Financially Distressed Consumers: Their Financial Practices, Financial Well-being, and Health

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This study examined relationships among the financial practices, financial well-being, and health of a sample of 3,121 financially distressed consumers who were new clients participating in the debt management program of a large national non-profit credit counseling organization. Respondents who reported having improved health since participating in credit counseling were more likely than others to engage in positive financial behaviors. For six out of ten financial behaviors, respondents who reported improved health were more likely to report that their finances improved. Implications are provided for financial counselors and educators.

Keywords: *Debt repayment, debt problems, financial counseling , financial distress, personal financial behavior , health and personal finances, financial problems*

Introduction

Sociological research data indicate that four factors strongly predict happiness and overall well-being in most cultures: health, economic status, employment, and family relationships (Bernstein, 2004). People are happier when they are healthy, employed, married or in a committed relationship, and financially secure. The study reported here explores relationships among financial practices, financial well-being, and health. Unlike many previous studies, however, this one analyzes a large sample of financially distressed consumers who contacted a national non-profit credit counseling organization to seek assistance with heavy outstanding debt. The purpose of this study is to document associations between various health and personal finance variables, identify characteristics of consumers who perceive that financial problems affect their health, and explore effects of interactions between health and personal finances on the well-being of financially stressed consumers.

Health and personal finance issues, individually and in combination with each other, affect millions of U.S. households. Major societal trends that have been widely reported in recent years include an increasing incidence of obesity and diabetes, low household savings rates, and high household debt. The Credit Card Nation (Manning, 2000) and Fast Food Nation (Schlosser, 2002), recent books that examine Americans' spending and eating habits, respectively, describe complex problems that have become increasingly interrelated.

Many Americans are unhealthy physically and fiscally; they are overweight and over-indebted and are seeking solutions to improve both their health and their finances. There is evidence of many parallels between factors such as environmental controls that affect good health and foster financial success (Hollerith, 2004; O'Neill, 2004). Health and wealth are also related on a macro level. Modest reductions in the death rate from common killers, such as cancer and heart disease, can lead to trillions of dollars in economic benefits for all Americans according to economists Murphy and Topel (2003) from the University of Chicago. Just one major health problem alone, obesity, is estimated to cost $117 billion nationally in medical costs and lost productivity (Citing Dangerous Increase, 2004). Obese people spend 36% more on health care services and 77% more on medications than average-sized people according to

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a study by the Rand Corporation (Geary, 2002; Olick, 2003). On an individual basis, the Centers for Disease Control and Prevention (U.S. Dept. of HHS, 2003) estimates that a 10 percent weight loss could reduce an overweight person's lifetime medical costs by $2,200 to $5,300.

Good health is a major factor in wealth creation. It is associated with increased workplace productivity resulting in higher earnings and savings, fewer wealth-eroding medical expenses, and longer life expectancies in which to earn compound interest on invested assets and collect Social Security and other retirement benefits (Lee & McKenzie, 1999). While good health is affected by many factors, some of which are beyond a person's control, healthy lifestyle choices increase the likelihood of a long and healthy life and a better return on annuities and other retirement savings plans. Healthy people provide the foundation for a wealthier America (McKinnell, 2004).

Unfortunately, one in seven American families has problems paying health-care costs, which can lead to "juggling" of medical expenses with basic living costs and negative patient behaviors such as delaying necessary medical treatment and forgoing the use of prescription drugs (Kissel, 2004). The percentage of working-age Americans aged 18 to 64 without health insurance was 20.1% in 2003; 46.3 million Americans, or 15.2% of the population, lacked health insurance (Dooren, 2004). This translates into roughly one in seven Americans (Regnier, 2003), a startling statistic. Even households with health insurance have had difficulty with rising out-of-pocket costs such as deductibles and co-insurance as employers increasingly shift more expenses to workers (Fuhrmans, 2004). Poor families, insured or not, have some of the heaviest medical bill burdens with nearly 20% of those below poverty level having trouble paying medical bills (Kissel, 2004).

Not surprisingly, unpaid medical bills are associated with a high number of personal bankruptcies. Approximately one in five bankrupt households described in The Fragile Middle Class (Sullivan, Warren, & Westbrook, 2000) listed a medical problem as a reason for filing for bankruptcy, making it the third most common reason listed, after job loss and family problems. A more recent study of 1,771 personal bankruptcy filers (Himmelstein, Warren, Thorne, & Woolhandler, 2005) found that medical problems contributed to about half of all bankruptcies. This included any medical cause such as a specific illness or injury, uncovered medical bills exceeding $1,000, or loss of work-related income due illness or injury. The number of medical bankruptcies in 2001 was twenty-three times the number in 1981. Medical bankruptcy filers were described by the study authors as "demographically typical Americans who got sick" and were more likely than other filers to be middle class and have experienced a loss of health insurance.

Needless to say, high household medical debt may also preclude recommended wealth-creation strategies, such contributing to a 401(k) plan or Roth IRA, resulting in forgone savings opportunities. As with home repairs and other contingent expenses, many consumers do not plan for health care costs until a serious illness or injury occurs (Vitt, Siegenthaler, Siegenthaler, Lyter, & Kent, 2002). When unexpected medical bills arrive, the collective impact of unexpected medical expenses, interruption of income, and/or consumer debt can trigger financial distress (Sullivan, Warren, & Westbrook, 2000).

