

CHAPTER VI. DISCUSSION OF RESEARCH QUESTIONS

This chapter discusses the results of conceptualizing and testing the relationship between personal financial wellness and worker job productivity. Personal financial wellness for this study was conceptualized by four aspects: subjective perception of personal finance, behavioral assessment of personal finance, objective scales of personal financial wellness, and overall scales of personal financial wellness. The worker job productivity measure included self-reports of productivity change, performance rating, absenteeism, and work time used for personal financial matters. To test the relationship between personal financial wellness and worker job productivity, a mail survey of 447 clerical workers of a large employer in mid-eastern state was conducted from January 1998 to March 1998. The discussion of the research results is presented according to the eight research questions.

Research Question 1:

Personal Financial Wellness Profile

The first research question was to examine the personal financial wellness profile of the sample. Personal financial wellness of this study was measured by four scales: subjective perception, behavioral assessment, objective scale, and an overall scale. This section discusses the personal financial wellness profile of the sample.

Subjective Perception of Personal Finance

In terms of the subjective perception of personal finance, the sample's personal financial wellness level as a group was lower than the mid point of the 32-point financial wellness scale. The subjective perception index, based upon eight questions, each constructed of 4-point Likert-type choices, ranged from 8 to 32, and the mean of the subjective perception index was 19.5. The mean of the subjective perception index was converted to a percentage. The converted mean of the subjective perception index was 45.9%. This percentage reveals that the sample, as a group, was not financially well in terms of subjective perception of personal financial wellness.

The supporting reasons for the sample's low financial wellness are (a) they were not satisfied with their ability to save, (b) they worried about their debt, (c) they did not have enough income, (d) they did not think that they would have enough money for retirement, and (e) they were not knowledgeable consumers. As shown earlier in Table 7, as a group the respondents were not satisfied with their ability to save. More than half of the respondents (55.7%) had difficulty living on their income. More than half also worried about their debt (54.4%), and more than half (59.1%) thought they would not have enough money for retirement.

As a group, however, the financial future view of the respondents was optimistic. More than half of the respondents (54.8%) were optimistic about their future. The good macro economic condition of America in 1998 could have affected the future financial outlook of the respondents. Even though many may be optimistic about the future, the respondents are not financially well. Other personal financial wellness scales of the respondents support this observation. In addition, they are not prepared for retirement. Over two-fifths (43.3%) of the respondents reported that they never set money aside for retirement (Table 8 in previous chapter), and a great majority (77.3%) of the respondents never put money into a voluntary supplementary tax-sheltered employer-sponsored retirement contribution (Table 13 in previous chapter).

One study showed that the number of people who have trouble paying their bills and worry about money was two-thirds of the respondents ("Coping with," 1996). Porter (1990) reported that 60.3% of the respondents were not satisfied with the amount of money they were able to save. O'Neill (1995) found that 77% of people worried about their debts. Compared to the previous studies, this research result found similar statistics. Any deviation from the previous studies, however, may be because of the dissimilarities of the sample and differences in the time of the survey. The sample of this study was delimited to one type of worker (clerical) from one employer. Therefore, the relative homogeneity of the characteristics of respondents may be existed compared to the other studies. Also, the macro economic situation in 1998 is different

from the previous research. Porter conducted her survey in 1989 to 1990 and O'Neill surveyed in 1992 and 1993.

Behavioral Assessment of Personal Finance

The behavioral assessment index of the sample was above the mid point of the 48-point scale. The behavioral assessment index, based upon 12 questions with each item constructed of 4-point Likert-type choices, ranged from 12 to 48, and the mean of the behavioral assessment index was 34.3. The mean of the behavioral assessment index was converted to a percentage. The converted mean of the behavioral assessment index was 61.9%. The respondents reported that they practiced better financial behavior than they perceived their personal financial wellness (mean 61.9% of behavioral assessment index versus 45.9% of subjective perception index).

The respondents, as a group, showed some desirable behaviors. As shown earlier in Table 8, about one-half (50.2%) always comparison shopped, many people budgeted their income (combining categories, 72.3%), and six-tenths (61.4%) never reached their credit limit. In O'Neill's (1995) study, the percentage of people who had a weekly or monthly budget that they followed was 43.4%. This sample showed better financial behavior in terms of budgeting than O'Neill's study.

However, the respondents also showed poor personal finance behaviors. About one-fifth (18.1%) of the respondents never set money aside for savings, and more than four-tenths (43.3%) of the respondents never set money aside for retirement. This finding, in accordance with the percentage of the respondents who thought that they would not have enough money to live comfortably throughout retirement (59.1%), support the popularized American worry about retirement. According to the 1997 Retirement Confidence Survey (RCS), 24% of the current retirees reported that their standard [*sic*] of living was worse now than it was at the end of their working career. The percentage distribution of the respondents' behavior on savings was similar to previous research (Linzey, 1993; O'Neill, 1995; Porter, 1990).

Almost six-tenths of the respondents (58.9%, combining categories, Table 9 in previous chapter) reported that they spent more money than they had. Among the people who spent more money than they had, a small number (3.0%) responded that they always spent more money than they had. This percentage is smaller than previous studies. In Linzey's (1993) study, the average percentage of the people who always spent more money than they had was 5.8%. In Porter's (1990) research, this percentage was 8.2%. While the number of people who always spent more money than they had was fewer in this research than in previous research, there were fewer people who never spent more money than they had in this research (41.0%) than in previous research (53.9% in Linzey's study, and 57% in Porter's study).

