

Financial Literacy, Education, And Services In The Workplace

By Haiyang Chen and Ronald P. Volpe



Peer Reviewed

*Haiyang Chen is the Director of the E*Trade Financial Learning Center, Christos M. Cotsakos College of Business, William Paterson University. He can be reached at cheh@wpunj.edu. Ronald P. Volpe is a Professor in the Department of Accounting and Finance, The Williamson College of Business Administration, Youngstown State University.*

Abstract

This study surveys 212 company human resource and benefits administrators in regard to (1) the importance of various personal finance topics; (2) the level of knowledge possessed by employees; (3) if inadequate personal finance knowledge leads to a decline in productivity; (4) use of a financial literacy test to screen new hires; and (5) the most effective approach to improve employees' financial literacy in the workplace. Participants rank the surveyed personal finance topics as being important, and they believe that employees do not have adequate knowledge about these topics. Although many did not answer the question about whether financial illiteracy leads to a decline in productivity, more than 55 percent of those who answered the question believe this is the case. Few participants recommend that a screening test of financial literacy be used for hiring purposes. Participants select outsourcing to outside financial planners as the most effective approach to educating employees.

Introduction

This study analyzes financial literacy and education in the workplace. This is a particularly important topic today because the entire nation is debating about social security reform. President Bush's call for allowing workers to invest in stock and bond funds in their private accounts represents a fundamental change in the social security system. Will workers be better off? To a large extent, this will be determined by what workers' can earn by investing in stocks. Workers need to be financially knowledgeable in order to make informed investment decisions. The findings of this study show that workers do not have adequate knowledge about investments and other personal finance issues.

Prior research suggests that Americans lack sufficient knowledge in personal finance. (See Chen and Volpe, 1998; and Vitt et al., 2000 for reviews.) Researchers have surveyed various groups of Americans to examine if they are knowledgeable about personal finance issues. These past studies have improved our understanding of the state of financial literacy in the U.S. However, prior research has several drawbacks. First, many studies used surveys with only five to ten questions. Readers always have a question about the reliability and validity of their results. Second, some of the survey questions are subjective. The participants can be confident that they have a high level of knowledge even though they actually do not. In this study, we use a new approach. We survey human resource and benefit administrators. We first asked what are important topics in personal finance, and then they were asked what is the current level of employees' knowledge. Participants were also asked whether or not financial illiteracy in the workplace has created a decline in productivity. Should employers use a financial literacy test to screen new hires? More importantly, participants are asked what is the most effective approach to improve financial literacy among employees?

Human resource and company benefit professionals deal with employees on many personal finance related issues, such as insurance, defined benefit pensions, and 401(k) plans. Their experience in this area gives them a perspective to assess employees' knowledge and skills in personal finance. Additionally, human resource and benefit administrators are in charge of employee development and training. They are the appropriate group to be surveyed on the effectiveness of employee training programs.

The rest of this paper is organized as follows. A literature review of past research on financial literacy is presented in the next section. The following section presents the survey methodology, which is followed by a section on results. The final section concludes the paper.

Literature Review

There are extensive studies on financial literacy among Americans. The findings of these studies suggest that Americans do not have adequate knowledge of personal

finance issues. Research conducted in the past 40 years indicates that high school and college graduates have inadequate knowledge about personal finance due to the lack of a sound education in personal finance. If high schools and colleges graduate financially illiterate students, it is not surprising that working adults know very little about personal finance.

Volpe et al. (2002) developed a ten-question survey examining online investors' investment knowledge. Their results show that online investors answer less than half of the basic investment questions correctly. The authors suggest that online investors should improve their knowledge about basic investment concepts and tools. The Securities Investor Protection Corporation and the National Association of Investors Corporation (2001) designed a five-question questionnaire and found that four out of five investors do not know how investing works (Gordon, 2001). Eighty-two percent of 1001 investors fail the Princeton Survey Research Associates/Investor Protection Trust's 8-question "Investors Knowledge Survey" (PSRA/IPT, 1996). Sixty-two percent of investors mistakenly believe that a no-load fund involves no sales charges or other fees. Only 51 percent understood that the purpose of diversification is to reduce risk. Vanguard/Money conducted three "Investor Literacy Tests" in recent years. Each survey has 20 questions about mutual funds. The survey results show that participants' knowledge actually declined. They scored lower on the year 2000 test (only 37 percent) than in 1995 and 1997, with scores of 49 percent and 51 percent, respectively (Farrell, 2000).

