CHAPTER VII. FURTHER DISCUSSION

This chapter presents further discussion about personal financial wellness and workers job productivity. This chapter begins with the discussion about personal financial wellness measurement and its reliability and validity. Next, personal financial wellness is discussed with demographic characteristics and financial stressors. Further regression analyses are presented in this chapter for the discussion of personal financial wellness with demographic characteristics and financial stressors together. Further discussion is offered on the relationship between personal financial wellness and absenteeism and on the relationship between personal financial wellness and work time used for personal financial matters. The conceptual relationship between personal financial wellness and worker job productivity is examined. This chapter concludes with a discussion of personal finance employee education.

Personal Financial Wellness Measurement

Personal financial wellness for this study was measured by four different scales: subjective perception scale, behavioral assessment scale, objective scale, and overall financial wellness scale. The subjective perception scale and the behavioral assessment scale included items from five financial domains: cash management, credit management, income adequacy, personal financial management, and consumer shopping skills. The objective scale included solvency measure, amount of reserve funds, monthly credit payments, monthly installment loan payments excluding mortgage, savings per month, and retirement contributions per month. The overall financial wellness scale included satisfaction with personal financial situation, perceived financial wellness, and feelings about financial situation.

Correlation of the Personal Financial Wellness Scales

Table 55 shows the correlation coefficients of the personal financial wellness scales. As shown in Table 55, all of the measures showed significant correlations, except the monthly credit payments (FO3). The significant correlations indicate that the four levels of measurements

Table 55

Correlation Matrix of 11 Measures of Personal Financial Wellness Measures

	FAT[a]	FBT	FM1	FM2	FM3	FO1
FAT	1.0000	.7525	.8079	.7901	.7639	.5653
	(263)	(255)	(245)	(263)	(263)	(261)
	P= .	P= .000	P= .000	P= .000	P= .000	P= .000
FBT	.7525	1.0000	.6258	.6606	.6437	.4842
	(255)	(262)	(244)	(262)	(262)	(260)
	P= .000	P= .	P= .000	P= .000	P= .000	P= .000
FM1	.8079	.6258	1.0000	.7653	.7035	.5383
	(245)	(244)	(253)	(253)	(253)	(251)
	P= .000	P= .000	P= .	P= .000	P= .000	P= .000
FM2	.7901	.6606	.7653	1.0000	.7540	.5720
	(263)	(262)	(253)	(271)	(271)	(269)
	P= .000	P= .000	P= .000	P= .	P= .000	P= .000
FM3	.7639	.6437	.7035	.7540	1.0000	.5161
	(263)	(262)	(253)	(271)	(271)	(269)
	P= .000	P= .000	P= .000	P= .000	P= .	P= .000
FO1	.5653	.4842	.5383	.5720	.5161	1.0000
	(261)	(260)	(251)	(269)	(269)	(269)
	P= .000	P= .000	P= .000	P= .000	P= .000	P= .
FO2	.6211	.6338	.5692	.5725	.5868	.4628
	(260)	(259)	(250)	(268)	(268)	(266)
	P= .000	P= .000	P= .000	P= .000	P= .000	P= .000
FO3	.0008	-.0893	.0181	.0061	-.0450	.0170
	(262)	(261)	(251)	(269)	(269)	(267)
	P= .989	P= .150	P= .775	P= .920	P= .463	P= .782

[a] FAT: Subjective perception of personal finance (Perception of how respondents felt about their financial situation utilizing the eight 4-point questions)
FBT: Behavioral assessment of personal finance (Assessment of respondents' personal financial behaviors utilizing the twelve 4-point questions)
FM1: Satisfaction with financial situation (Respondents' satisfaction level with their present financial situation measured with a 10-point question)
FM2: Perceived financial wellness (Respondents' perception about their financial wellness measured with a 5-point question)
FM3: Feeling about personal financial situation (Respondents feelings about their financial situation measured with a 5-point question)
FO1: Solvency measure
FO2: Amount of reserve funds
FO3: Monthly credit payments

Table 55 (Continued)

	FAT[a]	FBT	FM1	FM2	FM3	FO1
FO4	-.2245	-.2760	-.1664	-.1938	-.1716	-.1928
	(258)	(256)	(248)	(265)	(265)	(263)
	P= .000	P= .000	P= .009	P= .002	P= .005	P= .002
FO5	.5177	.5148	.4747	.4523	.4903	.3169
	(263)	(262)	(253)	(271)	(271)	(269)
	P= .000	P= .000	P= .000	P= .000	P= .000	P= .000
FO6	.3273	.3593	.2759	.2947	.3293	.2079
	(261)	(260)	(251)	(269)	(269)	(267)
	P= .000	P= .000	P= .000	P= .000	P= .000	P= .001

	FO2	FO3	FO4	FO5	FO6
FO2	1.0000	-.0159	-.2801	.5385	.4030
	(268)	(266)	(262)	(268)	(266)
	P= .	P= .796	P= .000	P= .000	P= .000
FO3	-.0159	1.0000	.0470	.0199	.1314
	(266)	(269)	(263)	(269)	(267)
	P= .796	P= .	P= .448	P= .745	P= .032
FO4	-.2801	.0470	1.0000	-.1364	-.0962
	(262)	(263)	(265)	(265)	(263)
	P= .000	P= .448	P= .	P= .026	P= .120
FO5	.5385	.0199	-.1364	1.0000	.2388
	(268)	(269)	(265)	(271)	(269)
	P= .000	P= .745	P= .026	P= .	P= .000
FO6	.4030	.1314	-.0962	.2388	1.0000
	(266)	(267)	(263)	(269)	(269)
	P= .000	P= .032	P= .120	P= .000	P= .

[a] FAT: Subjective perception of personal finance (Perception of how respondents felt about their financial situation utilizing the eight 4-point questions)

FBT: Behavioral assessment of personal finance (Assessment of respondents' personal financial behaviors utilizing the twelve 4-point questions)

FM1: Satisfaction with financial situation (Respondents' satisfaction level with their present financial situation measured with a 10-point question)

FM2: Perceived financial wellness (Respondents' perception about their financial wellness measured with a 5-point question)

FM3: Feeling about personal financial situation (Respondents feelings about their financial situation measured with a 5-point question)

FO1: Solvency measure

FO2: Amount of reserve funds

FO3: Monthly credit payments

FO4: Monthly installment loan payments

FO5: Amount of monthly savings

FO6: Amount of monthly voluntary supplementary tax-sheltered employer-sponsored monthly retirement contributions

actually measure the same concept of personal financial wellness. Even though each question was stated differently, the basic idea of each question originated with personal financial wellness. The subjective perception scale (FAT), behavioral assessment scale (FBT), and overall financial wellness scales (FM1, FM2, and FM3) were highly correlated. The objective scales (FO1, FO2, FO3, FO4, FO5, and FO6) were correlated with the subjective perception scale, behavioral assessment scale, and overall financial wellness scale.