In addition to the cost of medical care, another way that health and finances are related is the sheer cost of unhealthy habits such as smoking and alcohol consumption over time, thereby resulting in lost household wealth. In states with high cigarette taxes, the cost of a pack of cigarettes today is as high as $7 for some brands, including sales taxes (Berls & Paolucci, 2004). In addition to the increased risk for lung cancer, hypertension, and other health problems, a pack-a-day smoker could spend over $2,500 annually to support their habit. With 8% interest over 40 years, $2,500 of annual savings would accumulate to almost $650,000. The American Heart Association estimates that 25% of men and 21% of women in the United States are smokers (Cigarette Smoking Statistics, 2004).

Personal finances can negatively affect health because overdue medical debt can result in delayed or inadequate treatment and resulting anxiety. Personal finances can also be negatively affected by health as when increased medical expenses result in lower lifetime asset accumulation and a poor credit history from unpaid medical bills. There are a number of health effects of poor financial behaviors such as overspending and unpaid debts. First, there is the associated stress and anxiety (Drentea & Lavrakas, 2000). Also, families that do not have health insurance or money to pay for medical treatment or owe money for past health care expenses may elect to forego treatment or be relegated to emergency rooms and clinics for primary health care (Vitt, Siegenthaler, Siegenthaler, Lyter, & Kent, 2002). Persons experiencing financial distress may also be unable to follow recommended health maintenance practices such as eating a healthy diet and receiving periodic screening exams (O'Neill, Sorhaindo, Xiao, & Garman, 2005).

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It is clear from the above discussion that financial well-being and physical well-being are related in a variety of ways. For the most part, however, efforts to improve Americans' health and finances have operated on two separate, but parallel, tracks with separate literature and advocacy efforts. Often, health educators do not talk much about finances and financial educators do not concern themselves much with health care costs (Vitt, Siegenthaler, Siegenthaler, Lyter, & Kent, 2002). This study of relationships between financial practices, financial well-being, and health is an attempt to examine these factors together using a national sample of financially distressed adults, many of whom self-reported health problems related to their financial situation. The findings have implications for financial educators, credit counseling practitioners, and employee benefit personnel.

Literature Review

Several recent studies have explored specific relationships between health and financial well-being or practices; for example, the financial cost of unhealthy habits, the financial impact of increasing health care costs, and the links between financial stress and health. Zagorsky (2004) investigated the effect of smoking on an individual's financial situation. Using wealth and smoking data from the National Longitudinal Survey of Youth 1979 cohort, he found that the typical nonsmoker's net worth is roughly 50% higher than light smokers and roughly twice the level of heavy smokers. There was also a statistically significant negative relationship between net worth and smoking, which harms a smoker's wealth as well as his/her health.

While a causal relationship cannot be proven by the Zagorsky (2004) study, smokers appear to pay for cigarettes with income that could be saved by nonsmokers. Part of the explanation is, of course, due to education and income levels, as smokers tend to come from lower socioeconomic classes (Cigarette Smoking Statistics, 2004). Studies show that the frequency of smoking is more pervasive among those with 9-11 years of education (35.4 percent) than among those with more than 16 years of education (11.6 percent), and it is the highest among persons living below poverty level (33.3 percent). While lower income households obviously have less money to save than others, there is also no doubt that elimination of a smoking habit has the potential to greatly increase financial asset-building, especially among the poorest American households.

The 2004 Health Confidence Survey, sponsored by the Employee Benefit Research Institute (Helman & Fronstin, 2004), sheds additional light on heath-personal finance connections. As health care costs continue to climb at near-double-digit rates, more Americans are being forced to cut back on retirement savings contributions and make lifestyle changes to pay for medical care (Kim, 2004). The study found that more than 2 in 10 Americans consider health care to be the most critical issue facing the U.S. today, ranking evenly with terrorism/national security. In addition, one quarter of those experiencing increased health care costs reported decreasing their contributions to a retirement plan and almost half (48%) reported decreasing contributions to other savings. Nearly 2 in 10 (18%) said they had difficulty paying for basic necessities (e.g., food, housing) while 3 in 10 reported difficulty paying other bills. One-quarter (26%) indicated that they have used up all or most of their savings and 15% have borrowed money to pay health care expenses. The Health Confidence Survey was conducted in the summer of 2004 with a nationally representative sample of 1,203 adults.

Kim, Garman, and Sorhaindo (2003) studied 175 credit counseling clients of a large non-profit credit counseling agency who responded to data collections at two points in time, an initial survey and 18 months later. They found that those who had high levels of financial well-being and experienced fewer financial stressor events had better health than others. Using path analysis, these researchers found that, although credit counseling did not have a direct significant effect on health, it had indirect effects through post-counseling financial stressor events and financial well-being. Income, age, financial behaviors, financial stressor events, financial well-being, and credit counseling explained over one-fourth of the variance in health. People who utilize the services of credit counseling agencies typically have recently experienced financial stressor events (Kim, Garman & Sorhaindo, 2003; Staten, Elliehausen & Lundquist, 2002). These may be chronic patterns of overspending and excessive charges on credit cards and/or calamitous events such as unemployment, reduction in overtime, uninsured medical costs, and divorce.