Lack of financial literacy is not limited to investors. People from all professions, genders, and age groups suffer from the problem. For example, Volpe et al. (1996) surveyed college students using a ten-question investment IQ test. They found that the overall mean of the 454 participating college students was only 44 out of 100. Chen and Volpe (1998) conducted a comprehensive financial literacy survey among 924 college students from 13 colleges in various states in the U.S. Their results show that the participants only answer about half of the questions correctly. They also found that students with a low level of knowledge are more likely to hold wrong opinions and make incorrect financial decisions. A telephone interview was conducted by American Education Savings Council (ASEC), Employee Benefit Research Institute (EBRI) and Mathew Greenwald & Associates among 1,000 parents with children ages 6-17. They found that only 38 percent of parents pay off their credit cards completely at the end of each billing cycle, and less than 50 percent make a budget and stick to it most of the time (ASEC/EBRI/MGA 2001). The Federal Reserve Bank of Minneapolis (1998) surveyed 404 adults using a 13-question survey about basic economic concepts and found that the average score for the participants is only 45 percent.

If colleges and high schools graduate financially illiterate graduates, it is not surprising that working adults are not knowledgeable about personal finance. Garman et al. (1996) found that poor personal finance knowledge among employees contributes to a decline in productivity. Education programs help employees to improve productivity in

the workplace (Garman, 1999). In this study, participants were asked if financial illiteracy in the workplace affects productivity.

The literature review is not intended to be exhaustive to cover all studies conducted in the past 40 years. Readers are recommended to read a more complete review of the prior research in Chen and Volpe (1998), and Vitt et al. (2000). Vitt et al. (2000), NEFE (2001) and Braunstein and Welch (2002) provide reviews of the general state of financial literacy in the U.S. and education programs in personal finance.

Prior studies have helped us understand Americans' knowledge about certain areas in personal finance. However, these studies suffer from several weaknesses. Most of the surveys have very limited questions in their survey questionnaires or use short telephone interviews. Personal finance covers a broad spectrum of issues. A five- or ten-question survey can hardly touch the surface of these issues. Additionally, we are not certain if these five- or ten-questions cover really important questions in personal finance. We believe that more questions should be asked in a survey so that we can improve the validity and reliability of the financial literacy research. To find out what questions are important and those that are not, we need to ask people who are knowledgeable in this field. We selected company human resource and benefit administrators because they are considered the most knowledgeable professionals about personal finance issues in the workplace.

Methodology

To identify which personal finance topics are important and which are not, input was sought from 212 human resource and benefit administrators in U.S. companies who deal with employees on many personal finance related issues on a daily basis. They field questions concerning company benefits like insurance, defined benefit pensions, and 401(k) plans. Regarding 401(k) plans, they answer questions related to (1) loan provisions; (2) company matching provisions; (3) plan distributions from a job loss or change; (4) asset allocation and diversification decisions; (5) amount of company stock in workers' 401(k) plans; (6) taxes; (7) knowledge of retirement planning issues; and (8) estate planning issues. Their education, continuing training, and work experience in personal finance areas make them knowledgeable about personal finance in the corporate world. The objective of this paper is to identify the importance of and level of knowledge possessed by employees about personal finance topics in U.S. based companies. We believe that these selected professionals are more knowledgeable about this than is any other group of employees in these companies.