The subjective perception index (FAT) was correlated with all other personal financial wellness measures. It was highly correlated with the behavioral assessment index (FBT), satisfaction with personal finance (FM1), perceived financial wellness (FM2), and feelings about personal financial situation (FM3). The correlation coefficients of FAT and FBT, FAT and FM1, FAT and FM2, and FAT and FM3 were .7525, .8079, .7901, and .7639 respectively. The positive correlation coefficients show that if a worker had a high level of personal financial wellness in the subjective perception area, then his or her personal financial wellness level in behavioral assessment, satisfaction with personal financial situation, perceived financial wellness, and feeling about financial situation tended to be high.

The close correlation between subjective perception index (FAT) and behavioral assessment index (FBT) is caused by the same financial domains that the two scales possess. Both of the scales have five domains of personal finance: cash management, credit management, income adequacy, personal financial management, and consumer shopping skills. This close correlation indicates the high level of reliability of the scales as measures of personal financial wellness. Both of the scales are good measures of personal financial wellness, and the two scales can be used in future personal financial wellness research.

The subjective perception (FAT) and the overall financial wellness scales (FM1, FM2, and FM3) measured the subjective evaluation of personal financial wellness of respondents, such as perception, feeling, or satisfaction of personal financial wellness. The similarity of the

measurements is represented in the high correlations between the FAT and the overall financial wellness scales. The subjective perception scale (FAT), behavioral assessment scale (FBT), and the overall financial wellness scales (FM1, FM2, and FM3) are good measures of personal financial wellness.

The FAT (subjective perception scale) was also correlated with the solvency measure (FO1), reserve funds (FO2), and savings per month (FO5) (correlation coefficients were .5653, .6211, and .5177 respectively). This relationships indicate that if subjective perception levels of personal financial wellness of workers were high, the workers tended to be more solvent, have more in reserve funds, and put more money into a savings account than those with a lower subjective perception level of personal finance. The FAT was also correlated with the retirement contribution per month (FO6). The correlation coefficient was .3273. Those who had higher levels of subjective perception of personal finance contributed more on their voluntary supplementary tax-sheltered employer-sponsored retirement contributions.

The correlation coefficient of subjective perception scale (FAT) and monthly installment loan payments (FO4) was -.2245. The negative correlation implies that those who showed higher levels of personal financial wellness in terms of subjective perception tended to have less in monthly installment loan payments. The monthly installment loan payments also showed negative correlation coefficients with most of the other personal financial wellness measures. The negative correlation represents that those who have a large amount of monthly installment loan payments tended to show lower levels of personal financial wellness. The significant correlations between subjective perception scale (FAT) and the objective scales (FO1, FO2, FO4, FO5, and FO6) demonstrate that the scales actually measure personal financial wellness.

The behavioral assessment index (FBT) also showed significant correlations with all other personal financial wellness measures, except monthly credit payments (FO3). The behavioral

assessment of personal finance was closely related with the overall financial wellness scales (FM1, FM2, and FM3) of personal financial wellness.

The behavioral assessment scale (FBT) was not significantly correlated with the monthly credit payments (FO3). The non-significant correlation is likely to represent the complicated attribute of the monthly credit payments. For some people, using a credit card is necessary due to the income shortage, but others use credit cards for convenience. Therefore, high levels of monthly credit card payments may represent both low levels of personal financial wellness and high levels of personal financial wellness, which could be the reason for the non-significant correlation between FBT and FO3.

The FBT (behavioral assessment scale) was negatively correlated with monthly installment loan loan payments (FO4) ($r = -.2760$). Those who paid more in monthly installment loans had lower scores in their behavioral assessment of personal finance. FBT had significant correlations with the objective scales (FO1, FO2, FO5, and FO6). The positive correlation coefficients of FBT and solvency measure (FO1), reserve funds (FO2), monthly savings (FO5), and monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions (FO6) represent that those who had higher levels of behavioral assessment tended to have more assets than debts, more money in their reserve funds, more monthly savings, and more retirement contributions.

Satisfaction with financial situation (FM1), perceived financial wellness (FM2), and feeling about personal financial situation (FM3) were highly correlated with each other. The high correlations mean that those three overall financial wellness scales measure the same concept. Those who were more satisfied with their financial situation tended to perceive their financial wellness as being higher, and they felt that they were financially well. The high correlation also indicates the high levels of reliability of the three questions as one index of personal financial wellness.

The correlation pattern of overall financial wellness scales (FM1, FM2, and FM3) with other scales was similar to that of subjective perception scale (FAT) and other personal financial wellness scales. The overall measures showed relatively high correlations with subjective perception scale (FAT) and behavioral assessment scale (FBT), and significant correlation with solvency measure (FO1), amount of reserve funds (FO2), amount of monthly savings (FO5), and monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions (FO6). Those who had higher levels of personal financial wellness in overall financial wellness scales tended to have higher levels of personal financial wellness in other scales.

The overall financial wellness scales were negatively correlated with FO4 (monthly installment loan payments). Those who had more monthly installment loan payments showed lower levels of personal financial wellness. This relationship indicates that those who have lower levels of personal financial wellness tend to use more monthly installment loans. The installment loan payments certainly are options for the lower income consumers for an expensive needed item, such as a vehicle, certain home appliances, and furniture. The significant negative correlation among the overall financial wellness scales and the FO4 suggests that the personal financial wellness scale is measuring both positive and negative aspects of financial wellness.

The objective scales were significantly correlated with each other. Solvency measure (FO1) was positively correlated with reserve funds (FO2), monthly savings (FO5), and monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions (FO6), and negatively correlated with monthly installment loan payments (FO4). Those who were more solvent had more reserve funds, more monthly savings, more monthly voluntary supplementary tax-sheltered employer-sponsored retirement contributions, and fewer monthly installment loan payments. FO2 showed positive correlations with FO5 and FO6. People who had more reserve funds also had more monthly savings and monthly retirement contributions. FO2 and FO4 had a negative correlation coefficient (-.2801). Respondents who had more reserve funds had less monthly installment loan payments. FO5 and FO6 were positively correlated. Those who had more

monthly savings tended to contribute more money for retirement. These significant correlations demonstrate the reliability of the scales as measurements of personal financial wellness.

