participated in workplace financial education workshop in order to learn more about financial topics. Those who did not participate indicated "time conflicts" as the top reason for non-attendance. Most workers were willing to have a financial checkup by an outside financial advisor and they desired a number of specific topics in financial education.

Conclusions

The following conclusions emerged from the findings and resulting discussion of this study.

1. As a group, workers' financial attitudes were somewhat positive, a little higher than the mid-point on a scale. They were less confident in making investments than dealing with general personal finances. A majority of the respondents were uncomfortable in investment choices and dealing with risk and returns. About one in eight workers had extremely negative financial attitudes.

2. Workers were not knowledgeable about personal financial issues. Even though the population of this study is the workers from an insurance company who were well educated, the financial knowledge scores were not superior to consumers in various studies (John Hancock Financial Services, 1999; “The 1997 Ninth...,” 1997; Princeton Survey Research Associates, 1998). The average knowledge score was 65.0% in the four questions (in the pre) and 58.8% in the 12 questions (in the post). They were less knowledgeable about the interest rates and usage of credit than employee benefits or risk and returns in investing.

3. Generally, the workers were managing their financial behaviors fairly well and better than those in previous studies (Joo, 1998; Garman et al., 1999). Participation in retirement plans, pre-tax programs, and credit management were better than other financial behaviors such as seeking financial advice and updating estate plans.

4. Objective financial well-being measures showed that workers were to some extent financially well. Two-thirds reported that they could live longer than three months on savings if they lost their job. Nine out of ten were contributing money to their 401(k) plan and only one in ten borrowed from their 401(k) plans. Three-quarters regularly saved money for other financial goals. However, further examination showed that a substantial majority of the workers were not saving enough either for their retirement or for other financial goals. In addition, one-tenth were not saving at all and one in six had no emergency funds.

5. Regarding subjective financial well-being, even though other objective indicators, such as household income and savings, indicated that workers were in the fairly good financial condition, half were not satisfied with their personal finances. Six in ten were not content with their retirement savings. These findings showed that workers were not prepared for their retirements and they also were aware of it. A substantial minority of workers were seriously dissatisfied. Two-fifths were worried about the amount of their debts. A quarter felt like that they were always in financial trouble and their incomes were not enough to meet monthly living expenses.

6. Some workers brought financial matters to their work. Almost all workers did not admit to direct questions as to whether or not their financial concerns interfered with their responsibilities at the workplace. However, other data contradict these findings. More than nine out of ten reported in other questions that they spent some work time on dealing with financial matters at the workplace. This indicates that workers bring financial matters to their workplaces. In addition, one-quarter of the workers admitted that they spent work time worrying about their personal finances at the workplace.

The work time used for financial matters means that there is additional productivity loss due to time attending to personal financial matters. Almost all of the workers reported that they spent some work time dealing with their financial matters. When the work time use items are categorized into negative and positive financial issues, positive work time use, such as searching financial information and talking about retirement planning and employee benefits, is linked to taking pro-active actions about their financial futures. Male workers and those with higher household incomes tended to

spend more positive work time dealing with financial matters that are appropriate for improving financial opportunities. Negative work time use suggests the existence of financial difficulties. Worker with poorer health and those who worked for fewer years with current employer spent more work time dealing with matters resulting from poor financial behaviors.

7. The work outcome variables in this study were measured using self-reported data.

Most of the workers reported that they were very productive, did not miss work frequently, were very committed to their organization. They also reported high pay satisfaction. Note, however, that some data based on self-reports can be easily biased.

Workers often underreport absenteeism (Mathieu and Kohler, 1990) and they often give high marks on their own productivity (Joo, 1998; Kratzer, 1998; Lawler et al., 1974; Netemeyer et al., 1996). Even though not used in this study, accurate objective productivity ratings may be obtained from workers' personal records.

8. Genuinely accurate absenteeism is underestimated if only the frequency of absences from work is considered. In this study, workers reported a very low level of absenteeism compared to previous surveys in terms of the frequency of absences ("An Overview...", 1998; Joo, 1998). As noted above, workers often underreport this variable. In this study, workers reported that they were occasionally totally unable to work at capacity and/or had to cut down on work even though they were present in the office. When these work loss days were added to the absenteeism numbers, the average of total absent days was

17.6 (13.2 in the post-assessment). These numbers are similar to that of a survey, 15.1 (“An Overview...,” 1998).

