

Validity And Reliability Of A Financial Strain Survey

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The purpose of this study was to develop a reliable and valid measure of financial strain which could be used to identify individuals who may be suffering from financial strain and its detrimental health effects. A financial strain survey was developed from the literature and expertise of finance professionals and dispersed to counseling and control groups. Statistical analysis of the data showed the survey to be a reliable and valid measurement of financial strain.

Key Words: *Stress, Insolvency, Personal financial behavior, Financial problems, Survey*

Introduction

Over the past few decades, the cost of living has outpaced salary increases and consumer debt has reached an all-time high. This has forced many families to struggle to meet their financial obligations. Many one-earner families have switched to having two-earners and are still having problems paying their bills (Poduska, 1992). At the close of the 1997 calendar year, the number of bankruptcy petitions filed in district courts across the United States were never greater. During 1997, 1,404,145 bankruptcy filings were made, of which 4% were filed by businesses and 96% by individuals (Administrative Offices of the U.S. Courts, 1998). From another perspective, this means 1.5 percent of all U.S. households filed for bankruptcy in 1997.

Bankruptcies are not usually the result of a sudden change in finances; rather they are preceded by a period of gradually increasing financial strain climaxed by a complete exhaustion of financial resources. Given the high rates of bankruptcy and the quantity of consumer debt, the prevalence of financial strain is likely to be great. Financial strain is composed of the cognitive, emotional, and behavioral response to the experience of financial hardship sometimes referred to as economic strain. It occurs when real expenses exceed income (Peirce, Frone, Russell, Cooper, 1994), and one is unable to meet his/her financial responsibilities (Takeuchi, Williams & Adair, 1991). Therefore, financial strain is not dependent on income, but on whether one is able to meet his/her obligations. People often find themselves in financial trouble because they are not able to decipher between physiological and psychological needs. They choose to satisfy their psychological needs before their physiological needs are met, leaving a shortage of money for basic physiological requirements (e.g., house, food,

clothes, etc.) which results in social, physical, and emotional stress (Poduska, 1992). Financial strain may have an even greater effect on the lower socioeconomic class because they often lack the education, skills, and/or additional financial resources to sustain them through times of distress (Peirce, Frone, Russell & Cooper, 1994).

Increases in financial strain have been associated with decreases in self-esteem that can lead to depression in both adults and children and has been identified as a primary cause of marital stress. Individuals experiencing financial distress are often faced with the fact that they have failed to properly manage their money. This failure can result in the erosion of self-image and self-mastery which impacts overall mental health (Dohrenwend & Dohrenwend, 1978; Keith, 1993; Langer & Michael, 1963; Leighton, Harding, Macklin, MacMillan & Leighton, 1963). There is a strong positive relationship between financial strain in the home and workplace and depression in adults, even among adults who are not wage earners (Ensminger & Celentano, 1988). The financial strain experienced by parents has also been shown to increase the likelihood of depression in the children of those families. It appears that the effects of financial strain can spread to all those who are dependent upon the income providers (Ensminger & Celentano, 1988; Hamilton, Broman, Hoffman & Renner, 1990; Kessler, Turner & House, 1987; Pearlin, Menaghan, Lieberman & Mullan, 1981; Ross & Huber, 1985; Takeuchi et al., 1991). One lifestyle factor which can exacerbate the relationship between financial strain and depression is alcohol consumption. There is considerable evidence linking financial strain, alcohol abuse, and depression, though causation has not been identified (Aneshensel & Huba 1983; Berger & Adesso,

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1991; Birnbaum, Taylor & Parker, 1983; Haack, Hartford & Parker, 1988; Hartka et al 1991). Financial strain has been strongly related to increases in the frequency and quantity of alcohol use (Moos, Renn, Billings & Moss, 1989; Pearlin & Radabaugh, 1976; Peirce et al, 1994).