Xiao, Sorhaindo, & Garman (in press) used the same data set of credit counseling clients as the current study. They hypothesized that positive financial behaviors, measured objectively and subjectively, would reduce financial stress. A higher number of positive financial behaviors such as reducing living expenses and a higher score of self-evaluation of financial behaviors were associated with a lower stress level. Presumably a lower stress level has a positive effect on one's health as high levels of stress can cause or aggravate physical illnesses such as high blood pressure, migraine headaches, ulcers, ulcerative colitis, and insomnia (U.S. Dept. of HHS, 1991). A stress-laden situation or an emotionally inadequate response

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can also "throw off the body's natural ability to heal itself" (Health Encyclopedia-Diseases and Conditions, 2004; Sapolsky, 2004), although the exact chain of causation is not known. Indeed, in this study, a lower level of financial stress was associated with having a lower debt load percentage and perceiving better health and family relationships (Xiao, Sorhaindo, & Garman, in press).

Kim & Garman (2003) studied 262 white-collar workers in three states to examine relationships between financial stress and absenteeism. They found that financial stress was negatively related to organizational commitment and positively associated with absenteeism. A hypothesized relationship between financial stress and stress-related illness or health was not supported by this study. Another study by Drentea and Lavrakas (2000), however, provided evidence of a link between financial stress, specifically credit card debt and stress regarding debt, and mental, as well as physical, health. Using a representative sample of over 900 Ohio adults, they found that individuals reporting higher levels of financial stress had higher levels of illness and physical impairment than others with lower financial stress levels. The higher an individual's debt-to-income ratio, the more likely they were to be in poor health. Similarly, a study of credit counseling clients by Bagwell (2000) found evidence that health was negatively affected by financial distress.

Lyons and Yilmazer (in press) used data from the 1995, 1998, and 2001 Survey of Consumer Finances (SCF) to examine the effect of financial strain on health status controlling for the fact that financial distress can be both a cause and consequence of poor health. Results from models for three different measures of financial strain indicated that poor health significantly increases the probability of strain but there was little evidence that financial strain contributes to poor health. Thus, the direction of causality is primarily from health to socio-economic status, indicating that serious health conditions may result in larger financial burdens, but large financial burdens are unlikely to accelerate a decline in health status (Lyons and Yilmazer, in press).

While the Lyons and Yilmazer (in press) study did not find evidence that financial problems affect health, other researchers have with samples of financially distressed consumers. A November 2004 study (Kidd, 2005) of 1,590 consumers with credit card debts, 25 percent of whom had debts exceeding $10,000, found that economic stress does impact physical health. Headaches, inability to concentrate, and nausea were the most common symptoms and eight percent of respondents reported seeing a doctor because of health problems related to financial stress. Women were more likely than men to report stress-related health problems. O'Neill, Sorhaindo, Xiao, and Garman (2005) explored specific health effects associated with financial distress. Using the same sample as the current study, they found that more than 40% of respondents indicated that their health was affected in some way by their financial problems. The four most frequently reported health effects associated with financial distress were stress (46%), worry, nerves, and anxiety (12%), depression (10%), and insomnia and sleep problems (9%).

Smith and Kington (1997) examined the effects of income and wealth upon the self-reported health status of older Americans. Using data from Asset and Health Dynamics Among the Oldest Old (AHEAD) and the Health and Retirement Survey (HRS), they found a strong positive relationship between household income and wealth and the self-reported health status of household heads, especially among poor households.

A national survey by the Principal Financial Group (From Sick Care to Health Care, 2005) found that employers who were highly regarded for excellence in employee benefits were likely to utilize wellness initiatives. These include paying employees to live healthier lifestyles, providing flu shots, weight management and smoking cessation programs, and on-site fitness facilities. A search of "health finance" studies in the online archive of The Journal of Health Promotion found over a dozen articles describing associations between health intervention efforts such as worksite wellness programs, healthy behaviors, and positive financial effects for individuals and employers including decreased health care costs. The findings in most of the studies mentioned above evidence associations between poor health and poor financial well-being, but do not demonstrate causality. Causal factors are difficult to isolate; such an analysis is well beyond the scope of this paper.

Methodology

Data Collection

Previous research studies that sought to understand more about personal finance-health relationships among similarly situated adults were conducted with very small samples (Bagwell, 2000; Kim, Garman, and Sorhaindo, 2003). Therefore, the availability of a large national sample of financially distressed adults in this study provides a unique opportunity to more carefully describe any relationships that might exist among financial practices, financial well-being, and health. This study explores interactions between health and personal finance on the well-being of financially stressed consumers and effects that might result from

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participation in a credit counseling agency's debt management program (DMP). More specifically, this study seeks to learn how financially distressed adults perceive relationships between their health and financial problems.

The population for this study was a group of financially distressed consumers who telephoned a large national non-profit credit counseling organization, seeking assistance with outstanding debt and subsequently joined its debt management program (DMP). Thus, there is a selection bias in this study because this sample consists of adults who took the initiative to telephone a credit counseling agency stating that they were seeking assistance with their credit and money problems. This is confirmed by recognizing that, as a group, this sample of adults self-reported more serious personal financial distress than respondents in a separate national sample of the general population who reported high financial distress and low financial well-being (Garman, Sorhaindo, Prawitz, O'Neill, Osteen, Kim, Drentea, Haynes, & Weisman, 2005). Hence, the findings can be generalized only to those adults who are experiencing serious financial distress.

In mid-June 2003, a 32-item Personal Finances Survey questionnaire was mailed to a sample of 7,200 people who joined the program between February and April 2003. Thus, the respondents were new clients having joined the DMP in the previous two, three, or four months. Four weeks later, a follow-up postcard was mailed to those who had not yet responded, reminding them to return the questionnaire. After two additional weeks, a second questionnaire and follow-up letter were mailed to non-respondents.