The monthly credit payment (FO3) only showed a significant correlation with the monthly retirement contributions (FO6). Those who paid more on their credit bills each month tended to put more money toward their voluntary supplementary tax-sheltered employer-sponsored retirement contributions. However, the monthly credit payments did not show any significant correlation with other personal financial wellness measurements. This relationship represents a complicated pattern of monthly credit payments. While some people need to use a credit card due to income shortage, others choose to use credit cards as a convenience and can afford to pay the bills. The FO3 asked the amount of monthly credit card bills. It could be interpreted two ways as higher amounts of monthly credit card bills can represent either a shortage of income or a higher income. Also, credit card uses vary according to the spending styles of a respondent. Some people may not use a credit card very often. Moreover, the monthly credit payments may not be an effective measure of personal financial wellness. A measure of total debt payments compared to income (i.e. debt to income ratio) may be a better measure of the objective personal financial wellness.

As shown in the correlation coefficients of the measurements (Table 55), the four scales of personal financial wellness were related to each other. Among the four levels of scales, the subjective perception scale, behavioral assessment scale, and overall financial wellness scale were more closely related to each other than the objective scale. This close correlation represents the reliability of the scales. The four different scales can be used as measurements of personal financial wellness literature.

Reliability of the Personal Financial Wellness Scales

To determine whether the measurement, applied repeatedly to the same object, would yield the same result each time, a reliability test using Cronbach's alpha was conducted. The eight items in the subjective perception index showed an alpha of .8429. The inter-item correlations ranged from -.0329 to .7296. The items "I would have trouble borrowing $2,000 cash if I needed it" and "I am knowledgeable about consumer protection laws and regulations" showed a negative correlation. The negative correlation indicates that those who had more trouble borrowing $2,000 cash were less knowledgeable about consumer protection laws and regulations.

The principal component analysis of the eight items of the subjective perception index showed two components of factors (Appendix H). Item one through seven on the questionnaire fell into one factor and the eighth question (I am knowledgeable about consumer protection laws and regulations) composed one factor by itself. The eighth item of the questionnaire was designed to include a measure of consumer shopping skills. Conceptually, the consumer shopping skills are an important factor of personal financial wellness. Therefore, the item was retained in the subjective perception index even though it composed a different factor. The subjective perception index was composed of all of the initial eight items of personal finance.

The 12 items in behavioral assessment showed an alpha of .8062. The alpha for the behavioral assessment was slightly lower than the alpha for the subjective perception index. The inter-item correlations ranged from -.1831 to .6695. The negative correlations existed between the statement of "I purchased something expensive that I wanted, but really did not need" and the three items of "I set money aside for savings," "I set money aside for retirement," and "I had financial troubles because I did not have enough money." The negative correlation coefficients suggests that those who had more money tended to do more impulsive buying. The reason could be that lower income consumers do not have money to buy expensive products on impulse. Also, those who had lower income could not save frequently for general purposes or for retirement.

The principal component analysis showed three factors (Appendix I). Factor 1 consisted of the items of cash management, credit management, and income adequacy. Personal financial management items constructed one factor and consumer shopping skills items constructed another.

The first factor can be named "personal economic ability." The items that are included in this factor are: I set money aside for savings, I set money aside for retirement, I pay credit card bills in full and avoid finance charges, I reached the maximum limit on a credit card, I spend more money than I have, I have to cut living expenses, I have to use a credit card because I run out of cash, and I have financial troubles because I do not have enough money. All of these items are related to economic ability of personal finance management.

The second factor is "personal financial management style." The items that are included in this factor are "I had a plan to reach my financial goals" and "I had a weekly or monthly budget that I followed." The third factor is "consumer shopping skills," which includes "I comparison shopped at two or more stores for an expensive consumer product" and "I purchased something expensive that I wanted, but really did not need."

Even though the factor analysis showed three components of the 12 items of the behavioral assessment scale, measuring personal financial wellness with all three factors is more desirable. The 12 items were considered to be one factor – the behavioral assessment index – because all of the items were extracted from the conceptual framework of the five domains of personal financial wellness. Personal financial wellness is not limited just to a person's economic status, one's personal finance management style and consumer shopping skills are also important factors that should be included in the personal financial wellness measurement. The behavioral assessment index is recommended for future research that focuses on examining people's behavior concerning personal financial wellness.

The three measures of the overall financial wellness scales showed an alpha of .8940[a]. The high level of reliability of the three overall financial wellness scales shows that they measured the same concept of personal financial wellness, and the three scales will yield the same result when applied repeatedly. Even though the scale statement of "feeling about personal financial situation" was not a best choice (Table 17), the three overall measures showed a high reliability. The reliability test for the objective scales was not conducted because all of the measures had unequal levels of scales. The personal financial wellness measures were considered to be reliable. Therefore, using the four levels of scales as the measurement of personal financial wellness is recommended for future research.

Validity of the Personal Financial Wellness Scales

Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration. Content validity, "the degree to which a measure covers the range of meanings included within the concept" (Babbie, 1990, p.134), was determined by the expert opinion of a selected doctoral committee and graduate students who specialize in family financial management and consumer studies. Also, most of the items of the measurement were adopted from previous studies that established content validity (Conger et al., 1993; DeVaney, 1993a; DeVaney and Lytton, 1995; Dillman and Horton, 1986; Elder et al., 1992; Fitzsimmons et al., 1993; Garman, et al., 1996; Greninger et al., 1996; O'Neill, 1995; Pearlin et al., 1981; Peirce et al., 1996; Porter, 1990; Porter and Garman, 1993; Prochaska-Cue, 1993; Shinn, 1992; Varcoe, 1990; Williams, 1993). The measurement items represented personal financial wellness but did not necessarily include all the aspects of personal financial wellness. For example, the three statements of cash management (I set money aside for savings, I set money aside for retirement, and I spend more money than I had) in the behavioral assessment scale did not necessarily include all aspects of cash management. However, the three statements had an acceptable reliability (the three items showed an alpha of .6582), a high face validity, and content validity. The subjective

[a] While FM2 (perceived financial wellness) and FM3 (feeling about financial situation) were measured with 5-point scales, FM1 (satisfaction with personal finance) was measured with a 10-point scale. Therefore, for the reliability test, FM1 was recoded as a 5-point scale.

perception scale and the behavioral assessment scale did not include all the domains of personal finance. For example, the scale did not include the area of asset accumulation. However, the scales had acceptable content validity.

Construct validity is based on "the way a measure relates to other variables within a system of theoretical relationships" (Babbie, 1990, p.134). All the variables of the empirical study had a conceptual link to each other and personal financial wellness through the Joo Model of Personal Financial Wellness and Worker Job Productivity.

Personal Financial Wellness with Demographic Characteristics and Financial Stressors

The significant demographic characteristics for each personal financial wellness measure and financial stressors index were entered into a regression equation to explore the influences of demographic characteristics and financial stressors on personal financial wellness. While it was not a research question, it is useful to examine the effects of the demographic characteristics and financial stressors in one regression equation when explaining personal financial wellness.