9. Workers in this study had favorable attitudes toward their work environment. They showed very high levels of organizational commitment and pay satisfaction compared to workers in another study (“An Overview...,” 1998). One-third of the workers were comfortable going to the supervisor to talk about money issues and a half felt that their supervisors would be willing to help them when they have routine financial concerns. Findings on this topic have not been reported in the literature.

10. A link between workplace financial education and workers’ retention may exist. More than a quarter of the workers perceived that the workplace financial education was important in their decisions to continue working for the current employer.

11. The health condition of workers was determined to be a significant variable in understanding workers’ personal finances and work outcomes. Health was related to workers’ financial attitudes and behaviors. Healthier workers tended to have more positive financial attitudes and behaviors. Also, workers with poorer health experienced more conflicts between personal finances and work at the workplaces, were less productive, were more frequently absent, and spent more work time on handling financial matters.

12. The number of work years with current employer and household income had significant effects on the objective and subjective indicators of financial well-being. Workers who had worked more years with the current employer and had higher household income had more emergency funds, were contributing more money to their 401(k) plans, and were saving more for other financial goals beyond their 401(k) plans. The number of work years with current employer and household income also were associated with subjective indicators of financial well-being. Family size and gender were found to be important variables. Female workers and those who had larger families were less satisfied with their personal finances.

13. The empirical model in this study that examined financial management, financial well-being, personal finance-work conflict, and work outcomes was tested and partially supported. Workers who had more positive financial attitudes and higher financial knowledge scores were more satisfied with their personal finances. People who were less satisfied with their personal finances reported that their financial concerns more frequently interfered with their responsibilities at the workplace. They spent less time handling financial matters at work and reported more pay satisfaction than others. Also, financial well-being had indirect effects, through personal finance-work conflict, on absenteeism, negative work time use, and organizational commitment. People who experienced more conflict between personal finances and work were more frequently absent, spent more work time dealing with matters resulting from poor financial behaviors, and were less committed workers to their organization. This study provides the

first direct evidence on the causal relationship between personal finances and work outcomes.

Personal finance-work conflict was found to be an important variable conceptually. It links workers' personal finances and work outcomes and suggests that workers' financial concerns lead to productivity loss at the workplace. This measure can be used in future research.

The causal relationships among financial management, financial well-being, personal finance-work conflict, and work outcomes suggest that workplace financial education can change work outcomes by improving workers' financial management (financial attitude and knowledge), financial well-being, and personal finance-work conflict.

14. Workers' personal finances should be considered as a factor in understanding attitudinal work outcomes such as organizational commitment and pay satisfaction. The present study showed that financial well-being had some effects on organizational commitment and pay satisfaction even though no individual characteristics had any effects. Considerable evidence suggests that organizations, regardless of industry, can improve their productivity by improving workers' attitudes toward their organizations such as satisfaction and commitment (Pfeffer, 1998; Institute for Health and Productivity Management, 1999).

15. The effects of workplace financial education on financial attitudes, financial knowledge, financial behaviors, financial well-being, and work outcomes were not

supported in this study. There were no significant changes in financial management, financial well-being, and work outcomes were found between the pre-and post-assessments. The financial education was limited to one time, 1 hour and 30 minutes workshop on general financial education. This education was not enough to make significant changes in worker's personal finances and work outcomes. Only three months were given to measure possible changes that may have resulted because of the workplace financial education. It is likely that this time period was too short for any changes in personal finances and work outcomes to be realized. Additionally, there were structural barriers for workers to make changes in personal finances. During the period, workers were not able to make changes in their 401(k) participation and contribution, and other employee benefits program (workers may make changes only once in the Fall.).

16. About seven-tenths of the workers expressed a desired for a financial checkup from an outside financial planner. Some probably want to confirm that their financial management decisions are on the right track while others likely want specific advice on what actions to take. An additional follow-up study (see Appendix 23) was conducted with the workers who attended the financial education workshops. The findings showed that as a result of the 30-minutes individual financial counseling advice sessions and the previous workplace financial education workers' financial attitudes and behaviors improved. These additional findings demonstrate that workplace financial education and individual financial counseling advice sessions may be more effective in changing participants' financial attitudes and behaviors than workplace financial education alone.