This group of employees was asked to rank the importance of various personal finance topics and then rate employees' knowledge about these issues. The topic areas in the survey include company benefit plans, personal finance basics, insurance,

investments, taxes, retirement planning, and estate planning. The final survey had a total of 68 questions. One-half of the questions are on the importance of various personal finance topics, and the rest cover employee knowledge about these topics. Participants were requested to respond by choosing one answer from “A” to “E.” For the questions regarding the importance of the topics, “A” means the topic is very important, and “E” means it is not important at all. For the questions about the participants’ assessment of people’s knowledge about the topic, “A” means that they are very knowledgeable, and “E” means they are not knowledgeable at all. In both cases, “C” indicates that the participants are not sure. The responses from each participant were collected and converted into a numerical data set for the purposes of analysis. A response of “A” was converted into a “0”, “B” to “1”, “C” to “2”, “D” to “3”, and “E” to “4”.

The researchers ask participants if financial illiteracy negatively affects productivity in the workplace. Participants are also asked if a financial literacy test should be used to screen new hires. Lastly, the group is asked to rank the effectiveness of various approaches used in financial education in the workplace. In addition to multiple choice questions, participants are provided with several open-ended questions for their comments and suggestions about financial literacy and education in the workplace.

Results

To ensure that companies of all sizes are included in the survey, we grouped companies into various different size groups by the number people they employ. The large companies have more than 12,000 employees; the next largest between 6,001 to 12,000; the third largest between 3,001 to 6,000; the fourth largest between 1,001 to 3,000; the fifth largest between 501 to 1,000; and the small companies between 200 and 500. Fifteen hundred U.S.-based companies were selected with an equal number of companies in each size category, and questionnaires were mailed to human resource and benefit administrators in these companies. Two hundred and twelve useable responses were collected, representing a response rate of more than 14 percent. This response rate is not high enough to constitute a sample representative of the entire population in corporate America. Therefore, caution should be exercised in generalizing the results. However, it should be noted that this kind of response rate is typical in the corporate world. For example, Trahan and Gitman (2003) use a sample with a 9 percent response rate.

Table 1 (below) reports a breakdown of company sizes that participated the survey. The findings show that participants are evenly distributed across all size categories.

Table 1

Breakdown of responding participants by their sizes

Size of companies (# of employees)	Frequency	%	Valid %
Group 1 (over 12,000)	31	14.6	14.6
Group 2 (6,001-12,000)	41	19.3	19.3
Group 3 (3,001-6,000)	31	14.6	14.6
Group 4 (1,001-3,000)	43	20.3	20.3
Group 5 (501-1,000)	35	16.5	16.5
Group 6 (200-500)	31	14.6	14.6
Total	212	100	100

Importance of personal finance issues and employee knowledge about them

The survey results suggest that participants believe that the survey questions cover important financial planning topics. Table 2 (below) shows descriptive statistics of the participants' responses to the importance of various personal finance topics. A score of "0" means that participants believe that the topic is very important, "2" not sure, and "4" not at all important. The average of the entire survey is 0.66. It indicates that participants chose either "0" (very important) or "1" (important) when ranking the importance of these topics. The results from individual sections show that participants ranked retirement planning 0.41, personal finance basics 0.53, and company benefits 0.61. These smaller scores (0.41, 0.53, and 0.61) compared with the overall average for the entire survey (0.66), show that these topics are considered more important.

Table 2

Participants' responses to the importance of various financial planning topics

Survey topics	Average section scores (0 = very important and 4 = least important)
---------------	---

Retirement planning	0.41
Personal finance basics	0.53
Insurance	0.59
Company benefits planning	0.61
Taxes	0.70
Investments	0.82
Estate planning	0.95
Overall average	0.66

Participants' assessment on employee knowledge about various financial planning topics

Survey topics	Average section scores (0 = very knowledgeable and 4 = least knowledgeable)
Estate planning	2.75
Investments	2.44
Retirement planning	2.37
Personal finance basics	2.34
Taxes	2.08
Company benefits planning	1.82
Insurance	1.76
Overall average	2.22

Does financial literacy affect employee productivity?

The survey results also suggest that working adults need to improve their financial literacy. Table 2 reports descriptive statistics of the participants' assessment of employees' knowledge in personal financial planning. A score of "0" means that the experts believe that people are very knowledgeable about the topic, "2" not sure, and "4" not knowledgeable at all. The overall average of 2.22 indicates that participants do not believe that people are knowledgeable about personal finance issues. Additionally, the results show that people are especially not knowledgeable about estate planning (a section score of 2.75) and investments (2.44). It is noted that the participants also rate the level of knowledge low in retirement planning (2.37), and personal finance basics (2.34). These latter two sections are what participants believe to be most important.