Subjective Perception of Personal Finance

The subjective perception of personal finance was influenced by housing tenure, household income, number of financial dependents, and length of employment with current employer. It is also related to financial stressors. Therefore housing tenure, household income, number of financial dependents, length of employment, and financial stressors were included as independent variables in a regression equation with the subjective perception index being the dependent variable. The five independent variables explained 28.3% of the variance of subjective perception of personal finance (Table 56). Compared to the R square of Table 20 in

Table 56

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Subjective Perception Index[a] as the Dependent Variable (N=258)

Variable[b]	b	Beta	t	Sig.
Constant	17.234		16.094	.000
HousingD	1.689	.142**	2.402	.017
Income	.854	.333**	5.655	.000
Number	-.708	-.160**	-2.802	.005
Length of employment	.195	.066	1.152	.252
Financial Stressors	-.737	-.253**	-4.435	.000

R^2 = .283

F = 19.866**

** p <.01.

[a] Subjective Perception Index: Perception of how respondents felt about their financial situation utilizing sum of the eight questions, 4-point scale of subjective perception of personal finance

[b] HousingD: Dummy variable for Housing: 1 if home-owner, otherwise, 0
Income: Household income
Number: Number of financial dependents
Year: Length of employment
Financial Stressors: Financial stressors index

earlier chapter, the R square of this equation was higher than that of nine demographic characteristics. However, still the R square suggests that the existence of other factors that explain the variance of the subjective perception index. Household income was the most significant variable in explaining the subjective perception index. The increases in household income increase the subjective perception index, controlling for other variables.

The next significant variable was financial stressors. The more the number of financial stressors the lower the subjective perception index, controlling for other variables. The number of financial dependents also had negative impacts on the subjective perception of personal finance. Those who had more financial dependents had lower personal financial wellness.

The personal financial wellness of homeowners was higher than the others. Respondents who are homeowners, had higher household incomes, had fewer financial dependents, and experienced fewer financial stressors showed higher levels of personal financial wellness in the subjective perception scale.

The independent variables in the equation are income-related variables. Multicollinearity, the interrelations among the independent variables, results very unstable beta coefficients in regression analysis (Howell, 1992; Pedhazur, 1982). The correlations of the independent variables and multicollinearity test, however, did not show any mulicollinearity problem.

Household income and financial stressors are the best predictors for the subjective perception index. Those who had higher household incomes tended to have higher levels of personal financial wellness, and those who experienced more financial stress events tended to show lower personal financial wellness. Therefore, if an employer provides workplace education and assistance for employees about how to deal with financially stressful events, especially for workers with limited household incomes, those efforts might be expected to improve the workers personal financial wellness.

The financially stressful events in this study include decreased income, job change, investment loss, disability, illness, marriage, divorce or separation, child birth, additional expenses of education, retirement, death, moving, house repair, vehicle accidents, vehicle repair, vehicle repossession, home mortgage foreclosure, wage garnishment, personal bankruptcy, excessive medical bills, excessive consumer debt, and legal problems. Workplace education programs about managing financially stressful events, therefore, may include stress management for the above events. For example, workers who learn how to manage personal finances through budgeting and financial planning as a result of being better able to handle stressful events may maintain or improve their personal financial wellness.

Behavioral Assessment of Personal Finance

Among the nine demographic characteristics, household income was the only significant variable in the regression equation of behavioral assessment of personal finance (Table 21 in earlier chapter). Regression analysis results with household income and financial stressors as independent variables and behavioral assessment index as a dependent variable are shown in Table 57. Household income and the financial stressors together explained 11.9% of the variance of the behavioral assessment. Compared to the earlier Table 21, this is slightly more than the R square of the previous regression equation (R square of Table 21 was .111). This R square suggests that there are other factors that explain the variance of behavioral assessment index. Household income had a positive impact on the behavioral assessment index while the financial stressors had a negative impact. Those who had higher levels of household income and fewer financial stressors tended to have higher scores of personal financial wellness in behavioral assessment, controlling for other variables. Household income was more significant.

It is important to observe that workers with limited household incomes could improve their personal financial wellness in behavioral assessment by learning how to manage financial stressors. Therefore, helping people to manage financially stressful events, to wisely manage

Table 57

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Behavioral Assessment Index[a] as the Dependent Variable (N=262)

Variable[b]	b	Beta	t	Sig.
Constant	32.575		32.540	.000
Income	.834	.254**	4.305	.001
Financial Stressors	-.744	-.198**	-3.363	.000

R^2 = .119

F = 17.510**

** p <.01.

[a] Behavioral Assessment Index: Assessment of respondents' personal financial behaviors utilizing sum of the twelve 4-point questions

[b] Income: Household income
Financial Stressors: Financial stressors index

personal finances, through budgeting and financial planning, is valuable in an effort to improve personal financial wellness.

Satisfaction with Financial Situation

Household income, housing tenure, and the number of financial dependents were significant variables in explaining the variance of satisfaction with financial situation. Table 58 shows the regression results of the significant demographic variables and financial stressors in relation to the satisfaction with financial situation. The four variables explain about three-tenths (30.4%) of the variance of the dependent variable. This also suggests the existence of other factors that explain the dependent variable. Household income was the most significant variable followed by financial stressors. Those who had more household income and fewer financial stressors, owned their houses, and had fewer financial dependents showed higher levels of satisfaction with their financial situation than others.

The effects of the selected demographic variables and financial stressors on the satisfaction with one's personal financial situation were the same as the effects of those variables on the subjective perception index. This effect could represent the similarity of the two personal financial measures. While the subjective perception index included specific individual items of personal financial wellness, the overall financial wellness scales measured the general aspects of personal financial wellness. This result also reveals the importance of the economic situation of the respondents and the financial stress events on personal financial wellness.

Perceived Financial Wellness

Perceived financial wellness was affected by the household income, number of financial dependents, and ethnicity of the respondents. The regression equation with the significant variables and financial stressors shows that ethnicity is not a significant variable in explaining the perceived financial wellness at the 0.05 significance level (Table 59). Ethnicity was a significant variable in the previous regression analysis with the independent variables being the

Table 58

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Satisfaction with Financial Situation[a] as the Dependent Variable (N= 248)

Variable[b]	b	Beta	t	Sig.
Constant	3.980		11.120	.000
HousingD	.895	.188**	3.249	.001
Income	.354	.346**	5.849	.000
Number	-.380	-.212**	-3.713	.000
Financial Stressors	-.293	-.251**	-4.478	.000

R^2 = .304

F = 26.497**

** p <.01.

[a] Respondents' satisfaction level with their present financial situation measured with a 10-point question
[b] HousingD: Dummy variable for Housing: 1 if home-owner, otherwise, 0
Income: Household income
Number: Number of financial dependents
Financial Stressors: Financial stressors index