As shown earlier in Table 9, more than four-fifths (82.8%) of the workers paid some finance charges while less than one-fifth (17.2%) always paid the full amount toward their credit card bills and avoided finance charges. The percentage of the people who did not pay finance charges was lower than that of the previous studies (Linzey, 1993; Porter, 1990), as often is the case in changing economic times.

Even though the sample, as a group, was above the mid-point in the behavioral assessment scale, the poor financial behaviors of credit management and cash management imply that financial education is needed. For example, financial education programs on retirement savings, general savings, money management, and credit management may be needed because the sample showed poor financial behaviors in those areas. This finding support previous research. Atchley (1998) asserted the increasing need for personal finance based on the poor financial knowledge and behavior.

These findings also indicate some degree of financial illiteracy among Americans. Today's financial life is often very complicated, and there are too many choices in financial decision making (Garman & Fogue, 1997). According to previous research (Cutler & Devlin, 1996), Americans had an inadequate financial literacy on the topic of retirement. According to Cutler

and Devlin study, only half of the self-identified knowledgeable consumers actually knew some facts about retirement planning. One of the reasons for the poor financial behavior of workers could be limited income; therefore, education about wise money management may be needed to improve personal financial wellness of workers. Previous research showed the effectiveness of financial education on retirement savings as well as person's knowledge, attitude, and behavior (Bernheim & Garrett, 1996; Fletcher et al., 1997; Gorbach, 1997; Heath, 1996).

Objective Scales

Over 70% of the sample (71.3%) was solvent (combining categories, Table 11 in previous chapter). However, in terms of financial preparedness, about one-third of the respondents (35.4%, Table 12 in previous chapter) did not have any reserve funds, about three-tenths (31.0%, Table 14 in previous chapter) had no monthly savings, and three-quarters (77.3%, Table 14 in previous chapter) put no money into their voluntary supplementary tax-sheltered employer-sponsored retirement contributions each month. These facts reveal weaknesses in the future financial preparedness and possible future troubles in personal financial management of this sample of American workers. The 1997 RCS shows that “only 27% of Americans have any idea of what they will need to accumulate to retire when and how they want.” Many workers do not have concrete financial goals regarding their retirement, and many workers cannot afford to prepare for their future. The 1997 RCS also showed that the reasons for not contributing to retirement savings were as follows: inability to afford to save (48%), savings for other goals (31%), and difficulty in withdrawing funds (13%). This study found that the number one reason for not contributing to voluntary supplementary tax-sheltered employer-sponsored contributions was not having enough money (47.2%, Table 15 in previous chapter). In addition to the inability to contribute, workers were not well informed about their retirement contribution options. In this research, among the non-contributors to the voluntary supplementary tax-sheltered employer-sponsored retirement contributions, 34.7% responded that they did not know enough about the retirement contributions (Table 14 in previous chapter).

Compared to previous research, the percentage of people who contributed to the voluntary supplementary tax-sheltered employer-sponsored retirement program is low. Yakoboski and Dickemper (1997) reported that 69% of workers saved for retirement, and Schanes (1996) reported 85% of the people over age 40 were saving for their retirement. In this study, because the employer provided the mandatory state defined benefit retirement plan or defined contribution plan for the workers, the respondents already have a pension. The mandatory pension plan does not require contributions from workers. In the state where the sample resides, the government pension plans are not generous. Many of these workers do not have enough savings for retirement. The result is that at this point in time they are not on track to have enough savings to retire with sufficient funds. These findings support previous research results (Jones, 1995; Schanes, 1996; Yakoboski & Dickemper, 1997).

Other objective scales of personal financial wellness were monthly credit payments and monthly installments payments. Almost six-tenths of the workers (59.1%) paid less than \$300 toward their credit card bills per month, and more than four-tenths (43%) paid \$200 to \$500 toward their installment loans (excluding home mortgage) per month (Table 13 in previous chapter).

Overall Financial Wellness Scale

The overall financial wellness scale included three measures: satisfaction with personal financial situation, perceived financial wellness, and feelings about financial situation. The satisfaction with personal financial situation was measured with a 10-point scale of stair steps. The higher numbers represented greater satisfaction. As a group, the sample showed low levels of satisfaction with their personal financial situation (mean = 4.57). More than half of the respondents (52.6%) were dissatisfied with their financial situation (Graph 1 in previous chapter). This finding is consistent with the subjective perception index.

As shown earlier in Table 16, the sample ranked below mid-point on the perceived financial wellness level. On the 5-point scale of perceived financial wellness, 29.2% were below the mid-

point. This findings show that a high proportion of those with low levels of satisfaction with their personal financial situation, indeed, do perceive that they are “always in financial trouble.” The responses of feelings about financial situation are shown in Table 17. On the 5-point scale of feelings about financial situation, more than a third (35.1%) of the people reported that they have trouble with paying bills. These findings support the literature. According to a recent survey, an increasing number of people responded ‘making ends meet’ as their greatest financial concern (“Survey reveals,” 1997).