The survey results show that working adults do not know enough about the important financial planning issues. One consequence of the low level of financial literacy is financial distress caused by debts, bankruptcy, credit problems, failed investment, etc. Research has shown that these personal financial problems may negatively affect employee productivity (Garman et al. 1996). Participants are asked to assess financial illiteracy in the workplace and whether or not it has negatively affected productivity. Participants are also asked to make comments when appropriate.

This short question presents a challenge to many participants. Table 3 (below) shows that more than half of them did not directly answer the question. Some expressed a need to conduct more research on the subject. Researchers agree that to get to the bottom of this question could be a serious research topic. Others wrote comments but did not answer this “yes” or “no” question. For example, one wrote, “It is particularly important as a qualitative measure of the quality of environment that the employer creates for its workforce. It is important to individuals in so far as it provides them with a more complete understanding of financial investments that a company makes in its programs for employees.” However, this individual did not check “yes” or “no.” Another commented, “Employees with a financial plan for college funding, retirement, etc. have a comfort in meeting future needs. They can see progress toward their goals. Planning eliminates last minute panics.” Again, this participant did not directly answer the question. The following is another quote, “It’s only a problem where employees actually spend work time thinking about it. If they are ‘in denial’ it doesn’t affect their productivity. If they are too fluent, can spend their work hours ‘managing’ their 401(k).” The fact that more than 50 percent of participants did not answer this question suggests that the issue is new and more research is necessary.

Table 3

Financial illiteracy in workplace and its impact on productivity

	Frequency	%	Valid %
Financial illiteracy negatively affect productivity	54	26.6	55.7
Financial illiteracy does not affect productivity	43	21.2	44.3
No response	106	52.5	
Total	203	100	100

For those who answered this question properly, more than 55 percent agree that financial illiteracy negatively impacts productivity. One participant wrote, “An employee’s productivity will be affected by financial crisis.” Another answered, “I find that employee productivity is affected by distraction.” Another participant wrote, “People with financial problems can’t focus on their work.” The consensus is that financial crises negatively

affect employee productivity. How serious is this problem in the workplace? One participant stated that this problem does not affect the majority (85 percent) of their employees, but only a minority (15 percent). This is consistent with the published research that on average about 15 percent of employees in any given workplace are spending time on personal finance matters on the job (Quinn, 2000). Other participants explained that demographic factors might play a role. Older workers close to retirement worry more about their financial future. Some participants observed that the problem might be industry specific.

According to a recent nationwide survey, financial trouble hits employees hard (Hudson, 2004). The findings from 700 companies show that 27% of surveyed employees said that they were “one major setback away from financial disaster”. Meanwhile, employee calls for financial help increased 69% in 2003 over the same period in 2002. This recent finding suggests that financial problems among employees are serious, widespread, and increasing. Considering these findings and other research by Garman et al (1996), employers should start looking into employee financial issues.

For those who answered this question, about 44 percent of participants believe that there is no direct relationship between financial illiteracy and productivity. One stated, “I do not see a direct relationship between financial illiteracy and employee productivity.” Another said, “I do not believe it impacts productivity.” One participant explained that many young employees thought that it was out there in the future. Others stated that many employees lived paycheck-to-paycheck. They do not worry about their finances. Participants feel in general that financial literacy is important and a plus for employers to provide and employees to have. Yet, they do not believe that financial illiteracy affects productivity. One said that it was just the opposite because employees were spending time on the Internet watching market activity and counting losses and gains.

Should employers screen new hires using a financial literacy test?

Given the widespread nature of financial literacy problems in the workplace, participants were also asked if companies should screen new hires using a financial literacy test. As shown in Table 4, the response is clearly negative. About 83 percent of participants answered “No.” They provided the following reasons for their response: (1) financial literacy is not related to the job the new employees will perform; (2) most job applicants will fail the test; (3) it is employers’ responsibility to teach employees basics of personal finance; (4) the test will make the hiring discriminatory; and (5) there are potential legal problems with this practice.