Perhaps the most common sequela of financial strain is marital stress. Under the best of circumstances marital relationships require patience, love, and consistent effort to keep the relationship healthy. Changes in a family's economic situation can cause financial stress and strain. If financial strain is not reduced, it can eventually lead to increased feelings of hostility, increased tensions, and eventually divorce (Conger et al, 1990; Freeman, Carlson & Sperry, 1993; Lorenz, Conger, Simon & Whitbeck, 1991; Poduska, 1992). Many family and marriage counselors have identified financial difficulties as one of the most common causes of marital difficulties. Marital difficulties involving financial stress are so common that many marriage counselors have developed various treatment models that include extensive financial management training (Freeman et al., 1993). Both marriage counseling and mental health therapies include a variety of financial education strategies and at a minimum refer patients to finance professionals.

Effective treatment options and counseling strategies should be based upon the assessment of an individual's current stage of financial strain (Freeman et al., 1993). Despite substantial documentation of the negative health effects of financial strain, there are no known valid and reliable financial strain surveys available which could be used to assess financial strain. In 1981, Pearlin et al. developed a comprehensive stress instrument which attempted to measure the sources of stress. Five questions from their instrument gathered financial strain information on chronic and acute sources of financial stress. The questions queried responses to how often an individual is unable to afford food, clothing, medical care, and family leisure activities. Though these questions have been used by other researchers (Pierce et al. 1994), there is no documentation of their validity or reliability and the questions only address one aspect of financial strain: the inability to provide for basic daily needs.

Some experts believe that financial ratios can be used to assess financial strain and subsequent insolvency (DeVaney, 1994; Mason & Griffith, 1988; Prather, 1990). DeVaney (1994) conducted a study to determine which ratios were the best predictors of insolvency. The

results showed a liquid assets/disposable income ratio to be the most important ratio to predict insolvency. Gross debts/disposable income was the second most accurate predictor, and total assets/total liability was third. Although these ratios are helpful in predicting insolvency or the probability of financial problems, they require gathering extensive financial data which can be difficult for many individuals, especially those who already have poor financial management skills. In a health education or marriage counseling setting, patients may have difficulty providing accurate financial data.

With bankruptcies at an all time high, and the establishment of a clear relationship between financial strain, mental health, depression, and marital instability, there is an obvious financial and medical need to assess financial strain. The lack of any valid and reliable financial strain measures only amplifies this need.

Methods

A three-part process was used to develop a financial strain survey and test its reliability. The predictive and concurrent validity of the instrument was then evaluated with a two-group design.

Instrument Development and Design

The first step in the development of the instrument involved a review of all financial literature which addressed financial strain. Literature searches were conducted on a variety of business, social science, and counseling data bases. Published works provided most of the current body of knowledge on financial strain (Aneshensel & Huba, 1983; Berger & Adesso, 1991; Birnbaum, Taylor & Parker, 1983; Haack, Hartford & Parker, 1988; Hartka et al 1991; DeVaney, 1994; Mason & Griffith, 1988; and Prather, 1990). From this literature, a list of possible financial strain factors was compiled. Strain factors are defined as an event or condition which may cause or be related to financial strain. The factors gathered from the literature included: an inability to provide basic needs and wants for self and family, little money left over after paying bills, high debt level, dissatisfaction with finances, low perception of self in comparison to others, having declared bankruptcy, being on welfare, and negative major financial changes (getting fired or laid off, retirement, taking pay cut, etc.).

Next, phone interviews were conducted with six professionals in finance. Three of these professionals specialized in the area of consumer credit/debt counseling, and three were in financial planning. These professionals were asked to rank the factors in order of

importance and give suggestions of any other factors they thought were significant to the measurement of financial strain. Based on the interviews, the list of factors was paired down to six areas including inability to meet obligations, relationship problems, physical stress, financial education, extensive credit card use, and purchasing wants before needs. Four to five Likert-type questions or statements were written which focused on each of the six factors. Using the following descriptors: never, rarely, sometimes, often, and always, responses were scored on a scale of 1–5, with “never” being equal to 1. The initial survey contained 28 questions.