Summary of Personal Financial Wellness Profile

The personal financial wellness level of the sample was below the mid-point of the subjective perception scale as well as the overall personal financial wellness scale. The low levels of personal financial wellness in terms of the subjective perception scale, satisfaction with personal financial situation, perceived financial wellness, and feelings about financial situation support findings of previous research. In terms of the respondents’ behaviors, their financial behavior score was above the mid point of the scale. Even though the sample, as a group, showed some positive financial behaviors, a number of poor financial behaviors existed. While the respondents had an optimistic view of their future financial situation, the sample, as a group, is not ready for retirement. These results also support the previous research findings that workers are confident, but they are not prepared for retirement (Yokoboski & Dickemper, 1997).

Research Question 2:

Demographic Characteristics and Personal Financial Wellness

Personal financial wellness was assumed to be influenced by demographic characteristics. The second research question was to examine how personal financial wellness differs by demographic characteristics. The totals of nine demographic characteristics were investigated: gender, marital status, education, ethnicity, age, household income, number of financial dependents, housing tenure, and length of employment with the current employer. This section discusses the

relationship between demographic characteristics and the eleven personal financial wellness measures.

Subjective Perception of Personal Finance

Among the nine demographic characteristics, household income, housing tenure, number of financial dependents, and length of employment with the current employer significantly affected the subjective perception of personal finance of the respondents. The subjective perception of personal finance was higher for those who had higher household income, owned housing, had fewer financial dependents, and had a longer period of employment with the current employer than the others.

Behavioral Assessment of Personal Finance

Only household income had a significant regression coefficient with the behavioral assessment of personal finance. Household income had a positive relationship with the behavioral assessment of personal finance. Those who had higher levels of household incomes reported higher levels of behavioral assessment score than others.

Satisfaction with Financial Situation

Housing tenure, household income, and the number of financial dependents were significant factors that affected the satisfaction with financial situations. Homeowners who had high levels of household incomes and fewer financial dependents showed higher levels of satisfaction with financial situations.

Perceived Financial Wellness

The perceived financial wellness was predicted with housing tenure, household income, the number of financial dependents, and ethnicity. The white respondents who own their houses, had more household income, and had fewer financial dependents were more financially well than the others. The perceived financial wellness was the only measure of personal financial wellness that

was affected by ethnicity. However, since most of the respondents (91.9%) were white, this relationship may be not reliable.

Feeling about Financial Situation

The feelings about financial situation was influenced by household income and the number of financial dependents. Therefore, those who had low levels of household income and many financial dependents felt that it was hard to pay bills.

Solvency Measure

The solvency measure was affected by housing tenure and the number of financial dependents. Those who had their own houses and fewer financial dependents were more solvent. Unlike the subjective perception scale, behavioral assessment scale, and overall financial wellness scale, the solvency measure was not affected by the household income level. The solvency measure was obtained with the following statement: “Suppose you were to sell all of your major possessions (including your home), turn all of your investments and other assets into cash, and pay all of your debts. Would you be in debt, break even, or have something left over?” The home may be a major asset for many respondents, therefore, housing tenure is the most significant variable in the solvency measure.

Amount of Reserve Funds

The measure of reserve funds was related to household income and the age of the respondents. As age increases, the amount of reserve funds increases, controlling for other demographic characteristics. The older respondents tend to have more reserve funds than younger respondents. Those who had more household income also had more reserve funds.

The accumulation of wealth can be predicted by age because it is easier for those who have had longer periods employment to have more savings. Younger respondents are more likely to be in the “formation stage” in the financial life cycle. Porter (1990) described the formation stage as:

“the financial status period that occurs after a household is formed during which time few assets are built up. The major expenses of setting up the household, family growth, and educating children may result in a low or negative net worth because debt is often used for these costs. In addition, people typically use credit in this stage to acquire assets since the majority of income goes for living expenses and consumption. Assets that do accumulate are primarily held in personal property and the home” (p.23).

As Porter stated, the younger respondents could not have more assets than the older respondents. Therefore, the age of the respondent was a significant predictor of the amount of reserve fund.

Monthly Credit Payments

Monthly credit payments showed a slightly different pattern than other personal financial wellness measures. The monthly credit payments were related to household income only. Those who had higher income had more monthly credit payments, controlling for other demographic characteristics.

Credit cards can be used for convenience as well as for an alternative way of payment when there is not enough cash available. Sometimes people use credit cards when they run out of cash. A very small number of respondents (3.4%, Table 9 in previous chapter) reported that they always had to use credit cards because they ran out of cash. On the other hand, more than two-fifths of the respondents (41.4%, Table 9 in previous chapter) reported they never had to use credit cards because of a shortage of cash. This finding suggests that most of the respondents use credit cards for convenience instead of as a substitute for income. Therefore, those who had higher levels of household income had more monthly credit payments than those who had lower levels of household income in this study. This finding supports the research of Livingstone and Lunt (1992) who found a significant relationship between disposable income and debt repayment.

Monthly Installment Loan Payments

The monthly installment payments were not significantly affected by household income. The age of the respondents and marital status were significant variables in explaining monthly installment payments. Older respondents had less monthly installment loan payments than younger

respondents. Porter (1990) explained that those who are in the formation stage of their financial life cycle tend to use more installment credit due to the lack of asset accumulation. The younger respondents were more likely to be in the formation stage. Therefore, age is a significant predictor of monthly installment payments. The married respondents had more monthly installment loan payments than the single respondents. These findings show a difference from previous research. Livingstone and Lunt (1992) found no significant influences of demographic variables on the amount of regular debt repayment.