Recommendations

Based on the findings of this study, the following are recommendations for further research as well as considerations for employers.

Recommendations for Future Research

1. Research that has a more restrictive experimental design is recommended. This study investigated the effects of workplace financial education on personal finances and work outcomes. However, this study did not support other studies that found the positive impacts of financial education on financial attitudes, financial knowledge, and financial behaviors (The 1995-1996 High School Financial Planning Impact Survey, DeVaney et al., 1995; DeVaney et al., 1996; Fletcher et al., 1997; Garman et al., 1999; Kim et al., 1998).

In this study, workplace financial education was limited to a one time, 1 hour and 30 minutes general workplace financial education workshop. This education was not enough to make changes in workers' personal finances and work outcomes. A more comprehensive workplace financial education program is needed in future research designs to measure the effectiveness of workplace financial education on personal finances and work outcomes. More contents and different delivery styles also are suggested in future study. Also, workers were not able to make changes in some of financial behaviors such as their retirement plan and employee benefits. A longer time period than three months is suggested to measure the effects of financial education.

2. Research that has different measures for work outcome variables, such as productivity and absenteeism, is recommended. This study relied on self-reports for productivity and absenteeism, and the reliability of these measures may be questioned as such data are often inaccurate. More objective measures of workers' actual productivity and absenteeism, such as from the employer's human resources records, are needed in future research. Also, productivity measures should be individualized according to the type of industry.

3. It is recommended that this study be replicated drawing samples from across the nation, representing other populations. The population of the present study was limited to white-collar workers in particular states in the United States. Almost all of the respondents were white. These limitations restrict the generalizability of the findings to other populations. Replication of this study with populations in different states and different industries are needed.

4. Research that compares the effects of different types of workplace financial education programs, such as general workshop or individual financial counseling, is needed. This study did not find significant effects of workplace financial education on personal finances and work outcomes when only one general workplace financial education workshop was provided to workers. Other research is needed to assess the impact of workplace financial advice, especially on work outcomes. Research is needed to determine the effects of individual financial counseling advice and general workshops on personal finances and work outcomes.

5. Research is needed to test the reliability and validity of personal finance-work conflict measures. These measures developed for this study conceptually came from family-work conflict measures. Even though these workers were hesitant to directly admit that financial matters interfered with their responsibilities at work, personal finance-work conflict still was found to be linked to financial well-being and work outcomes. The wording of the questions may be too negative or harsh or straightforward. Further research should attempt to enhance the consistency of the measures and to construct development of them across different populations and industries from this baseline study.

6. Research is needed to examine relationships among financial well-being and the work outcome variables of productivity, absenteeism, organizational commitment, and pay satisfaction. The present study examined and found a relationship between financial well-being and each work outcome variable. To better understand workers' attitudes and behaviors at work as well as their financial well-being, new conceptual and empirical models may need to be developed in the effort to explain relationships among financial well-being, productivity, absenteeism, organizational commitment, and pay satisfaction. And they need to be empirically tested.

7. Research is needed to develop more evidence on the relationships between financial well-being and attitudinal work outcome variables, such as organizational commitment and pay satisfaction. The present study showed that financial well-being had some effects on organizational commitment and pay satisfaction even though no individual characteristics influenced. However, not all influences on organizational commitment and

pay satisfaction were included in the models in the present study. Further research is needed to include omitted variables to determine these relationships.

8. Additional research is needed to determine the effects of workplace financial education on financial attitudes, financial knowledge, and financial behaviors. The present study did not find the significant changes in financial attitudes, financial knowledge, and financial behaviors between pre-and post-assessment. One possible reason for these findings could be the reliability of the measures. Some of the responses to the financial behavior questions were not logically consistent. Even though the workers were not able to change their retirement plan or pre-tax program during the three-months period (the employees can change the 401(k) plan and benefits only once a year in fall), the participation rates dropped during the three-months period. The respondents were asked to answer if they had practiced each of the financial behaviors “during the past year” in the pre-assessment, and were asked to answer if they have done so “since the workplace financial education.” Some of the respondents might not report the financial behaviors if they had not taken place during the three-months period even though they practiced some of financial behaviors. Future research is needed to improve the financial behavior measures.