The third step in the survey development utilized a modified Delphi Technique (Parker, 1980). The Delphi survey method requires experts in a particular field to independently evaluate and comment on the content and appropriateness of each question and factor. Changes are made based on a consensus of the independent expert opinions. Copies of the questionnaire were faxed/delivered to 10 professionals in the field of finance. These professionals were not used in the earlier steps of the development of the survey. Three were in the field of consumer credit/debt counseling, four were academics in the field of personal finance, and the remaining three experts were in the area of financial planning. Each expert was asked to comment on the survey and give any helpful suggestions. Upon return of the surveys, the experts’ comments were evaluated for similarities. Questions within each strain factor area were rewritten if there was a consensus among the experts. The survey was then modified accordingly and returned to the same professionals for a final evaluation. Any opinions and suggestions from the experts were tallied and incorporated into the final version, which ended up with the original 28 questions distributed between the previously mentioned six factors.

Survey Participants

In order to get a high degree of variation in financial strain, participants were selected from two different cohorts. The first, or counseling group, consisted of employed adults who had voluntarily gone to one of several Consumer Credit Counseling (CCC) centers located in the area. Consumer Credit Counseling is a nonprofit service to help those who are in serious financial trouble. It was assumed that participants who voluntarily went in for financial counseling were under considerable financial strain. Prior arrangements were made with the centers so that new patients would be asked to complete the survey before beginning any counseling sessions. Of the 125 surveys distributed at

the centers, 86 (69%) were completed and returned.

The second cohort was selected from employees of the city of Provo, Utah. This group was chosen because it had demographics and income similar to the counseling group. Surveys were given to employees on a volunteer basis. Of the 155 surveys dispersed, 67 (43%) were returned. All survey respondents returned an informed consent form and were assured that personal data would be kept confidential. In addition to demographic information, all respondents were asked to state their monthly income in dollars and then state how much they owe on a monthly basis using the following 3 categories: mortgage/rent, total credit card payments, and car payments. This information was used to calculate a debt-to-income ratio.

Between the counseling group and the control group, 280 surveys were sent out and 153 were returned for a response rate of 55%. Demographic data on the two groups are shown in Table 1. Among all survey respondents the average age was between 31 and 40 years, the majority had some college education and 52% were males.

Upon return of the completed surveys, a principal components analysis was completed. Based upon the results of this analysis, the survey was condensed by eliminating unnecessary questions and factors. Chronbach’s alpha measures were used to establish reliability. Predictive validity was determined by comparing survey scores between the counseling and control groups, while concurrent validity was evaluated by comparing strain scores with self-reported debt to income ratios.

Data Analysis

Statistical Analysis Systems (SAS) was used to organize, clean, and evaluate the data. A principal component analysis (PCA) was used to determine which of the 28 survey questions and factors were significantly associated with the financial strain construct (Hatcher & Stepanski, 1994). This analysis identifies which questions within each factor area contribute to the overall score. This information provided a basis for reducing the total number of survey questions without reducing the accuracy of the overall survey and also indicated which factors did or did not contribute to the overall strain score. Responses to the 28-item questionnaire were subjected to a principal components analysis. The principal axis method was used to extract the factors which was followed by a varimax (orthogonal) rotation.

Once non-contributing questions were identified and removed from the survey, Cronbach's alpha was used to determine reliability. A Chi-square test was used to detect any demographic differences between the two survey groups, and independent-samples t tests were performed to determine if there was a difference between the counseling and control groups in their individual strain factors, overall financial strain scores, and debt-to-income ratios.