Monthly Savings and Monthly Voluntary Retirement Contributions

Household income positively affected the monthly savings and monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions. Those who had higher levels of household incomes put more money into their savings accounts and voluntary supplementary tax-sheltered employer-sponsored retirement contributions.

Summary of Demographic Characteristics and Personal Financial Wellness

In summary, household income and the number of financial dependents were important variables that explained personal financial wellness. This finding suggests the significance of including the financial support for their children and other adult dependents as one of the predictors in financial wellness research. Previous research showed the significant influence of having young children in the household on financial wellness (Ross & Huber, 1985) as those with young child have less financial wellness than others. In addition to children, adults dependents are significant variables. The burden of adult care is one of the big concerns of today's society. Therefore, the number of adult dependents should be included in financial wellness research as one of the predictors.

These research findings have some similarities and dissimilarities to previous literature. This research showed no significant influences of gender and education on personal financial wellness. The other seven demographic characteristics were significantly related to personal financial wellness. Ross and Huber (1985) found significant relationships among household income,

education, age, and having young children on economic hardship. Porter (1990) found significant influences of employment status on financial well-being. In Porter's study, the financial well-being of full-time workers was higher than the others. However, there were no significant influences of gender, ethnicity, housing tenure, marital status, and education on financial well-being in Porter's study. O'Neill (1995) found significant impacts of number of wage earners on financial difficulty. O'Neill did not find any significant influences of age, education, and marital status on financial difficulty. Foster (1996) mentioned a positive relationship between income and net-worth to economic well-being. Mookherjee (1997) found significant differences in perception of well-being according to age groups and marital status. The difference may be due to the dissimilarity of the sample and the dependent variable of each study.

Research Question 3:

Financial Stressors and Personal Financial Wellness

The third research question was to examine the relationship between personal financial wellness and financial stressors. The sample experienced an average of two different financial stressors over the past year. Financial stressors were correlated negatively with personal financial wellness. As shown earlier in Table 31, over one-tenth of the respondents experienced the major financial stress events of family member's death (16.6%), job change (12.9%), moving (12.2%), and marriage (11.1%). Compared to O'Neill's (1995) finding this sample experienced more family events. In O'Neill study, only 3.3% experienced marriage and 5.3% experienced a family member's death. However, fewer respondents of this study experienced job change compared to previous studies. About three-tenths (30.6%) of the respondents changed their primary job or employment in O'Neill's study. More than one-fifth (21.0%) of the respondents changed their job in the Varcoe (1990) study. The relatively small number of people who changed their job in this study was expected because the sample of this study was workers for a single employer. Therefore, in this study, job change does not mean changing employers.

The financial stressors influenced the personal financial wellness of the respondents. Those who experienced more financially stressful events showed lower levels of personal financial wellness than those who experienced fewer financial stressors. People who experienced more financial stressful events showed a low level of subjective perception of personal finance, behavioral assessment of personal finance, satisfaction with financial situation, perceived financial wellness, and feelings about financial situations. The financial stressors had a negative relationship with the solvency measure, amount of reserve funds, monthly savings, and monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions. As the number of financially stressful events increased, the level of solvency, amount of reserve funds, monthly savings, and monthly contributions to the voluntary supplementary tax-sheltered employer-sponsored retirement programs decreased. On the other hand, the financial stressors showed a positive relationship with monthly credit payments and monthly installment loan payments. Those who experienced more financial stressors tended to pay more toward credit card bills and installment loan payments in each month.

This relationship between financial stressors and personal financial wellness suggests the importance of including financial stressors in financial wellness research. When examining or predicting personal financial wellness, financial stressors should be included. The financial stressors in this study, however, did not include all possible financially stressful events. For example, chronic health problems, unexpected need for adult care, and substance abuse problems were not included in this research. Even though the item in this study “I had serious medical bills” may include the effects of chronic health problems, examining those additional financial stressors may result in better findings.

Research Question 4:

Personal Financial Wellness and Financial Stress

The fourth research question was to examine the relationship between personal financial wellness and the financial stress level. As shown earlier in Graph 2, the mean score of the financial stress

levels of the respondents was 5.6 out of 10, with 10 being the highest possible stress level. About one-third of respondents (33.6%) reported high levels of financial stress. About three-tenths of the respondents (28.8%) experienced a low level of stress, and more than one-third of the respondents (37.6%) reported a medium level of stress.

A lower level of personal financial wellness is related to the financial stress level of the respondents. Table 34 in the previous chapter showed the correlation matrix of the eleven personal financial wellness measures with the financial stress level. Those who had low personal financial wellness scores in the subjective perception index, behavioral assessment index, and overall financial wellness scales experienced high levels of financial stress. Those who were more solvent, had more reserve funds, put more money into their savings accounts, and contributed more to their voluntary supplementary tax-sheltered employer-sponsored retirement programs, experienced low levels of financial stress. In contrast, those who had more monthly credit payments and more monthly installment payments experienced high levels of financial stress.

The measurement of the financial stress level for this study was different from previous literature; therefore, direct comparisons could not be made. Financial stress is often measured with several items of income adequacy (Dillman & Hortan, 1986; Mayer & Jenkins, 1989; Perilin et al., 1981; Williams, 1993). Financial stress is often associated with various problems, such as troubles in marital relationships, substance abuse problems, and decreases in worker productivity.