A total of 443 surveys were returned as undeliverable, typically because an address was incomplete, a person moved without providing a forwarding address, or the person was deceased. Thus, 6,757 questionnaires were mailed and 3,121 respondents returned useable questionnaires. The response rate is 46 percent, which is more than double the return in previous studies (Garman, Camp, Kim, Bagwell, Baffi, & Redican, 1999; Sorhaindo & Garman, 2002). The data were self-reported by the respondents on printed questionnaires and a careful review of each of the completed questionnaires suggested that there was no reason to believe that any respondents misreported responses to the questions. The characteristics of the sample closely matched the age, sex and geographic area of the population, and did not differ from the non-respondents.

Additional information on the debt load, debt load percentage, and credit card debt balance of respondents were obtained from client records maintained by the credit counseling organization. The number of observations with missing values for individual questions determined the sample size for specific analyses. Descriptive statistics about the total sample are listed in Table 1 below. Males comprised 29% of the clients, which is a typical distribution of gender for credit counseling clients (Garman et al., 1999; Bagwell, 2000; Sorhaindo & Garman, 2002; Staten et al., 2002). Approximately 60% were either married or living with a partner; 37% were unmarried. Median annual family income was between $30,001 and $40,000. Four out of five were employed, with 69% working full-time; 62% were age 45 or younger. These sample characteristics are consistent with previous research studies of credit counseling clients (Bagwell, 2000; Kim, Sorhaindo & Garman, 2003; Staten et al., 2002).

Variables

Variables for this study were operationalized as indicated below.

Financial behaviors. Respondents were asked to reply to binary questions (yes = 1 or no = 0) for nine specific self-reported positive financial behaviors such as "followed a budget or spending plan" and "cut down on living expenses". Five of the nine questions were used previously by Kim, Garman, and Sorhaindo (2003), and variations of the nine had been used by others (Garman et. al., 1999). Two of the behaviors, relating to participation in an employer's retirement plan and flexible savings account, were subsequently dropped from this study because they are dependent upon having an employer who offers access to a plan and only 70% of respondents were employed full time. A second financial behavior variable was respondent's self-evaluation of all their financial behaviors, a subjective measure. The question was worded as follows: "On the whole, how would you characterize your financial behaviors?" very good=1, good=2, satisfactory=3, and poor=4. In the analyses, the values were reverse-coded for convenience of reading the findings.

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Table 1
Descriptive Statistics (N=3,121)

Variable	Percent of Respondents
Gender	
Male	29
Female	71
Marital status	
Married	53
Single with a partner	10
Single living alone	37
Annual family income	
Less than $20000	24
$20001-$30000	23
$30001-$40000	17
$40001-$50000	13
$50001-$70000	13
$70001 or higher	10
Job status	
No job	19
Part time	12
Full time	69
Age	
25 or younger	13
26-35	25
36-45	24
46-55	20
56-65	11
66 or older	7
Number of people to support	
None	39
One	21
Two or more	40
Home owner	
Yes	54
No	46
Financial stress	
none	2
low	12
moderate	51
severe	23
overwhelming	12
Financial satisfaction	
Dissatisfied (index=1-2)	19
3-5	53
6-8	24
Satisfied 9-10	4
Perceived family relationship	
Poor	4
Satisfactory	17
Good	42
Very good	37
Life at Work	
Poor	5
Satisfactory	21
Good	50
Very good	24
Perceived health	
Poor	7
Satisfactory	26
Good	44
Very good	23
Health affected by financial problems	
Yes	43
No	57
Health improved since joining credit counseling	
Yes	48
No	52

Improved health. This variable was measured by the following binary question (yes = 1 or no = 0): "Since you joined [name of debt management program], has your health improved?"

Improved finances. This variable was measured by the following binary question (yes = 1 or no = 0): "Since you joined [name of debt management program], did anything happen in your life that improved your finances?" If respondents answered yes, they were directed to indicate specific things that happened such as "found a better paying job" from among ten responses provided. This question was included to differentiate among things that might have contributed to positive changes in personal finances beyond participation in the debt management program.

Perceived effect of financial problems on health. This variable was measured by the following binary question (yes = 1 or no = 0): "Do you feel your health has been affected by your financial problems?" If respondents answered "yes", they were directed to indicate specific health effects in their own words.

Health status. This variable was measured by the following question: "Overall, would you say your health is very good, good, satisfactory, and poor". In the analyses, the values were reverse-coded for convenience of reading the findings; poor=1, satisfactory=2, good=3, very good=4. While previous research has examined both emotional and physical health (Garman, et al, 1999; Sorhaindo & Garman, 2002), asking respondents to self-report their health without providing a specific definition of the term is a common question in sociological, psychological and medical research.

Negative financial events. This variable was measured by asking respondents if they experienced any of twelve negative events such as "took a cash advance on a credit card" during the past twelve months. Respondents were instructed to check all events that applied by indicating their frequency as never, once, or more than once.

Financial stress. This variable was measured by the following question: "What do you feel is the level of your financial stress today?" Responses were none =1, low =2, moderate =3, severe =4, and overwhelming =5.

Financial satisfaction. This variable was measured by a self-anchoring ladder that was originally developed by Cantril (1965) and used by Porter and Garman (1993). In this measure, there were two anchor points, 1 = dissatisfied and 10 = satisfied, with steps between.

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Family relationships. This variable was measured by the following question: "By and large, your family relationships are: poor=1, satisfactory=2, good=3, and very good=4."

Hypotheses

Previous research, cited above, generally supports a positive relationship between personal finances and health. The following hypotheses for this study are based upon the results of these studies:

H1 :Improved health (self-reported) is positively associated with the performance of positive financial behaviors.