Recommendations for Employers

1. Employers should provide more extensive workplace financial education to meet employees’ needs. Even though the present study did not prove the significant effects of workplace financial education on personal finances and work outcomes, the one time 1

hour and 30 minutes workplace financial education workshop was not extensive or long enough to make significant changes. This study also showed that workers were not very satisfied with their personal finances and were not saving enough for retirement. A number of workers were experiencing financial difficulties. Employers need to provide effective workplace financial education to improve workers' financial management and well-being. A number of workers had very negative attitudes toward their financial management, and they were not very knowledgeable on financial matters. Further, many were not content with their savings and investing for retirement. Workplace financial education may be a key solution to these employee problems. Also, the workers in this study wanted additional workplace financial education on different topics, such as retirement planning, employee benefits, money management, and consumer rights. Employers need to provide financial education and advice on the topics expressly desired by workers.

Workplace financial education programs needed to be more effective. Even though most of today's workplace financial education programs focus on retirement planning, the workers in this study were not confident about their investing knowledge or how to make appropriate investments. Three-quarters of the workers clearly reported that they want a financial checkup provided by an outside financial planner. Employers need to find ways to provide the most effective financial education and advice programs that can meet employees' specific needs.

2. Employers need to provide effective workplace financial education and advice to help motivate workers to be more productive and have more favorable attitudes toward their employers. This study showed that financial well-being was associated with workers'

absenteeism, work time use, organizational commitment, and pay satisfaction. Effective workplace financial education and advice can decrease absenteeism and lost work time by improving worker's financial well-being. Workplace financial education and advice can also motivate workers to be more committed to their organization and increase their pay satisfaction.

3. The Employment Retirement Income Security Act (ERISA) enforced by the Department of Labor requires that 401(k) retirement plan sponsors (employers) offer employees sufficient information to help participants to make informed decisions with regard to investment choices. The findings of the present study suggest that the DOL regulations (ERISA) are ineffective and perhaps inappropriate. The employees in this study had financial education made available to them four years earlier by another outside company. In addition, over the years they were provided regular financial statements regarding their 401(k) plan, and limited information and education offered through the workplace. Finally, they were provided a 1 hour and 30-minute workshop on financial education. Yet, the effects of workplace financial education alone were not supported in this study. Also, most of these workers expressed a desire for individual financial counseling advice from an outside provider.

The present findings indicate that current workplace financial education may not fulfill the legal requirements of the Department of Labor or meet the genuine needs of workers trying to make wise decisions about their financial futures (The CFP Board, 1999). Plan sponsors (employers) are required by DOL regulations to be certain "the participant or beneficiary is provided or has the opportunity to obtain sufficient

information to make informed decisions with regard to investment alternatives under plan...” (29 CFR §2550.404c-1(b)(2)(i)(B)). This study found that one time, 1 hour and 30 minutes workplace financial education workshop was not enough for workers. The follow-up study (see Appendix 23) revealed that when workplace financial education was combined with individual financial counseling advice sessions had some positive effects on workers’ financial attitudes and behaviors. Moreover, it may be necessary for the DOL to propose new provisions that require employers to provide more extensive workplace financial education and one-on-one individual financial counseling advice for all workers who save and invest in defined-contribution retirement plans.

4. Employers and policymakers need to consider creating tax incentives for workplace financial education and advice. Currently, the federal tax laws do not allow an employer a deduction for offering individual investment advice and financial planning for employees. This study showed that many workers were not confident or knowledgeable about investing. Many workers were not saving enough for their retirements, and they were not satisfied with their investing or saving for retirement. Individual financial planning can be one solution to these problems. For financial advice to be made affordable for the average worker, it needs to be tax advantaged. Further, the methods of funding the costs of workplace financial education and advice needs to allow employees to pay for financial planning services on a pre-tax salary reduction basis, especially if an employer did not already pay the expense.

The reason to create tax incentives for financial education and advice is clear. Tax incentives will encourage more people to seek financial education and advice that can be

used to help them with their financial lives, even through retirement. These people, many of whom are workers, will personally benefit through increased personal financial wellness. Employers, too, will benefit through improved profitability resulting from positive work outcomes from those who receive effective workplace financial education and advice.