Table 1
Demographic Comparisons Between the Counseling and Control Groups

	Counseling Group n=86	Control Group n=67	χ^2	df	Prob
Age			22.05	3	.00
20-30	44 (51.8%)	13 (19.4%)			
31-40	26 (30.6%)	24 (35.8%)			
41-50	10 (11.8%)	13 (19.4%)			
51+	5 (5.9%)	17 (25.7%)			
Gender			38.21	1	.00
male	24 (29.6%)	54 (60.6%)			
female	57 (70.4%)	13 (19.4%)			
Education			5.28	5	.38
grade school	4 (5.2%)	2 (3.1%)			
high school grad	20 (25.9%)	11 (17.2%)			
trade or vocational	7 (9.0%)	13 (20.3%)			
some college	29 (37.7%)	23 (35.9%)			
college graduate	13 (16.9%)	13 (20.3%)			
grad/prof school	4 (5.2%)	2 (3.1%)			
Marital status			9.65	4	.06
single, never	18 (21.2%)	8 (12.1%)			
married	49 (57.6%)	47 (71.2%)			
married	2 (2.6%)	6 (9.1%)			
remarried	15 (17.6%)	5 (7.6%)			
divorced, now	1 (1.2%)	0 (0.0%)			
single					
separated/widowed					
Number of children			6.621	4	.15
0	26 (30.9%)	14 (20.9%)			
1	22 (26.2%)	11 (16.4%)			
2	18 (21.4%)	17 (25.4%)			
3	9 (10.7%)	13 (19.4%)			
4+	9 (10.7%)	12 (17.9%)			

To determine the sensitivity and the specificity of the strain survey, strain scores from both the counseling and control groups were used to determine a cutoff score using a method developed by Jacobsen and Haux (1991). The cut off score for the participants in this evaluation was determined to be at 43. This means that participants with strain scores at or above 43 were more likely to need financial counseling, while those with strain scores below 43 were significantly less likely to need

counseling.

Results

Table 2 shows the results of the principal component analysis. The shaded areas in the table demonstrate how each of the questions on the survey was associated with each of the six factors (referred to as components). In general, a question was said to be associated with a given component if the factor loading value was greater than .40 or less than -.40 for that component, and was between -.40 and .40 for the others. At least three questions had to load on a given component for it to be included in the final survey. Obligations, relationships, physical, education, and credit card use components were deemed to be valid, while the wants and needs component was discarded because it failed to be of statistical importance when combined with the other 5 components. Survey questions that did not make a significant contribution to any specific component were also dropped. The final survey contained 5 components and 18 questions and is shown in the appendix. This shortened survey was evaluated and determined to be reliable. Reliability estimates summarized in Table 3 suggest that each of the five main components are reliable. These components had Cronbach alpha figures above .80, which suggests very high reliability. Even though the education factor had a Cronbach alpha of .62 which was somewhat less than the other four values, it was still a statistically reliable factor and was retained in the survey. For a more detailed description of the PCA procedure see Hatcher & Stepanski, 1991.

The principal components analysis utilized four statistical criterion: the eigenvalue-one criterion, the scree test, the proportion of variance accounted test, and the test of interpretability. In order for any one factor to be a significant and meaningful factor in calculating a financial strain score, each factor was tested under each of the four criterion. Table 2 shows the results of the rotated factor pattern produced by the PCA. The shaded factor patterns in the table demonstrate how each of the questions on the survey loaded on each of the six factors. Questions were evaluated to determine which factor they "loaded" on; these are indicated by the shading. In interpreting the rotated factor pattern, an item was said to load on a given factor if the factor loading was greater than .40 or less than -.40 for that factor, and was between -.40 and .40 for the others. At least three questions had to load on a given factor for it to be retained. Under this criteria, five factors were retained based on the contents of their loading items: obligations, relationships, physical, education, and credit card use. The wants and

needs factor was discarded due to insufficient loading. Questions that did not make a significant contribution to their factor were dropped. The final survey contained 5 factors and 18 questions and is shown in the appendix.

Reliability estimates summarized in Table 3 suggest that the five main factors are reliable. These factors (relationships, physical, credit card use, and meeting obligations) all had Cronbach alpha figures above .80, which suggests very high reliability. Even though the education factor had a Cronbach alpha of .62, which was somewhat less than the other four values, it was still a statistically reliable factor and was retained in the survey.

Chi-square values revealed no significant difference between the educational level, number of dependent children, and marital status of the counseling and control groups. However, there was a significant difference found between gender ($\chi^2 = 38.21$, $p = 0.000$) and age ($\chi^2 = 22.05$, $p = 0.000$) for the two groups.