H2: Improved health (self-reported) is positively associated with improved personal finances (self-reported).

H3: Improved health (self-reported) is positively associated with ten specific examples of improved personal finances such as refinanced home mortgage.

H4: Perception of health status is positively associated with perceived effect of financial problems upon health.

H5: Perceived effect of financial problems upon health is positively associated with negative financial events.

H6: Self-reported health status is positively associated with level of financial stress.

H7: Self-reported health status is positively associated with perception of financial behaviors.

H8: Self-reported health status is positively associated with financial satisfaction.

H9: Self-reported health status is positively associated with perception of family relationships.

Data Analysis

Since data were collected from a cross-sectional survey, only associations between the variables listed above can be explored. To establish preliminary relationships among variables, Chi-square tests were used as a measure of association between categorical variables. These included perceived health status ("Overall, would you say your health is…") and improved health status ("Since you joined [name of debt management program] has your health improved?"), and various indicators of financial status.

For several variables that were measured with a Likert scale, ANOVA analyses were used to test if there were differences in these variables among the four health categories. In addition, multiple regression analyses were used to test two additional research questions:

(1) Which respondents, by demographic characteristics, were more likely to report that financial problems affected their health?

(2) What were potential effects of perceived associations between financial problems and health on the well-being of financially stressed consumers?

Tests of Association Between Variables

As a preliminary analysis to test associations between financial practices, financial well-being, and health, albeit without controlling for other factors, a number of Chi-square tests were conducted. Most prior studies of this type used small samples so this study provided a unique opportunity to test associations between variables with a large national data set of financially distressed households. As shown in Table 2, respondents who reported having improved health since participating in the credit counseling program were more likely to engage in positive financial behaviors such as "cut down on living expenses" and "started or increased my savings."

For example, 77% of respondents who reported having improved health since joining credit counseling reported they "developed a plan for my financial future" versus 61% of those who said their health was not improved. There was a 16 percentage point difference in the number of respondents who said they had "started or increased my savings"; 48% of respondents who reported improved health status versus 32% of those whose health had not improved.

These findings provide support for Hypothesis 1; that is, a positive association between health status and recommended financial behaviors. Results were significant for all seven non-employment related financial practices that were included in this study.

Table 2
Chi-square Tests of Association of Financial Behaviors and Improved Health

Financial Behavior	Health Improved %	Health Not Improved %	Sig.
Developed a plan	77	61	***
Started or increased savings	48	32	***
Reduced debts	95	84	***
Followed a budget/spending plan	83	70	***
Cut down on living expenses	86	75	***
Contacted a financial planner	23	14	***
Tried to determine retirement needs	42	29	***

*** p<.0001

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Respondents were asked to indicate if anything had happened in their life to improve their personal finances. If they replied yes, they were asked to check one or more of ten specific occurrences; e.g., "received increase in salary or wage" and "reduced or paid off some debts", including an "other" category for items that were not specifically listed. Representative of the comments received as "other" responses were:

have worked out a budget
cut up credit cards
no more harassing phone calls
better relationship with my spouse
no more calls and lower payments
credit score increased
dumped non-working expensive girlfriend
partner got disability
promotion in rank in national guard.

As shown in Table 3, respondents' self-reported improved health status since joining the debt management program was somewhat associated with their self-reported improvement in personal finances. Respondents who reported having improved health since joining credit counseling were more likely to report their overall personal finances had also improved, 80% vs. 56%. Support for Hypothesis 2, a positive association between self-reported improved health and improved personal finances, was found.

Table 3
Chi-square Tests of Association of Improved Finances By Improved Health

Improvement to Personal Financial Situation	Health Improved %	Health Did Not Improve %	Sig.
Improved overall finances	80.0	56.0	***
Reduced or paid off debts	57.0	40.0	***
Refinanced home mortgage	4.4	3.5	
Received help from [name of debt management program]	62.0	43.0	***
Received increase in salary or wage	15.0	10.0	**
Found a better paying job	5.2	3.4	*
My partner received salary/wage increase	5.1	3.3	*
My partner found a better paying job	2.7	2.1	
Health or day care flex account at work	1.0	.4	
Filed bankruptcy	.3	.6	
Other	6.7	4.3	**

* p<.05, ** p< .01, *** p<.001

Improved health status was also associated with some specific improvements in personal finances. Not surprisingly, with a sample of credit counseling program clients, an area of improvement with a large difference between groups was debt reduction. Respondents who reported having improved health since joining credit counseling were more likely to report that they reduced or paid off some debts (57% vs. 40%).

In six out of the ten specific areas of financial improvement listed in the survey, respondents who reported having improved health were more likely to report their finances were improved. Most of these areas were associated with an increase in household income or a reduction in debt. Thus, Hypothesis 3, a positive association between self-reported improved health and specific examples of improved personal finances, was partially supported.

Hypothesis 4 tested the association between respondents' perception of their health status and their perception that their health is affected by their financial problems. Table 4 indicates that respondents who reported poorer health are more likely to perceive their health is affected by financial problems than those in very good health. For example, 65% of respondents who reported poor health said their health is affected by financial problems, while only 22% of those who reported very good health said so.

Table 4
Chi-square Test of Association of Health By Health Affected By Financial Problem

	Heath Status			
	Poor %	Satis-factory %	Good %	Very Good %
Perceived Effect of Personal Finances on Health				
Not affected	35	43	58	78
Affected	65	57	42	22
Sig.		***		

*** p<.0001

Similarly, a higher percentage of respondents who said their health was not affected by their finances reported they were in very good health vs. poor health (78% vs 35%). At higher levels of health status, there was an increase in the frequency of the perception that personal finances did not affect health. Therefore, some support for Hypothesis 4 was found.