Table 59

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Perceived Financial Wellness[a] as the Dependent Variable (N= 267)

Variable[b]	b	Beta	t	Sig.
Constant	2.552		10.639	.000
Income	.198	.364**	6.368	.000
Number	-.149	-.160**	-2.791	.006
EthnicityD	.397	.102	1.888	.060
Financial Stressors	-.181	-.295**	-5.450	.000

R^2 = .264

F = 23.601**

** p <.01.

[a] Respondents' perception about their financial wellness measured with a 5-point question

[b] Income: Household income
Number: Number of financial dependents
EthnicityD: Dummy variable for ethnicity 1 if white, otherwise, 0
Financial Stressors: Financial stressors index

nine demographic characteristics and the dependent variable being perceived financial wellness (Table 23 in earlier chapter). However, ethnicity is not a significant variable in this regression equation with the additional independent variable of financial stressors. Because of the skewness of the ethnicity — most of the respondents (91.9%) were white — it turns out to be a non-significant variable with an important predictor, the financial stressor index.

The four independent variables (household income, number of financial dependents, ethnicity, and financial stressors) explained 26.5% of the variance of perceived financial wellness. The R square suggests that the existence of other factors that explain the variance of perceived financial wellness. The household income of respondents was relatively more significant than other independent variables, followed by financial stressors.

The financial stressors index is a significant predictor of personal financial wellness. With the increased number of financially stressful events that respondents experienced, the perceived financial wellness of the respondents decreased.

Feeling about Financial Situation

Household income and the number of financial dependents were significant variables in explaining the variance of the feeling about the financial situation of the respondents. As shown earlier in the Table 24, the nine demographic characteristics explained 17.8% of the variance of the dependent variable. Table 60 shows the regression of those two significant independent variables and financial stressors. The three variables explained 23.9% of the variance of feeling about financial situation. With the financial stressors as one of the independent variables, R square of this regression equation increased, however, it suggests that there are other factors that explain the variance of feeling about financial situation. The significant variables were the same as the other overall financial wellness scales. Household income was relatively more significant than the other variables. The economic situation was the best predictor of feeling about financial situation.

Table 60

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Feeling about Financial Situation[a] as the Dependent Variable (N=267)

Variable[b]	b	Beta	t	Sig.
Constant	2.676		20.000	.000
Income	.152	.352**	6.052	.000
Number	-.128	-.171**	-2.976	.003
Financial Stressors	-.145	-.295**	-5.380	.000

R^2 = .239

F = 23.601**

** p <.01.

[a] Respondents feelings about their financial situation measured with a 5-point question
[b] Income: Household income
Number: Number of financial dependents
Financial Stressors: Financial stressors index

The feelings about financial situations of the respondents are predicted with the person's economic situation, i.e. household income, the number of financial dependents, and financial stressors. Those who have more household income, fewer financial dependents, and fewer financial stressors feel that they are more financially well.

Moreover, the regression analysis of subjective perception, behavioral assessment, and overall financial wellness scales of personal financial wellness reveals the great impacts of financial stressors on personal financial wellness. Financial stressors is the second most significant variable that explains personal financial wellness. Personal financial wellness may be well predicted with financial stressors, as well as demographic, or socio-economic variables. Previous literature on financial wellness did not include financial stressors. Financial stressors need to be measured when examining personal financial wellness.

Solvency Measure

Among the nine demographic characteristics, housing tenure and the number of financial dependents were significant variables. Those who had their own houses and fewer financial dependents were more solvent. Table 61 shows the regression with three independent variables: housing tenure, number of financial dependents, and financial stressors. The three independent variables explained 29.3% in the variance of the solvency measure. The R square suggests that there are other variables that explain the variance of the solvency measure besides the three independent variables. Housing tenure's contribution to the dependent variable was relatively more significant than the other two variables followed by financial stressors. Homeowners who experienced fewer financial stressors were more solvent than others. The number of financial dependents was not significant in this case.

Financial stressors also had significant impacts on the solvency measure. The significant impacts of financial stressors also reveals the importance of this variable when one measures personal financial wellness.

Table 61

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Solvency Measure[a] as the Dependent Variable (N=264)

Variable[b]	b	Beta	t	Sig.
Constant	3.626		19.818	.000
HousingD	1.229	.455**	8.321	.000
Number	-.084	-.085	-1.597	.112
Financial Stressors	-.135	-.206**	-3.801	.000

R^2 = .304

F = 26.497**

** p <.01.

[a] Solvency was measured with the following question: "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 answer category consists of 5-point scale.

[b] HousingD: Dummy variable for Housing: 1 if home-owner, otherwise, 0
Number: Number of financial dependents
Financial Stressors: Financial stressors index

Reserve Funds

Three variables were entered into a regression equation: household income, respondents age, and financial stressors. The three independent variables explained 25.7% in the variance of the amount of reserve funds (Table 62). The R square suggests that there are other factors that explain the amount of reserve funds. In this case, age was the most significant variable. As age increases, the amount of reserve funds increases, controlling for other factors. The second significant variable was financial stressors and the third was household income. Therefore, the accumulation of the reserve funds can be well predicted with age. The older respondents tend to have more reserve funds than younger respondents. Those who had more household income and fewer financial stressors had more reserve funds.

Monthly Credit Payments and Installment Loan Payments

Monthly credit payments and the monthly installment loan payments were not significantly correlated with the financial stressors. Therefore, no new regression analysis was conducted for those two measurements. There could be other factors that explain monthly credit payments and monthly installment loan payments besides the financial stress events. For example, monthly credit payments could be affected by the person's spending or shopping style. Further, some people do not use credit cards at all, while others use credit cards very frequently. Financial stressors may not particularly affect the monthly credit payments and installment loan payments.

Savings Per Month and Retirement Contributions Per Month

Household income and the financial stressors were entered into the regression equation of savings per month. The two variables explained 17.3% of the variance of savings per month (Table 63). Household income was relatively more significant than the financial stressors. Those two independent variables were also entered into the regression of retirement contributions per month. The two variables explained only 9% of the variance of the retirement contributions (Table 64). Household income was also relatively more significant than the financial stressors.

Table 62

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Amount of Reserve Funds as the Dependent Variable (N=258)

Variable[a]	b	Beta	t	Sig.
Constant	-.004		-.008	.994
Income	.215	.234**	4.204	.000
Age	.054	.296**	5.370	.000
Financial Stressors	-.247	-.236**	-4.259	.000

R^2 = .257

F = 29.319**

** p <.01.

[a] Income: Household income
Age: The respondent's age
Financial Stressors: Financial stressors index

Table 63

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Amount of Monthly Savings as the Dependent Variable (N=271)

Variable[a]	b	Beta	t	Sig.
Constant	1.433		5.115	.000
Income	.356	.370**	6.567	.000
Financial Stressors	-.152	-.138*	-2.456	.015

R^2 = .173

F = 28.091**

* p < .05. ** p <.01.