Research Question 5:

Worker Job Productivity Profile

The fifth research question was to explore the worker job productivity profile of the sample. Worker job productivity was measured with four different measures: self-reports of productivity change, performance ratings from the boss, absenteeism, and work time used for personal financial matters. This section discusses the worker job productivity profile of the sample.

Self-Reports of Productivity Change

Two-thirds of the sample (68.3%) responded that their productivity had increased compared to the previous year (Table 35 in previous chapter). Since nearly six-tenths of the respondents (58%, Table 5 in previous chapter) had more than 10 years of employment with the current employer, most of the workers had already accumulated some degree of experience. It is possible that this work experience could make the workers think that their productivity had increased in the last year compared to the previous year. The largest number of respondents reported that their productivity had increased by 2% when asked to choose between a 4% decrease to a 4% increase.

However, the reliability of the self-reports of productivity is open to some question. The possibility of reporting higher than the actual productivity exists; the alternative is also true but probably less likely. The sample of this study was clerical workers who work in the areas of office services (e.g., secretaries, office service technicians, and office service specialists). Therefore, an objective measure of productivity is difficult to obtain. A larger sample, perhaps of production or sales workers, might provide better methods of measuring productivity.

Performance Rating From Boss

Four-fifths (80.1%) reported that their last annual performance rating from their bosses were above average (Table 36 in previous chapter). The distribution of the performance rating was negatively skewed (skewness was $-.443$, and the standard error of skewness was $.128$). There were no respondents who reported that they received a “poor” performance rating from their bosses and only 3 respondents reported that their performance ratings were between a “poor” and an “average.” About two-tenths (18.5%) of the respondents reported that they received an “average” performance rating. Obtaining the actual performance ratings was not possible in this research, however, this distribution was similar to the entire population of this study as reported by the employer’s human resources department.

Absenteeism

As shown earlier in Table 37, the largest group of the respondents (30.7%) reported that they were absent from work four to six days during the past year. About a quarter of the respondents (24.1%) reported one to three days of absence, and 15.6% of the workers were absent from work for seven to nine days. There were 14.1% of the workers who reported more than 12 days of absences. One-tenth (10.0%) of the workers were absent from work for 10 to 12 days. Only a small number of workers (5.6%) reported that they were not absent from work during the past year.

Absenteeism is often used as an indicator of job performance and readiness for promotion (Bycio, 1992). The correlation coefficient of absenteeism and performance rating of this study was $-.1646$ ($p < .01$). Those who were absent more from work tended to have lower performance ratings than those who were absent less from work. However, the causal relationship between absenteeism and performance rating is difficult to examine. Some researchers have asserted that absenteeism affected performance ratings (Mowday, Porter, & Steers, 1982), and others assert that performance ratings affected absenteeism (Bycio, 1992).

Work Time Used for Personal Financial Matters

Workers occasionally need to deal with personal financial matters during work hours, and in most workplaces this is understood as an acceptable practice. As shown earlier in Table 38, one-third (33.0%) of the sample workers never dealt with personal financial matters at work. However, more than two-fifths (44.8%) of the workers talked with coworkers about money related matters during work time. Of those who use work time in one or more of the eight listed ways, 66.8%^a of workers talked with coworkers about money related matters during work time.

^a The total number of respondents was 270 in this case. Eighty-nine respondents reported that they did not deal with personal financial matters at work. One hundred twenty-one respondents reported that they “talked with coworkers about money related problems” during work hours. Therefore, the percentage of the workers who “talked with coworkers about money related problems” among those who use work hours for personal financial matters was calculated with $121/(270-89)$.

About a quarter (23.7%) of respondents talked with a lender about a loan. More than one-tenth (12.6%) of the workers made calls regarding an overdue credit payment during work hours, and 12.2% made calls to friends or relatives about financial matters during work hours. More than one-tenth (11.5%) of the workers made calls to lawyers and 10.4% of the workers talked with a financial planner during work hours. A small number of respondents (8.9%) made calls to arrange a vehicle loan, and 3.0% made calls to a credit or budget counselor.

Many workers use work hours for their personal financial matters, and the percentage of the workers who deal with personal financial matters at work is substantial. These findings suggest that even if a worker spent five minutes of work hours per day to deal with personal financial matters, the total time loss for an employer would be substantial. This work time lost due to dealing with personal financial matters is a key productivity measure. However, previous research has not included work time used for personal financial matters as a factor in measuring productivity. The work time measure used in this study provides significant potential toward the development and expansion of more effective measures of productivity. The work time measure can be included in time efficiency studies. This work time research finding also adds to knowledge about how workers genuinely use some of their hours at work.

Research Question 6:

Personal Financial Wellness and Worker Job Productivity

The sixth research question was to examine the relationship between personal financial wellness and worker job productivity. The findings of this research show the positive relationship between personal financial wellness and worker job productivity. The poor financial situation of workers negatively affects workplace productivity. This finding supports the previous research (Brown, 1993a, 1993b; Garman et al., 1996; Williams et al., 1990; Williams et al., 1995; Williams et al., 1996). This section describes the discussions of the relationship between personal financial wellness and worker job productivity.

Self-Reports of Productivity Change

Less than one-tenth of the respondents (8.1%) reported that their productivity had decreased from the previous year. The self-reports of productivity change was negatively skewed (skewness coefficient from SPSS was $-.729$, and the standard error of the skewness was $.148$). Due to the skewness of the variable distribution, no significant regression result was obtained with the dependent variable being the self-reports of productivity change and the independent variable being personal financial wellness.