Although only 11 percent of participants responded positively, their explanations are worthy of attention. One participant wrote: “Yes this would help the company assess individual needs and develop action plans (build into the employee’s development plan). Both the company and the employee win here.” Another stated, “Yes. If we can

establish that there is a definite job-related quality, then by all means we could use this as a screen. I would theorize that the more financially literate employees would perform more productively.” Both individuals agree that financial illiteracy leads to a decline in productivity.

While responding negatively to the employment screening question, many participants commented that employers should be encouraged (or obligated) to help employees improve their financial literacy. Consistent with this discussion, participants believe that helping employees become financially literate is a good recruiting and retention tool.

Table 4
Should companies use a financial literacy test to screen new employees?

	Frequency	%	Valid %
Yes	21	10.3	11.1
No	169	83.3	88.9
No response	13	6.4	
Total	203	100	100

What are effective ways to improve financial literacy in the workplace?

It has been learned from the survey that personal finance issues are important, but employees are not knowledgeable about them. The ideal situation would be that upon hiring, new employees would have already learned financial basics in high schools or colleges. However, this is not the case. Published research has shown that new college graduates are not knowledgeable about personal finance issues (Volpe et al., 1996, Chen and Volpe, 1998). To better understand how to improve employee learning, participants were asked to rank the effectiveness of three methods of improving employee financial literacy. The choices for employers are:

- (1) Establishing an in-house department,
- (2) Outsourcing employee financial education to financial professionals, or
- (3) Setting up an alliance with colleges/universities to provide personal finance education.

Survey results suggest that the most effective approach to educating employees is outsourcing to financial professionals. Table 5 shows descriptive statistics of participant responses to the effectiveness of the three approaches. A score of “1” means that participants consider the educational approach most effective, and “5” the least effective. As shown in Table 5, the average score for in-house training is 2.76, for

outsourcing 1.86, and for setting up alliances with universities 2.68. The findings indicate that outsourcing is considered most effective over the other two alternatives.

The following are comments from participants.

- (1) Diversity and skill levels make education by a third party a must;
- (2) Bring in external resources 401(k) firms/life insurance companies and offer external training;
- (3) Partnership with the current financial providers in developing an education program, which includes online resources;
- (4) Use of outside professionals can benefit employees and assist employers in addressing government compliance issues;
- (5) Our 401(k) company provides many written materials and videos to give to employees;
- (6) Partnering with professionals to develop a customized program;
- (7) This issue could be addressed through outside consultants providing information or conferences at work to all employees.

Some participants stated that their companies use in-house training. However, many smaller companies do not have the resources to hire full time employees for workplace financial education programs. Setting up an alliance with universities is a good approach because it solves a potential conflict of interest problem. However, many companies and universities are not conveniently located within a geographic area. One participant wrote, “We are in a rural setting with three plant locations. That would make it difficult to affiliate with a single college or university.” Long distances and related inconveniences sometimes hurt the effectiveness of company and university alliances.

Table 5

Which approach is most effective in educating employees about financial planning?

Approaches	Average score (1 = most effective and 5 = least effective)
------------	--

In-house training	2.76
Use of outsourcing	1.86
Alliance with universities	2.68

Summary and Conclusion

One of the main findings of this study is that personal financial planning topics are considered important for employees to know, and yet they are not knowledgeable about these topics. The overall rank of importance of these topics is 0.66, between 0 (being very important) and 1 (being important). The average ranking of employee knowledge is 2.22 (0 being very knowledgeable and 4 not knowledgeable at all). This result suggests that the participants believe that employees are not knowledgeable about personal finance. The least knowledgeable areas are financial planning basics and retirement planning. Given the limited resources available for training employees on financial literacy, companies should focus on these two areas.