[a] Income: Household income
Financial Stressors: Financial stressors index

Table 64

Regression Results of Personal Financial Wellness with Demographic Characteristics and Financial Stressors as Independent Variables and the Amount of Monthly Voluntary supplementaryTax-Sheltered Employer-Sponsored Monthly Retirement Contributions as the Dependent Variable (N=269)

Variable[a]	b	Beta	t	Sig.
Constant	1.089		5.315	.000
Income	.166	.249**	4.193	.000
Financial Stressors	-.100	-.131*	-2.211	.028

R^2 = .090

F = 13.159**

* p < .05. ** p <.01.

[a] Income: Household income
Financial Stressors: Financial stressors index

The small R square figures of monthly savings and monthly retirement contributions suggest that there may be other important factors besides the nine demographic characteristics and financial stressors in explaining savings and retirement savings. The respondent's financial education is one of the factors that explains the amount of savings and assets. Bernheim and Garret (1996) showed that the rates of saving, both in general and for the purpose of retirement, increased significantly with the provision of retirement education at the workplace. Later Bernheim, et al. (1997) found that instruction in personal finance at the high school level affected the person's asset accumulation through savings. Those who received instruction in personal finance during their high school years accumulated more assets than their peers who did not have financial education.

Summary of Personal Financial Wellness, Demographic Characteristics, and Financial Stressors

In summary, the economic situation of the respondents (represented by household income) and the number of financial stress events that they experienced were significant variables in explaining personal financial wellness. Those who had higher levels of household income and fewer financial stress events had higher levels of personal financial wellness scores in the subjective perception of personal finance, behavioral assessment of personal finance, overall financial wellness scales, amount of reserve funds, monthly savings, and monthly retirement contributions.

The findings suggest the importance of financial stressors in explaining personal financial wellness. With the financial stressors, R squares were increased. This finding suggests the substantial explanatory power of financial stressors in predicting personal financial wellness. Financial stressors may be included in future financial wellness studies.

The findings also implies that financial education may be very important in helping people manage their incomes, limited or not, and handle financial stressors. Financial education is one of the important components in marriage and family therapy (Poduska & Allred, 1990). Financial education may also be a stress management strategy. The financial stress and the financial stress

events that each worker experiences reveal the need for financial education in a stress management program. By providing financial education, employers may help workers improve their personal financial wellness. Improving the personal financial wellness of workers is one of the key reasons for providing workplace financial education (Management briefing, 1998).

Personal Financial Wellness and Absenteeism: Potential Effects of Financial Education

This section further discusses the regression analysis of absenteeism with personal financial wellness. As discussed earlier, personal financial wellness affects the absenteeism of workers. Those who had higher scores on behavioral assessments showed lower absenteeism, when controlling for age and financial stressors. Those who had less monthly installment loan payments were absent less from work, controlling for age and financial stressors.

This relationship between financial wellness and absenteeism has some practical implications. The regression coefficient in Table 44 (presented in chapter V) shows that one unit increase of behavioral assessment score (FBT) corresponds with a decrease in absenteeism by 0.029 units, controlling for the respondent's age and financial stressors. Absenteeism was measured with the following categories: (1) none, (2) 1 to 3 days, (3) 4 to 6 days, (4) 7 to 9 days, (5) 10 to 12 days, and (6) more than 12 days. Therefore, 0.029 units of three workdays would be 42 minutes, when assuming an 8-hour work day (0.029 x 3 days x 8 hour per day x 60 minutes). Every 1-point increase in the behavioral assessment, on a 48-point scale, can reduce approximately 42 minutes of absence from work in one year. If workers change their financial behavior in a positive way absenteeism may decrease by 42 minutes in one year per worker. The behavior assessment scale includes I set money aside for savings, I set money aside for retirement, I had a plan to reach my financial goals, I had a weekly or monthly budget that I followed, I comparison shopped at two or more stores for an expensive consumer product, I purchased something expensive that I wanted, but really did not need, I paid credit card bills in full and avoided finance charges, I reached maximum limit on a credit card, I spend more money than I had, I had to cut living expenses, I

had to use a credit card because I ran out of cash, and I had financial troubles because I did not have enough money. The relatively minor but positive changes in worker behavior in one or more of the above 12 behavioral assessment items —for example, if financial education encouraged those who never set money aside for retirement to sometimes save money toward retirement (which is a 1-point increase in the behavioral assessment score) — may result in a decrease in absenteeism.

Literature has supported the effectiveness of workplace education on productivity. Wagner (1982) said helping workers with problems can bring "incredible success in improving productivity and reducing costs" (p.59). Workplace financial education can influence the retirement contributions of workers. For example, Bernheim and Garrett (1996) found the strong influence of workplace financial education on retirement savings. Workers who participated in the workplace retirement education saved significantly more toward retirement than those who did not participate. Also, companies have experienced an increase of 52% in retirement contributions from employees after conducting workplace financial education (Gorbach, 1997). Besides the increase in retirement savings, workers improved in their asset allocation through workplace financial education (DiPaula, in press). Financial education also influences individual knowledge, attitude, and behavior (Fletcher, et al., 1997).

Previous research has shown the effects of workplace financial education on personal financial wellness, particularly in the amount of money saved for retirement. It is not illogical to assume that financial education could improve a worker's behavioral assessment score at least 2 to 4 points, particularly because it is a 48-point scale. For example, consider the case of a worker who never sets money aside for retirement. His current behavioral assessment score on the item is 1. If the worker starts to set money aside for retirement regularly, perhaps due to financial education, his behavioral assessment score on the item may move to 4. This 3-point increase in behavioral assessment score translates to 126 minutes in reduced absenteeism in one year. By

converting the reduction of absenteeism to an hourly wage of $15.00[a] (assuming the average annual income is $30,000), the employer could potentially save $31.50 in one year for such a worker who improves his financial behavior. This statement is accurate for all workers who improve financial behaviors, including those with money problems as well as others who have some room for improvement in their personal financial behaviors.

It should be noted, however, that the relationship between financial behavior and absenteeism may be in the reverse direction. Increases in absenteeism might result in decreases in behavioral assessment scores. For example, a wage earner who rarely misses a work day may enjoy better financial wellness compared to a worker who is often absent from work. Most would agree, however, that regardless of which factor may "cause" the other, particularly among salaried workers as in this study, employees may be more receptive to financial education rather than to seminars on the virtues of good work attendance.

There are two types of absenteeism: avoidable and unavoidable (Dalton & Mesch, 1991). Workplace financial education may affect avoidable absenteeism by providing behavioral solutions for workers to confront their financial problems.