The correlations of the 11 measures of personal financial wellness and self-reports of productivity change are shown in Table 42 in the previous chapter. Only credit payments had a significant correlation with self-reports of productivity change. Those who had higher monthly credit payments tended to show higher productivity. However, there was no other significant relationship between personal financial wellness and self-reports of productivity change. A larger sample with a normal distribution of productivity reports may demonstrate a relationship between personal financial wellness and productivity.

In the conceptual model of this study, personal financial wellness was assumed to have an influence on the self-reports of productivity changes of workers. The regression analysis showed no significant influence of personal financial wellness on self-reports of productivity change due to the skewness of the dependent variable. However, those who reported productivity decreased may have different personal financial wellness profiles from those who reported productivity increased. The mean comparison of personal financial wellness through one-way ANOVA can reveal the difference in personal financial wellness between the two groups (those who reported productivity decreased and those who reported productivity increased). At the $.10$ significant level (but not at the $.05$ level), the two groups had different means of the overall perception index of personal finance. Those who reported productivity increased had a higher mean in the overall perception index than those who reported productivity decreased (Appendix L).

Performance Rating From Boss

Personal financial wellness of workers influenced their performance ratings. The correlation coefficients (Table 42 in previous chapter) between personal financial wellness and performance ratings showed that those who had higher levels of personal financial wellness in terms of their subjective perception reported higher levels in performance ratings. And those who had higher behavior assessment scores had higher levels of performance ratings. Those who had higher levels of satisfaction with their overall financial situation, and had more reserve funds, tended to perform better at work. Also, those who put more money into credit payments, savings accounts, and retirement contributions performed better.

Even though there were significant correlations between personal financial wellness and performance ratings, only monthly credit payments showed a significant influence on performance ratings in a regression analysis. If the monthly credit payments of the workers were high, their performance ratings tended to be higher than those who had lower monthly credit payments. The regression finding could indicate that if workers need more money for their credit payments, they tend to perform better at work. Since the amount of credit payments was positively related with their household income, the regression finding could indicate that those who have large amounts of credit payments perform better than the others because they have more household income, and more household income represented better personal financial wellness.

The skewness of the dependent variable could be the reason there were no other significant regression results of personal financial wellness and performance rating. There were no respondents who reported poor performance ratings, and only three respondents who reported between poor and average.

As described earlier, the mean comparison of personal financial wellness could describe the characteristics of the subgroups of performance ratings. According to one-way ANOVA, there are significant mean differences in personal financial measures among the respondents (Appendix

L). Those who had better performance ratings showed better personal financial wellness measures in subjective perception and behavioral assessment.

Absenteeism

Personal financial wellness and absenteeism are associated. The correlation between personal financial wellness and absenteeism (Table 42 in previous chapter) reveals the relationship. Those who had higher levels of personal financial wellness in subjective perception and behavioral assessment tended to be absent less from work. Those who were financially well tended to report fewer absences. Those who were more solvent and had more reserve funds reported fewer absences. And those who had to pay more on their monthly installment loans reported more absenteeism. Those who had lower solvency levels and more monthly installment loan payments were absent more from work. People who had more debts apparently needed more time to take care of their personal financial matters.

The regression analysis showed significant influences of personal financial wellness on absenteeism. Controlling for other factors, especially age and financial stressors, the behavioral assessment of personal finance had a significant impact on absenteeism (Table 44 in previous chapter). Those who had higher scores on behavioral assessments showed lower absenteeism, controlling for other factors. And those who had fewer monthly installment loan payments were absent less from work. This finding suggests that if personal financial behaviors of workers improved, their workplace absences could decrease.

The regression analysis result in Table 45 (previous chapter) shows the influence of monthly installment payments on absenteeism. Those who had more monthly installment payments tended to be absent more from work. This finding suggests that if workers who had large amount of installment loan payments were educated to better manage their credit and budgeting resulting lower installment purchases, their job absenteeism might be reduced.

The R squares, however, suggest, as could be expected, that there are other factors that explain the variance of absenteeism of workers. For, example, the health conditions of respondents may be one of the significant independent variables. Also, the presence of young children may be another factor that explains the variance of absenteeism. Neither of these factors was examined in this research. The regression equations in this research only included age and financial stressors in addition to the personal financial wellness measures. While the small number of independent variables may be one of the reasons for the low R squares in those equations, the relationship between absenteeism and personal financial wellness is statistically significant.

To examine the personal financial wellness difference between workers who were absent more from work and workers who were absent less from work, one-way ANOVA was conducted. The mean of personal financial wellness measures tended to be lower for those who were absent more than those who were absent less. The means of the behavioral assessment of personal finance, solvency measure, amount of reserve funds, and monthly installment payments were significantly different according to the absenteeism. Those who were absent more from work had lower scores on behavioral assessment of personal finance than those who were absent less (Appendix L). People who were absent less from work had a higher mean of the solvency measure and a higher amount of reserve funds than those who were absent more from work. Those who were absent more from work had more monthly installment loan payments than the others. These findings suggest that the different characteristics in personal financial wellness correspond to the absenteeism of the workers.