Total financial strain scores were calculated by summing the responses to each of the 18 statements. Results from an independent-samples t test revealed a significant difference between the total financial scores of the counseling and control groups, $t(151) = 7.30$; $p < .0001$. The sample means and t test values for the total score, each individual component, and debt-to-income ratio are displayed in Table 4. Significant differences were found in all of the component, with the exception of education. Participants in the counseling group consistently scored higher than did participants in the control group. Table 4 also shows a significant difference in the debt/income ratio between the two groups.

Sensitivity is the proportion of participants who have high financial strain that are identified correctly when assessed with the survey. The sensitivity for the financial strain survey is .791 which means that approximately 79 percent of consumer credit counseling (high strain) group were properly classified as having high strain and 21 percent of the participants in the control group were classified as high strain. The classification for high strain was based upon a cut score of equal to or greater than 43. Specificity is the proportion of control group participants that are correctly identified as having low strain. The specificity of the strain survey is .70 meaning that 70 percent of the members of the control group were classified as low strain while 30 percent of the participants in the counseling group were classified as low strain.

Discussion

The purpose of this study was to develop a valid and reliable financial strain survey. Since there is no way to directly validate a hypothetical construct such as financial strain, several alternative methods of validation were implemented. The first was expert opinion and professional experience. This form of validation,

Table 2

Rotated Factor Pattern and Final Community Estimates (h) from Principal Component Analysis of the Financial Strain Survey

Survey Question	Inability to meet obligations	Relationship problems	Physical stress	Financial education	Credit card debt	Wants before needs	Final community estimate (h)
Q 1	0.41	0.16	0.30	-0.32	0.03	0.51	0.64
Q 2	0.24	0.11	0.25	-0.59	0.10	0.30	0.58
Q 3	-0.15	-0.05	-0.14	0.83	-0.09	-0.08	0.75
Q 4	-0.13	-0.14	-0.01	0.79	0.01	-0.11	0.67
Q 5	-0.10	-0.08	-0.17	0.86	-0.10	-0.10	0.80
Q 6	0.04	0.81	0.05	0.03	0.01	0.09	0.67
Q 7	0.62	0.43	0.37	0.07	-0.11	0.14	0.75
Q 8	0.18	0.77	0.10	-0.21	0.12	0.28	0.78
Q 9	0.31	0.77	0.30	-0.14	0.04	-0.01	0.80
Q 10	0.24	0.76	0.30	-0.16	0.06	0.16	0.79
Q 11	0.30	0.28	0.68	-0.19	0.11	0.16	0.72
Q 12	0.27	0.19	0.74	-0.22	0.13	0.25	0.80
Q 13	0.37	0.13	0.71	-0.10	0.22	0.09	0.73
Q 14	0.24	0.26	0.70	-0.15	0.25	0.22	0.75
Q 15	0.21	-0.03	0.20	-0.05	0.83	0.04	0.77
Q 16	0.13	0.08	0.06	0.07	0.68	0.42	0.67
Q 17	0.08	0.05	0.19	-0.18	0.84	0.11	0.79
Q 18	0.31	0.17	0.09	-0.07	0.70	0.25	0.68
Q 19	0.12	0.15	0.09	-0.13	0.24	0.75	0.69
Q 20	-0.61	-0.17	-0.29	-0.05	0.11	-0.05	0.51
Q 21	-0.56	-0.30	-0.29	0.19	-0.13	0.33	0.65
Q 22	0.15	0.26	0.20	-0.18	0.17	0.74	0.74
Q 23	0.07	0.02	0.18	-0.15	0.19	0.82	0.76
Q 24	-0.71	-0.17	0.00	0.23	-0.05	-0.36	0.72
Q 25	0.73	0.13	0.11	-0.16	0.29	0.14	0.69
Q 26	0.62	0.10	0.43	-0.07	0.22	0.02	0.64
Q 27	0.82	0.08	0.16	-0.13	0.09	0.32	0.84
Q 28	0.82	0.10	0.26	-0.08	0.22	0.03	0.81

Rotated factor patterns are shown by question. For example, physical stress is addressed by questions Q11–Q14. In the final survey the questions dealing with wants and needs (Q19–Q23) were removed.

sometimes referred to as professional validation, was established by the use of the published financial strain literature and extensive survey development and discussion with a variety of finance professionals and experts. By using a summary of the current literature and a variety of subjective and objective opinions from a diverse group of professionals, there is some value

inherent in having each of these sources of knowledge agree on a specific set of factors. Among each of these opinions there was very little discussion of possible factors outside of the ones included in the survey. This form of triangulation or agreement between data sources was encouraging.