Personal Financial Wellness and Work Time Used for Personal Financial Matters: Potential Effects of Financial Education

This section further discusses the regression results of work time used for personal financial matters. Subjective perception, behavioral assessments, overall personal financial wellness measures, solvency, and amount of monthly installment loan payments have significant impacts on work time used for personal financial matters. Among these five personal financial wellness measures, behavioral assessment and overall satisfaction index are more likely to be affected by financial education.

---

[a] According to the Statistical abstract of the United States 1997, the white-collar administrative support clerical workers average salary was $16.55.

People who use their work time to deal with personal financial matters did so in one or more of eight different ways (Table 38 in chapter V). Based on the reports of the eight items, a work time use index (WT) was calculated (see Table 39 in chapter V). The WT range is 0 to 8. About one-third (32.8%) of the 270 workers never dealt with personal financial matters at work. Among those who dealt with personal financial matters during work hours, about one-half (50.3%, 91/181) of workers dealt with personal financial matters in one of the eight different ways. Most of the rest dealt with personal financial matters in two or three ways (39.2%, 71/181).

A conservative estimate is that a worker with financial problems spends 15 minutes per day dealing with personal financial matters, or 75 minutes per week, or 62.5 hours in a 50-week work year[a]. The relationship between personal financial wellness, especially behavioral assessment and overall satisfaction with financial situation, and work time used for personal financial matters has some practical implications. The regression coefficient of behavioral assessment index (FBT) is -0.0265 (Table 47 in chapter V). This indicates that every 1-point increase in the behavioral assessment index corresponds with 0.0265 decrease in work time used for personal financial matters. Consequently every 1-point increase in behavioral assessment, on a 48-point scale, can reduce 111 minutes of work time used for personal financial matters annually (0.0265 x.75 minute/week x 50 week). If workers, including those with money problems as well as others who have room for improvement in their personal financial behaviors, change their financial behavior in a positive way, work time used for personal financial matters may decrease. Workers may change their personal financial behavior in one or more of the 12 ways in the behavioral assessment index.

As noted earlier, previous literature has shown the positive effects of workplace financial education on financial behaviors (Bernheim & Garrett, 1996; Bernheim et al., 1997; DiPaula, in press, Gorbach, 1997; Fletcher, 1997, Heath, 1996; The 1997 RCS, 1997). It is not illogical to assume that financial education could improve a worker's behavioral assessment score at least 2

[a] Experts from non-profit and profit oriented credit counseling services as well as researchers say that people with money problems, often spend an hour or more per day dealing with their personal financial problems.

to 4 points, particularly since it is a 48-point scale. For example, consider the case of a worker who never budgets his income. His current behavioral assessment score on the item is 1. If the worker starts to budget regularly, due to the financial education, his behavioral assessment score on the item may move to 4. This 3-point increase in behavioral assessment score translates to 333 minutes in reduced work time lost in one year dealing with personal financial matters. By converting the reduction of work time used for personal financial matters to an hourly wage of $15.00 (assuming the average annual income is $30,000), an employer would save approximately $83.25 in one year for such a worker who improves his financial behavior.

Financial education may affect not only financial behavior of workers but also their overall satisfaction with their financial situation. The regression coefficient of the overall satisfaction index (FMT) is -0.0941 (Table 48 in chapter V). This indicates that every 1-point increases in the overall satisfaction with financial situation corresponds with a 0.0941 decrease in work time used for personal financial matters. By applying the conservative estimate of 15 minute per day, 1-point increase in personal financial wellness in overall satisfaction with their financial situations of workers translates into 353 minutes (0.0941 x 75 minute/week x 50 week) of reduced work time lost dealing with personal financial matters. By converting the reduction of work time lost to an hourly wage of $15.00, the employer could potentially save $88.22 in one year for such a worker who improves his financial behavior.

It should be noted, however, that the relationship between financial behavior and work time used for personal financial matters and the relationship between overall satisfaction with financial situation and work time used may operate in the reverse direction of that explained above. Increases in work time used for personal financial matters could potentially decrease behavioral assessment scores and overall satisfaction with financial situation. While this is a logical argument, it is weak.

In summary, relatively minor but genuinely positive changes in a worker's behavioral assessment and overall satisfaction with financial situation, perhaps due to financial education, has the potential to save a total of $171.47 ($83.25 + $88.22) per worker in one year. By combining this potential savings with the projected savings from reduced absenteeism, an employer could possibly save $202.97 ($171.47 + $31.50) for such a worker who improves his financial behavior.

A more realistic increase in increase in financial behavior, perhaps resulting from workplace financial education, could be 6 points on the 48-point scale. For example, consider the case of a worker who never budgets his income and never saves money for retirement. If the worker starts to budget regularly and save money for retirement regularly, his behavioral assessment score will move by 6 points. This 6-point increase in behavioral assessment score translates to $63.00 savings in one year due to the reduced absenteeism. (See previous section where the 3-point increase in the behavioral assessment score would result in $31.50 savings in one year per worker due to reduced absenteeism.) This 6-point increase may also result in $166.50 in savings due to reduced work time used for personal financial matters. (The 3-point increase translates to $83.25 savings in one year.) Therefore, the potential savings for a worker who improves his financial behavior may be $229.50 ($63.00 from reduced absenteeism and $166.50 from reduced work time used for personal financial matters) in one year. In addition to the behavioral change, overall satisfaction with personal financial situation may also be changed. If overall satisfaction with personal financial situation increases by 2 points, this increase may save $176.44 in one year for a worker who improves his overall satisfaction with financial situation. In sum, the potential savings for employers through positive changes in a worker's financial behavior and overall satisfaction with his or her personal financial situation, perhaps because of financial education, may be $405.94 in one year.

The above calculation may be extrapolated to a employer who has a large number of employees. To illustrate, assume that an employer of 1,000 employees has 15% of workers who have poor financial behaviors and that financial education can affect two-thirds of those workers positively.

This means the employer may realize a savings of $40,594 ($405.94 x 1,000 x 0.15 x 2/3). Further and importantly, since financial education impacts workers with no money problems as well as those experiencing financial difficulties, it is likely that 30% or more workers will improve their financial behaviors and wellness after receiving comprehensive financial education. Therefore, an employer of 1,000 workers where 30% of the workforce improves their financial behaviors and wellness may realize a savings of $116,550 ($388.50 x 300) in one year.

The Relationship: Personal Financial Wellness and Worker Job Productivity

This study has clearly demonstrated the relationship between personal financial wellness and worker job productivity. Those who have higher levels of personal financial wellness reported better performance ratings from their bosses, less absenteeism, and less work time used for personal financial matters than those who have lower levels of personal financial wellness.