Work Time Used for Personal Financial Matters

Even though managing personal financial matters at the workplace is sometimes necessary and may be positive for a person's financial wellness, those who had lower levels of personal financial wellness used more work time for their personal financial matters. Table 42 in the previous chapter shows that as the level of subjective perception and behavioral assessment of personal finance increased, the work time used for personal financial matters decreased. If respondents

were satisfied more with their personal financial wellness, they tended to deal with fewer personal financial matters at work. Those who had more monthly savings and less monthly installment loan payments tended to deal with fewer personal financial matters at work.

The regression analysis (Table 46 to Table 50 in previous chapter) shows the significant influences of personal financial wellness on work time used for personal financial matters. The subjective perception of personal finance, behavioral assessment of personal finance, satisfaction with personal financial wellness, solvency measure, and amount of monthly installment payments showed significant regression coefficients. The subjective perception, behavioral assessment, overall index, and solvency measure had a positive influence on productivity. Those who were financially well dealt with fewer personal financial matters at work. Those who were not financially well and had more monthly installment loan payments tended to deal with more of the following personal financial matters at work: talking with co workers about money related problems, talking with a lender about a loan, making calls regarding overdue credit payments, making calls to friends and/or relatives about financial matters, making calls to a lawyer, talking with a financial planner, making calls to arrange a vehicle loan, and making calls to a credit or budget counselor.

The R squares, however, suggest that there are other variables that explain the variance of the work time used for personal financial matters. Besides the selected demographic characteristics and the personal financial wellness measures, other factors may exist. For example, a huge amount of consumer debt may be one of the factors. If a worker has huge debts, he may need more time to deal with these matters. Also, special personal financial needs can be another factor. If a worker plans to buy a vehicle, he may use his work time to consult with a loan officer. Neither of these factors was examined in this research. While the R squares suggest the existence of other factors, the relationship between work time used for personal financial matters and personal financial wellness is statistically significant.

Even though some aspects of personal financial wellness did not significantly influence the work time use index, one-way ANOVA results showed differences in personal financial wellness among the different groups of work time use (Appendix L). Those who used work time to attend to many personal financial matters showed lower levels of personal financial wellness in the subjective perception index (FAT), behavioral assessment index (FBT), satisfaction with financial situation (FM1), perceived financial wellness (FM2), feeling about financial situation (FM3), solvency measure (FO1), reserve fund (FO2), monthly credit payments (FO3), monthly installment payments (FO4), and monthly savings (FO5). This finding suggests that those who deal with fewer personal financial matters at work tend to have a better personal financial wellness profile.

Summary of Personal Financial Wellness and Productivity

The regression results show the influences of personal financial wellness on absenteeism. Researchers have discussed the relationship between personal financial wellness and productivity (Brown, 1993; Garman et al., 1996; Milligan, 1997; Williams et al., 1996). However, previous research did not show the empirical data that support the relationship between personal financial wellness and productivity or personal financial problems and productivity. This study shows such empirical results. Based on these research findings, the need for workplace financial education is apparent because personal financial wellness is related to worker productivity. Previous research showed the relationship between financial education and personal financial wellness. For example, in the area of retirement, financial education had a significant positive impacts on the retirement savings of workers (Bernheim & Garrett, 1996, DeVaney, Gorham, Bechman, & Haldeman, 1995, DiPaula, in press, Gorbach, 1997; Heath, 1996). Financial education also has a long term effect on personal financial wellness (Bernheim, Garrett, Maki, 1997) and it influenced person's financial knowledge, behavior, and attitude (Fletcher et al., 1997).

Research Question 7:

Financial Stress and Worker Job Productivity

The seventh research question was to examine the relationship between the financial stress level and worker job productivity. Among the four measures of worker job productivity — self-reports of productivity change, performance rating from boss, absenteeism, and work time used for personal financial matters — work time used for personal financial matters showed significant correlation with financial stress level. Those who had a high level of financial stress used more work time for their personal financial matters than those who had a low level of financial stress.

The regression results show (Table 52 in the previous chapter) the influence of financial stress on work time used for personal financial matters. As the financial stress level increases, workers use more work time for personal financial matters, controlling for other variables.

The conceptual model of this study illuminates the impacts of the financial stress level due to the low levels of personal financial wellness on productivity. Workers who are dissatisfied with their personal financial wellness level are assumed to experience high levels of financial stress.

Financial stress is related to workers job productivity, especially in work time used for personal financial matters. However, the influences of financial wellness on productivity are less significant than the influences of personal financial wellness.

Research Question 8:

Desired Financial Education

The eighth research question was to describe the desired future financial education programs of the sample. This study shows that workers are interested in workplace financial education. Many workers desired workplace financial education. These workers are evidencing some wisdom because they know they need help on financial matters and on the most important topics.

Workers are interested in comprehensive financial education.

Personal finance employee education (PFEE) is comprehensive financial education. PFEE refers to the information, education, and services provided by an employer to help its employees make informed decisions about (a) employer-sponsored retirement plans, (b) other employer-furnished fringe benefits, (c) credit and money management, and (d) consumer protection (Garman, 1997b). The respondents desired comprehensive financial education. More than three-fifths (60.5%) of the respondents desired retirement planning, and almost one-half (48.7%) wanted workplace education on investing (Table 53 in previous chapter). These numbers support the need for retirement education, which is the first domain of PFEE. About one-third (33.6%) of the respondents desired workplace education on understanding employer furnished fringe benefits, and that is the second domain of PFEE. More than two-fifths (42.1%) of the workers desired workplace education on budgeting, over one-third (36.2%) desired programs on reducing consumer debt, and more than two-tenths (22.1%) of the workers desired education on managing credit. Budgeting, reducing consumer debt, and managing credit are components of the third domain (credit and money management) of PFEE. And finally, more than one-fifth (22.1%) of the workers desired workplace education on consumer protection laws, the fourth domain of PFEE. It should be clear that this sample of workers desire comprehensive financial education.