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The test for Hypothesis 5 explored the association between the perceived effect of personal finances upon health and twelve specific negative financial events (e.g., "took a cash advance on a credit card" and "bounced a check.") related to money management and the use of credit. Respondents were asked to indicate the frequency of occurrence of each negative financial event within the past twelve months as follows: never, once, or more than once. These responses provide an indication of the severity of their financial distress.

Table 5
Chi-square Tests of Association of Perceived Health Effect by Negative Financial Events

Negative Financial Events	Never %	Once %	More than once %	Sig.
Received an overdue notice from a creditor	29	36	48	***
Paid one or more utility bills late	33	40	50	***
Paid a credit card bill late	32	38	47	***
Paid a late fee for paying a bill late	30	36	47	***
Received a phone call from a creditor about a past due bill	34	38	48	***
Received a call from a collection agency about an overdue bill	34	46	51	***
Reached the maximum limit on a credit card	35	37	47	***
Took a cash advance on a credit card	42	40	46	.
Did not have enough money to pay for a minor emergency	32	46	56	***
Could not afford to go out when desired	30	34	51	***
Could not afford to make vehicle payments	38	49	56	***
Bounced a check	37	46	52	***

*** p<.0001

As shown in Table 5, respondents who experienced a negative financial event were more likely than those who did not to report that financial problems affected their health. This was true for all twelve specific financial events presented in the table. For example, 48% of respondents who received an overdue notice more than once from a creditor reported that financial problems affected their health, while only 29% of respondents who did not receive an overdue notice said so. These results lend support to Hypothesis 5, a positive association of the perceived effect of financial problems on health and specific negative financial events.

Test of Association of Health Status with Financial Variables

As shown in Table 6, self-reported health status, ranging from poor to very good, was positively associated with self-reported financial stress levels, which ranged from 1 = none to 5 = overwhelming. Respondents who reported having poor health had an average financial stress score of 3.52 versus those who reported having very good health with an average score of 3.23. The mean score of stress level for the total sample was 3.33. Thus, Hypothesis 6, a positive association of health status and level of financial stress, was supported.

Health status was also positively associated with perceived financial behavior, financial satisfaction, and family relationships. Respondents perceiving poor and satisfactory health reported lower than average scores for these variables while those who perceived having good or very good health reported higher than average scores for these variables.

Table 6
ANOVA Test of Association of Health Status with Financial Variables

	All respondents	Health: Poor	Satisfactory	Good	Very good	F	Sig.
Financial Stress 1-none 5-overwhelming N = 2,844	3.33	3.52	3.42	3.30	3.23	8.70	***
Financial behavior 1-poor 4-very good N = 3,016	1.98	1.76	1.84	2.01	2.17	36.79	***
Financial satisfaction 1-dissatisfied 10-satisfied N = 3,034	4.38	3.98	4.11	4.50	4.55	8.88	***
Family relationships 1-poor, 4-very good N = 3,050	3.13	2.87	2.85	3.18	3.43	76.12	***

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For example, the average score for financial behavior was 1.98 on a 4-point scale. Group mean scores of respondents with poor, satisfactory, good, and very good health were 1.76, 1.84, 2.01, and 2.17, respectively. Similarly, the average score for financial satisfaction for the total sample was 4.38 on a 10-point scale. Group mean scores of the respondents who reported poor, satisfactory, good, and very good health were 3.98, 4.11, 4.50, and 4.55, respectively. These findings provide some evidence to support hypotheses 7 to 9, that is, positive associations between health status and characterization of financial behaviors, financial satisfaction, and family relationships.

Over 40% of respondents who provided a numerical rating of their health status answered "yes" to the question "Do you feel that your health has been affected by your financial problems?" As noted previously, this perception of a linkage between financial stress and health was particularly pronounced among respondents who reported poorer health. Those who were experiencing health problems were more likely than others to cite financial problems as a cause.

Financial problems, for the most part, were not medically related. According to data provided by the credit counseling agency, the most frequently listed reasons respondents gave for joining the DMP were poor money management, 43%, and reduced income, 39%. Only 11 percent of respondents reported medical debt; therefore medical debt such as doctor or hospital expenses were not a primary cause of respondents' financial problems (Sorhaindo, 2005).

The most frequently reported health effect of financial problems was stress or being "stressed out." Additional details about the negative health effects of financial stress can be found in O'Neill, Sorhaindo, Xiao, and Garman (2005). Examples of specific health problems associated with finances that were reported by respondents are as follows.

I can't sleep because of worrying about paying bills.
Caused anxiety and depression to be worse than it was.
Stressed out, overwhelmed with anxiety.
Could not afford to go to doctor when I was sick.
Can't afford to eat healthier.
I have high blood pressure from the stress.
No time to work out or exercise.
Cost of medication.
I have been depressed and gained weight.

Multiple Regression Results

Nonparametric statistical tests such as Chi-square allow researchers to compare groups, but are not as powerful as parametric tests so the results are not as conclusive (Lavine, 2005). Therefore, multivariate analysis is also warranted to take into account the endogeneity of some of the variables included in the study. Multiple regression analysis analyzes the variability of a dependent variable due to the separate and collective effects of two or more independent variables.