The reasons for the impact of personal financial wellness on the worker job productivity need to be better understood. Part of the relationship could be explained by one's stress level. As illustrated in the Joo Model of Personal Financial Wellness and Worker Job Productivity, one's financial stress level can affect worker productivity.

Consider the case of a worker whose personal financial wellness was low. In particular, this person had a low level of satisfaction with personal financial wellness, practiced undesirable personal finance behaviors, was not solvent, had low amounts of reserve funds, had a large amount of monthly installment loan payments, and saved less both for general purposes and for retirement. In this case, the worker can be expected to be concerned about his or her personal financial matters. Those concerns about personal financial matters can hinder or distract the worker from concentrating on work duties and responsibilities. When a worker worries about financial problems and has low satisfaction with his or her personal financial wellness, he or she may lose enthusiasm for work and may be distracted from concentrating on work. The person's loss of concentration further influences satisfaction with work. This lowered enthusiasm,

concentration, and satisfaction leads to lower productivity and performance at work. This worker's need to consult with lenders, financial counselors, or lawyers often requires that work time be used for personal financial matters. This demand for use of work time for personal financial matters is a key factor that results in lower worker job productivity.

The concerns and worries of employees can be explained with the "Out-of-Balance" and "Spiraling Sphere" stage of the Garman, Leech, and Grable (1996) model. Declines in personal financial wellness make workers enter the out-of-balance stage that lowers job productivity. Further, if a worker's personal finances continue to decline resulting in reduced personal financial wellness, higher financial stressors, and severe financial stress, he or she will have entered the spiraling sphere stage. At this point, the worker's job productivity at work is even worse and perhaps setting the conditions for job-related accidents and violence.

Personal Finance Employee Education

As shown in this research, the personal financial wellness level of this sample workers is not high, and poor personal financial wellness affects worker job productivity. The negative impacts of poor financial behaviors on absenteeism and work time used for personal financial matters are both examples of the relationship between personal financial wellness and job productivity. If the financial behavior of workers can be changed in positive ways, such as through workplace financial education, it may increase their productivity. This section discusses more potential effects of personal financial employee education on worker job productivity.

Four items in the behavioral assessment scale focused on personal finance management and cash management. Those are: "I set money aside for savings," "I set money aside for retirement," "I had a plan to reach my financial goals," and "I had a weekly or monthly budget that I followed." These behaviors may be changed in a positive direction through financial education, such as education on savings, retirement, budgeting, and financial planning. The correlations of the four items and the productivity measures reveals that the four items are positively correlated with the

self-reports of productivity change (P1) and performance rating (P2) (Table 65). The positive correlation suggests that if workers scored behaviors on the four items were higher they would have higher productivity and higher performance ratings from their bosses than others. This implies that if the financial behaviors of workers are changed in a positive way (toward higher scores on the four items), their job productivity and performance ratings will be higher than before. Further, personal finance employee education on topics of savings, retirement, budgeting, credit managing, and financial planning may help increase the job productivity of workers.

Table 65 also includes the correlation of FA3 and productivity measures. FA3 is one of the subjective perceptions of personal finance items: "I think I will have enough money to live comfortably throughout retirement." The correlation coefficients show the relationship between the perception about retirement of the respondents and job productivity. FA3 has a positive correlation coefficient with the performance rating (P2). If subjective perceptions of workers about retirement were optimistic, their performance ratings from their bosses could be high. The FA3 shows significant negative correlation coefficients with absenteeism (P3) and work time used for personal financial matters (WT). These coefficients suggest that if the subjective perceptions of retirement were optimistic, they tended to be absent less from work and used less work time for personal financial matters.

This correlation also suggests the importance of financial education, including its emphasis on retirement, at the workplace. On the topic of retirement education, many employees heavily rely upon financial education at the workplace (Bernheim & Garrett, 1996). Bernheim and Garrett found a considerable impact of employer-based education on workers financial decision making. Employees who were offered retirement education were far more likely to participate in 401(k) programs and to make larger contributions to their plans. Heath (1996) also found silimar effects of retirement preparation programs. The retirement preparation program significantly affected retirement satisfaction. Therefore, even narrowly focused retirement education at the workplace can positively influence worker job productivity through improved personal financial wellness.

Table 65

Correlation Matrix of Selected Behavioral Assessment, Subjective Perception and the Four Measures of Productivity

	P1[a]	P2	P3	WT
FBE	.1677	.2169	-.0948	-.0633
	(269)	(268)	(268)	(268)
	P= .006	P= .000	P= .122	P= .302
FA3	.0430	.1787	-.1233	-.1410
	(269)	(268)	(268)	(268)
	P= .482	P= .003	P= .044	P= .021

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

[a] P1: Self-reported productivity change
P2: Performance rating
P3: Absenteeism
WT: Work time used for personal financial matters, index
FBE: Sum of the four items (I set money aside for savings; I set money aside for retirement; I had a plan to reach my financial goals; and I had a weekly or monthly budget that I followed) of behavioral assessment
FA3: Subjective perception (I think I will have enough money to live comfortably throughout retirement.)

Workers experience various financially stressful events. Marriage, death, moving, job change, income decrease, and job loss are some of the more common financial stress events in life. Among the many financial stressors, marriage, family member's death, childbirth, divorce, and separation from a spouse are life cycle stress events that are related to financial stress. Poduska and Allred (1990) suggested that financial education be included in marriage and family therapy programs.

Summary of Further Discussion

This chapter discussed the personal financial wellness measurement, personal financial wellness with demographic characteristics and financial stressors, personal financial wellness and worker job productivity, and personal finance employee education. The four scales of personal financial wellness were reliable and valid, thus the scales can be effectively used in future research.

With the financial stressor variable, as well as demographic variables, personal financial wellness is better predicted than just with demographic variables in regression equations. Household income was the most significant variable in explaining personal financial wellness, and the financial stressor was the second most significant variable. The research findings revealed the importance of financial stressors in personal financial wellness research.

Personal financial wellness affects absenteeism and work time used for personal financial matters. Among the eleven measures of personal financial wellness, behavioral assessments influenced absenteeism and work time used for personal financial matters. The relationship between behavioral assessment and absenteeism and the relationship between behavioral assessment and work time used for personal financial matters showed some potential effects of financial education. Because financial behaviors of workers were related to absenteeism and work time used for personal financial matters, behavior change in a positive direction, perhaps stimulated by workplace financial education, may lead to a lowered absenteeism and a reduction in work time used for personal financial matters.

The relationship between personal financial wellness and worker job productivity can be explained with the Joo Model of Personal Financial Wellness and Worker Job Productivity. The relationship can also be discussed with the Garman, Leech, and Grable Model.

Personal finance employee education may have potential positive effects on worker job productivity. Workers desire comprehensive financial education, and such workplace education may be a key factor in increasing job productivity.