A recent survey provided a perspective on which specific areas of financial education employers should provide (Aschkenasy, 1997). According to Aschkenasy, long-term retirement planning, general investing, and savings were the top three subject areas. Aschkenasy also showed that a majority of the employers (81.6%) agreed or strongly agreed that the education to “make better use of the benefits the company provides” helps their employees. This also argues for the need for comprehensive financial education at the workplace.

This study showed the serious concerns about personal financial matters of workers. Recall the fact that the mean of the behavioral assessment index was higher than that of the subjective perception index. This finding demonstrates that workers are not satisfied with their personal financial wellness. If they received some stimulus through education and information, often done

such as in retirement education, they probably would react in ways to improve their financial wellness. Comprehensive financial education, such as PFEE, may help workers achieve a higher level of personal financial wellness and perform better at work. Comprehensive financial education also may help employers, as well as employees, due to the anticipated higher productivity of workers.

These findings support previous research. A recent survey with employee benefits specialists showed that investment education is the number one concern for future employee assistance programs ("Investment education," 1998). Jeffords, Scheidt, and Thibadoux (1997) mentioned the importance of compensation plans and incentive programs that meet the specific needs of each employees to keep the best employees and improve the performance of workers.

Summary of Discussion

This chapter discussed the research findings of personal financial wellness and worker job productivity. In terms of subjective perception of personal finance, as a group, the respondents were not financially well. They were not satisfied with their ability to save, they worried about their debts, they believed they did not have enough income, they did not think that they would have enough money for retirement, and they were not knowledgeable consumers.

In the behavioral assessment of personal finance, the respondents reported above a mid-point score. However, the respondents showed poor personal financial behaviors in terms of savings, retirement savings, some cash management, and credit management. The respondents were not saving enough for general purposes or for their retirement. Even though the majority of the respondents were financially solvent, the amount of reserve funds was not enough to be sufficient for their needs.

In overall financial wellness scales, the respondents were not satisfied with their personal financial situation. The lower levels of personal financial wellness were related to the financial stress level.

They experienced approximately two different financial stress events during the last year. Personal and family stress events, such as death, moving, job change, and marriage were the main financial stress events that were experienced by the respondents.

Personal financial wellness was influenced by some of the demographic characteristics and the number of financial stressors. Household income affected personal financial wellness. If workers had higher household income, their personal financial wellness tended to be high. Other economic variables, such as housing tenure and the number of financial dependents, also affected personal financial wellness. Homeowners and those who had fewer financial dependents had higher levels of personal financial wellness than renters and those who had many financial dependents. Age and marital status also affected some of the personal financial wellness measures. In terms of monthly installment payments, the younger and married respondents reported more monthly installment payments than the older and the single respondents.

The number of financial stress events had a great impact on the personal financial wellness. When financial stressors are many, personal financial wellness is low. Financial stressors are one of the key factors that explain personal financial wellness. Therefore, if an employer provides workers with education about how to deal with financial stressors, particularly for those workers with limited household incomes, that education might improve the personal financial wellness of workers.

This study demonstrated the relationship between personal financial wellness and worker job productivity. The personal financial wellness of workers affected performance rating, absenteeism, and work time used for personal financial matters. Those who have higher levels of personal financial wellness reported better performance ratings, less absenteeism, and less work time used for personal financial matters. However, statistically, no significant relationship between personal financial wellness and self-reports of productivity change was shown, and this occurred because of the skewness of the variable.

Those who had higher levels of personal financial wellness in their subjective perception of personal financial wellness reported higher levels of performance ratings from their bosses. Those who had higher behavior assessment scores had higher levels of performance ratings. Those who had higher levels of satisfaction with their overall financial situation and had more reserve funds tended to perform better at work. Also, those who put more money toward their credit payments, savings account, and retirement contributions performed better.

Those who had higher levels of personal financial wellness in subjective perception and behavioral assessment tended to be absent less from work. Those who were financially well tended to report fewer absences. Those who were more solvent and had more reserve funds reported fewer absences. And those who had to pay more on their monthly installment loans reported more absenteeism.

As the level of subjective perception and behavioral assessment of personal finance increased, the work time used for personal financial matters decreased. If a respondent was more satisfied with his or her personal financial wellness, he or she tended to deal with fewer personal financial matters at work. Those who had more monthly savings and fewer monthly installment loan payments tended to deal with fewer personal financial matters at work.

Based on the research finding, the need for workplace financial education is apparent because personal financial wellness is related to worker productivity. This research suggests that if the financial behavior of workers is changed in a positive way, their absenteeism and work time used for personal financial matters might decrease. Workplace financial education on savings, retirement, budgeting, credit managing, and financial planning might help workers increase their financial wellness and their job productivity. This research underscores the potential of financial education at the workplace.

The respondents showed an interest in employer-sponsored financial education. Workers are interested in comprehensive financial education programs which include retirement education, better use of employee benefits, money management, credit management, and consumer protection.