The first research question tested with multiple regression was who, among the sample of financially stressed consumers, was more likely to report that financial problems affect their health? Initial Chi-square tests were conducted to test the financial problems/health effect variable with several demographic variables. The results indicated differences in term of gender, age, number of family members to support, and employment status, see Table 7. Female consumers were more likely than males to report health being affected by financial problems. Age showed an inverse U-pattern with mid-aged respondents more likely to report financial problems affecting health.

The more family members to support, the more likely consumers reported health being affected by financial problems. Unemployed and part time workers were more likely to report the same situation. As shown in Table 8, multiple regression results confirm the association of the financial problem/health effect variable with age, employment status, and the number of family members to support.

Table 7
Chi-square Tests of Association of Finance/Health Interaction Variable with Demographic Variables

	Health has been affected by financial problems %	Sig.
Gender		
male	39	**
female	45	
Home owner		
no	43	n.s.
yes	44	
Age		
35 or younger	40	
36-55	47	*
56 or older	42	
Family Income		
30000 or lower	44	
30000-50000	43	n.s.
50001 or higher	41	
Number of people to support		
1	38	
2	43	***
3 or more	46	
Marital status		
married	44	
single	41	n.s.
widowed	36	
Employment		
unemployed	47	
work part time	44	*
work full time	42	

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Table 8
Regression Results for Demographic Determinants of the Finance/Health Interaction Variable

	Parameter estimate	
Intercept	.2047	*
Age	.0169	***
Age square	-.00018	***
Male (vs. female)	-.0381	
Full time (vs. unemployed)	-.0810	**
Part time	-.0214	
Support 1 person (vs. 3 or more)	-.0895	***
Support 2 persons	-.0313	
Married (vs. not married)	-.0261	
R square	.0113	***

* p<.05, ** p<.01, *** p<.001

The second research question tested with multiple regression analysis was for the effects of perceived interactions between financial problems and health on the well-being of financially stressed consumers. To test for effects of financial problems affecting health on well-being related variables, a series of multiple regression models were conducted. The dependent variables included level of financial stress, number of negative financial events, health status, family relationships, financial satisfaction, and number of positive financial behaviors. The first two variables were negatively and other variables were positively related to well-being. The independent variables in the model include the financial problems-health effect variable plus several demographic variables, such as age, gender, employment status, number of family members to support, and marital status. The finance-health interaction variable was positively associated with financial stress and number of negative financial events, and negatively associated with health, family relationships, financial satisfaction, and number of positive financial behaviors.

Discussion

The population for this study was a large national sample of credit counseling agency clients who took action to contact an agency and sign up for a specific debt management program (DMP). Their finances were such that they found it advantageous to join a debt management program. The sample is not one of people who are financially insolvent with no hope of paying their debts; those people typically contact attorneys about declaring bankruptcy. Rather, it consists of overly indebted and financially distressed people The findings are, therefore, specific to this population of adults, primarily females, who are experiencing financial distress.

Table 8
Regressions of Financial Problem/Health Effect on Well-being

Dependent variable	Parameter Estimate for Finance/Health Interaction	Sig.
Financial stress	.3687	***
Number of negative financial events	.6858	***
Health	-.4597	***
Family relationships	-.2824	***
Financial satisfaction	-.8051	***
Number of positive financial behaviors	-.1954	***

* p<.05, ** p<.01, *** p<.001
In each regression model, control variables were age, age square, gender, work full time, work part time, support one person, support two persons, and marital status. Full regression results are available from the authors on request.

This study provides some evidence of positive associations between self-reported health status and health status improvements with indicators of financial well-being and positive financial behaviors. In addition, there was a positive association between perceived health status and level of financial stress. Respondents in poor health had the highest financial stress level and those in very good health the lowest level of financial stress. This research is limited, however, because it is unknown which variable came first in the lives of this sample of financially distressed respondents: was it changes in their financial behaviors and financial well-being or the act of joining a DMP?

Furthermore, since this study uses cross-sectional data, only associations, rather than causation, can be explored. Thus, all findings are suggestive rather than conclusive. Nevertheless, they present a case for integrating health and financial issues in financial counseling and education interventions and for continued research of health and personal finance linkages. As noted in the first paragraph of this article, health and economic well-being are two of four factors that strongly predict happiness and overall well-being in life. Thus, it is not surprising to see strong associations between respondents' perceptions of their health and financial status, financial behaviors, and life events.

Reducing debt and receiving help from the debt management program were the most frequently reported personal finance improvements associated with improvements in health status reported by respondents to this survey. This finding supports those of Xiao, Sorhaindo, & Garman (in press) and Bagwell (2000), who found that, one year following financial counseling, debt management program participants indicated improvements in their health status. There

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was also a significant difference in perception of improved overall finances between respondents reporting improved health status and those that did not. This finding is congruent with that of Drentea and Lavrakas (2000), who found evidence of a link between credit card debt, stress, and physical health, and Kim, Sorhaindo, and Garman (2003), who found financial well-being was associated with health in a similar, but smaller, study of credit counseling clients. In all of these studies, including the present one, the direction of causality is unknown, however. Conclusions must, therefore, be very conservative and not, in any way, imply that financial problems directly affect health or vice versa.

All nine hypotheses proposed for this study were supported, indicating positive associations between various aspects of heath and finances. Intuitively, it makes sense that poor health and financial distress are related. Poor finances are one of many life events that can cause people to experience the physical effects of stress that are associated with many health problems. Results from this study add to the growing body of literature that establishes relationships among financial stressor events, financial well-being, and health. They also make the case for possible health benefits, as well as financial benefits, associated with credit counseling debt management programs.