Table 3

Mean Factor Scores, Standard Deviations, and Cronbach's Alpha Coefficient Reliability Estimates for Each Factor

Factors	Mean	Standard Deviation	Cronbach's Alpha
Education	8.65	2.06	0.62
Relationships	9.27	3.41	0.87
Physical	9.97	3.88	0.89
Credit	5.29	2.57	0.82
Obligations	9.55	3.96	0.87

Predictive validity was examined by determining if the survey could discriminate between two groups of participants which were assumed to have different levels of financial strain. The counseling and control groups used in this portion of the study produced significantly different scores on each of the survey components, except education, and also showed large differences on the total financial strain score. Members of the counseling group scored an average of 48 points on the survey, while the control group averaged a score of 36. This suggests that members of the counseling group were under significantly more financial strain than those from the control. Failure to show significant differences in financial education between the two groups demonstrates that both groups had similar educational backgrounds, a notion supported by educational parity shown in the demographic comparisons of the groups. Predictive validity is also greatly supported by the high sensitivity and specificity demonstrated by the survey. It is important to note that, while the sensitivity and specificity values are useful at the levels demonstrated here, it is very possible that they may actually be higher. Participants of the control group were a convenience sample chosen because of the assumption that they would have lower strain scores than the counseling group. It is very possible that some of the participants in the control group should have been receiving consumer credit counseling but may have not perceived the need for such counseling. As such, some of the control group participants really belonged in the counseling group. This is supported by the fact that the cut score of 43 shows that 21 percent of the control group demonstrated

high strain.

Table 4

Comparison of the Counseling and Control Groups on Each of the Components of the Survey, the Total Survey Score and Debt/Income Ratio

Factors	Group	Mean	St.Dev.	T-value	df	prob> T
Education	cns1	8.84	2.13	1.25	151	0.2133
	cntl	8.42	1.96			
Relationships	cns1	9.98	3.79	3.09	149	0.0024
	cntl	8.37	2.63			
Physical	cns1	11.5	3.92	6.44	150	0.0001
	cntl	8	2.8			
Credit	cns1	6.02	2.72	4.34	151	0.0001
	cntl	4.35	2.02			
Obligations	cns1	11.55	3.7	9.02	149	0.0001
	cntl	6.99	2.54			
Total Strain Score¶	cns1	47.88	11.26	7.3	151	0.0001
	cntl	36.13	8.63			
Debt/Income Ratio	cns1	0.6	0.46	4.24	132	0.0001
	cntl	0.36	0.23			

Cns1 = counseling group and Cntl = control group

¶Total strain score is calculated by adding the raw responses to each of the 18 questions.

In an attempt to demonstrate concurrent validity, the debt/income ratios of the two groups were compared. The ratios averaged .60 for the counseling group and .36 for the control group, a statistically significant difference (Table 4). Participants in the counseling group had significantly higher financial strain scores and higher debt to income ratios. This difference supports the assumption that the two groups did have different levels of financial strain and also provides a measure of concurrent validity for the financial strain survey. In each of the analyses performed in this evaluation, the financial strain survey demonstrated a relatively high degree of validity.

Limitations

Because there are some significant demographic differences between the counseling and control groups, these findings may be limited. Differences in strain scores between the two groups may be partially caused by the differences in gender and age found between the groups. The control group had significantly more males and a slightly higher mean age than counseling group. There were no other measured differences between the two groups; most importantly, there were no differences in education. There is no literature that suggests that

females are more likely than males to experience financial strain though they do tend to have higher levels of perceived stress (Pierce et al. 1994). This same literature suggests that age may be indirectly related to financial difficulties; as age increases, the likelihood of insolvency decreases. The small differences in age found in these survey groups could have had a modest impact on strain scores between the two groups. Until the survey is further validated on other populations, the issue of age differences will remain a shortcoming of these findings.