Implications

As noted above, educational and intervention programs to help Americans improve their health and finances have generally operated on separate, but parallel, tracks (Vitt, Siegenthaler, Siegenthaler, Lyter, & Kent, 2002). This is certainly true in Cooperative Extension and other adult education programs. Results of this study and others, however, indicate statistically significant associations between financial practices, financial well-being, and health. Findings suggest that holistic programs should be developed to purposely blend health and financial topics rather than having one area of life (e.g., health) be viewed simply as a "byproduct" of the other (e.g., finances).

The potential audience of people who have both health and financial "issues" is large. An example of a blended program is Small Steps to Health and Wealth, developed by Rutgers Cooperative Extension (O'Neill, 2004), which teaches learners about behavior change strategies that can be simultaneously applied to improve their health and finances. Educators should also pay special attention to learners with certain characteristics. For example, in this study, middle-aged consumers were found to be more likely to report financial problems affecting their health and targeted programs could be developed to address the needs of this age group.

Continued research of health and finance associations, particularly with panel data over time, is also needed to gain insights to inform future counseling and education efforts in the areas of health and personal finance. Another research need is the inclusion of medical debt as a variable for analysis in studies of associations between financial problems and health effects. According to internal data provided by the credit counseling agency cited in this study, 11% of clients surveyed between February and May 2003 cited medical expenses as a reason for joining the DMP. Of those who gave "medical" as a reason for joining, over a quarter (26.5%) carried medical debt (Sorhaindo, 2005).

The great majority of financially distressed clients are employed because, without an income, they would be unable to join a DMP. Employers have these people on their payrolls. Therefore, employers, in particular, have an important role to play in helping Americans improve their health and finances by offering targeted programs and incentives. After all, the workplace is where their employees spend the bulk of their time. Employers also stand to benefit tremendously from workers' improved financial well-being. Not only are there potential productivity benefits (Garman, Leech, & Grable, 1996) but it is also likely that health care costs associated with stress would be reduced, perhaps resulting in lower health care cost increases for employer-provided health plans.

The time has also come for health maintenance organizations, health insurance companies, and others who provide group health care services to pay attention to the growing body of literature demonstrating specific relationships between people's personal finances and their health. It would be entirely logical, for example, for the health care industry to request that mid- and large-size employers, who are already providing financial education on retirement planning to their employees, broaden that effort to include topics such as cash flow management and credit. Quality basic financial education could lead to improvements in personal financial behaviors, increases in financial well-being, and reduced levels of stress. Well-designed prototype financial education programs that emphasize the basics of money and credit management and result in improved employee finances might very well result in better employee health. Large employers and health maintenance organizations concerned about containing rising medical care costs for employees and fostering a healthy workplace (Woolf, 2005) would be foolish to overlook the accumulating evidence of the relationship between personal financial well-being and health.

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Findings from this study demonstrate a need for coordinated assistance, especially to those households that are simultaneously experiencing poor health and financial distress. Many, undoubtedly, have low incomes and net worth, making it difficult to weather either a health or a financial crisis. Regardless of causality (i.e., health causing financial problems or vice versa), it is clear that these two aspects of life are closely associated and should be better integrated. An example of a coordinated outreach effort would be hospital social workers or billing departments working in cooperation with credit counseling agencies to develop a workable repayment plan for financially stressed patients in poor health.

Part of any outreach effort to improve health and financial well-being should be a discussion of developing resources to enhance resiliency. Resiliency is the ability to withstand the impact of events that impact one's health and/or finances. In other words, the ability to "roll with life's punches." There are a number of resiliency resources that individuals and families can develop. They include an emergency fund (at least three months liquid savings); a low-interest home equity line of credit; adequate health, life, property, and disability insurance; human capital; social capital (i.e., friends and family); awareness and use of community resources; and personal qualities such as optimism, focus, and organization (Danes, 1999). Rutgers Cooperative Extension recently developed a *Personal Resiliency Resources Assessment Quiz* (Rutgers, n.d.) to help users assess their ability to cope with expected and unexpected life events and identify areas for improvement.

This study provides some evidence of positive effects resulting from participation in a credit counseling agency's debt management program (DMP). The two examples of improvements in finances that showed a large difference between those reporting improved health status or not were reduced debt and receiving help from the counseling agency. Respondents who reported improved health since joining the DMP were more likely to report these improvements. While caution should be advised regarding the strength of these findings and their application beyond financially distressed populations, they do suggest that health-personal finance relationships could benefit from well-designed credit counseling programs.

These results should come as welcome news to an industry that has had well-publicized problems in recent years including charges filed by the Federal Trade Commission (e.g., AmeriDebt in November 2003), IRS investigations, Congressional hearings, and class-action lawsuits ("FTC Accuses", 2003; "Pushed Off The Financial Cliff", 2001). Findings of the positive effects resulting from credit counseling, on both the health and finances of clients, can help reputable counseling firms distinguish themselves from those with questionable business practices and past inquiries by government regulators.

A final implication of this study is that the financial problem-health effect variable may be a good indicator to measure perceived consumer financial well-being, at least for financially distressed populations. Other existing literature such as Lyons & Yilmazer, implied that financial problems are unlikely to affect health. However, 42% of respondents in this study reported that their health is affected by financial problems. Note that this question was asked directly to financially distressed consumers, a large section felt their health was affected by their financial problems, and perceptions of health effects were closely related to perceived financial well-being.

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