Another limitation of the study is the self-selection of the study participants. It is plausible that participants in the counseling group were forced to seek assistance from the Consumer Credit Counseling service for reasons other than those evaluated in this study. Thus, there is the remote possibility that the survey is measuring some other "third" variable which was not considered in this analysis. This possibility is worsened by the relatively low response rates seen among both groups. Though the purpose of the study was to develop and validate a financial strain survey, low response rates have a greater impact upon the generalizability of the survey than its validation. Future research using the survey will hopefully demonstrate its generalizability to other populations.

Conclusion

Based upon the increasing number of bankruptcies, it is safe to assume that the amount of financial strain in the United States is also increasing rapidly. Accompanying this strain will be a host of well-documented health consequences. Until recently, financial well-being has traditionally been a neglected portion of health education and wellness, however, interest is growing on this topic in both the financial and medical communities (Keith & Lorenz, 1989; Keith, 1993; Peirce et al, 1994; Poduska, 1992; Takeuchi et al, 1991; DeVaney, 1994).

This survey serves as a starting point to measure financial strain in hopes of providing early detection and counseling for individuals who may be headed for marital problems, alcohol abuse, depression, and financial insolvency. Clearly, additional research is needed to establish norms and further validate the effectiveness of the survey. Once normative data are available, the survey could be used by health educators, financial counselors, marriage counselors, and advisors as an easy-to-use early detection tool to identify those who may be experiencing substantial financial strain.

Appendix

Financial Strain Survey

Below are a number of questions and statements. Please indicate how often they describe you by circling the correct number.

Never=1 Rarely=2 Sometimes=3 Often=4 Always=5

Education

- | | | | | | | |
|----|--|---|---|---|---|---|
| 1. | I know how interest works on my current debts. | 1 | 2 | 3 | 4 | 5 |
| 2. | I feel financially educated. | 1 | 2 | 3 | 4 | 5 |
| 3. | I feel well informed about financial matters. | 1 | 2 | 3 | 4 | 5 |

Relationships

- | | | | | | | |
|----|--|---|---|---|---|---|
| 4. | There are disagreements about money in my home. | 1 | 2 | 3 | 4 | 5 |
| 5. | I tend to argue with others about money. | 1 | 2 | 3 | 4 | 5 |
| 6. | Financial problems hurt my relationships. | 1 | 2 | 3 | 4 | 5 |
| 7. | My relationships with others are affected by financial problems. | 1 | 2 | 3 | 4 | 5 |

Physical

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 8. | Are you ever unable to sleep well because of financial worries? | 1 | 2 | 3 | 4 | 5 |
| 9. | Do you ever get headaches from worry over money matters? | 1 | 2 | 3 | 4 | 5 |
| 10. | Do your muscles get tense when you add up your bills? | 1 | 2 | 3 | 4 | 5 |
| 11. | Does your financial situation cause you to feel heartburn or an upset stomach? | 1 | 2 | 3 | 4 | 5 |

Credit Card Use

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 12. | I take on more debt to get nicer things. | 1 | 2 | 3 | 4 | 5 |
| 13. | I get new credit cards to pay off old ones. | 1 | 2 | 3 | 4 | 5 |
| 14. | I make purchases on credit cards hoping that I will have the money later. | 1 | 2 | 3 | 4 | 5 |

Meeting Obligations

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 15. | I pay my bills on time. | | | | | |
| 16. | I find it difficult to pay my bills. | 1 | 2 | 3 | 4 | 5 |
| 17. | Many of my bills are past due. | 1 | 2 | 3 | 4 | 5 |
| 18. | I don't have enough money to pay my bills. | 1 | 2 | 3 | 4 | 5 |

Total financial strain score is calculated by summing the responses to all 18 statements.

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