Results also show that the issue of financial illiteracy negatively affecting productivity has not received enough attention in the corporate world. About half of the participants did not answer the question when asked if there is a direct link between the two. For the other half who responded to the question, about 56 percent agree that financial problems negatively affect workers' productivity, while 44 percent do not believe that there is a direct link. Participants observe that employee financial crises have led to a decline in productivity. How serious are employee financial problems? Research has shown that substantial portions of employees (15 percent) are troubled by money matters (Garman et al., 1996). Most recently, a ComPsych survey found that about 27 percent of employees said that they were one step away from financial crisis. The total number of calls from employees for financial help jumped 69 percent in 2003 compared with 2002 (Husdon, 2004).

Screening new hires using a financial literacy test is not recommended by participants. Although many participants agree that employee financial literacy is a plus for both employees and employers, for various reasons, they do not agree on the use of a financial literacy test to screen new hires. Many recommend that employers should help employees learn personal finance basics. Participants feel teaching employees financial basics is a good component of their benefit and personal development plan.

Participants believe the most effective way of improving employee financial literacy in the workplace is to outsource education programs to outside financial professionals. Written comments by respondents reveal that many companies are currently using outside help such as ING Reliastar, Health Strategies, Morgan Stanley Outlook Program, and other 401(k) companies.

Involvement with workplace financial education programs can provide many benefits for financial planners. Companies will pay for planners to deliver on-site training to employees and the development of materials such as books, websites, and other tools. The needs for financial services in the workplace are large. David Wray, president

of the Profit Sharing/401(k) Council of America, said that companies have spent billions of dollars to teach adults how to become investors for life in recent years (Quinn, 2000). Trahan and Gitman (2003) show that companies use professionals to offer investment advice, retirement planning, estate planning, tax planning, and others. Another benefit for financial professionals is that financial education at the workplace will show employees and their spouses and beneficiaries that planners have a genuine interest in their financial well being. This can also help solidify a life-long, multi-generational relationship with financial professionals.

Participants have also suggested ways to improve the outsourcing activities between companies and financial planners. First, get organized. One participant wrote that he got an average of five calls/inquiries a week from financial planners or brokers for employee education. A consortium of financial planners, brokers, etc. should be set up to coordinate activities. Second, know your audiences. One participant said, "Our work force is 90 percent hourly plant workers (one-third union shop). They, on average, don't trust suits or experts who tell them things they don't understand." Another recommended, "Select a co-worker to be trained as a trainer ... more effective when you know/trust the person." Third, program topics and materials should be tailored to the needs of the audience depending on their stage in the financial life cycle. Topics like savings, spending, and investment basics can be very general for the younger group or very targeted to retirement issues and estate planning for a group that will retire in one to three years. Fourth, make it interesting. One of the big problems of getting employees trained is getting them motivated (John Hancock, 2001). One participant stated, "As the saying goes, you can lead a horse to water... but you have to help employees understand the earlier they learn about finances, the better off they will be later." Not only is it important that the topic covered is right for the audience, the pedagogy used needs to be improved. This is especially true for many planners who are not trained to teach. Fifth, be timely and regular. Employee financial education should be provided on a regular and timely basis; not just during a quarterly or annual review. The more frequently employees can be exposed to financial topics and ideas, the greater the chance that the information will be retained and applied. Reinforcement can be a great tool for employee learning.

Further research is definitely needed on financial literacy and education in the workplace. In the future, we will see more demand for financial services from employees in the corporate world. To better serve this sector, planners should better understand this market. Further studies should be conducted to examine the full cycle of workplace financial education and services. There is a need to further explore what are the needs, and how to develop programs and materials to meet those needs. Another area would be to identify the best practices to deliver employee financial education and assess the effectiveness of these programs.

From participants' comments, many future research questions can be identified. For example, why are so many participants unaware of the fact that financial illiteracy and productivity is linked? Why do certain financial problems apply to some industries, but not others? Why do employees of certain age, gender, ethnic, and social economic groups have more financial problems than others? Why do employees experience different types and levels of financial hardship? Why do some companies offer good benefit packages, while others do not? What are the concrete benefits to employers of offering financial education in the workplace? Answers to these questions will no doubt enrich the understanding of financial literacy and education in the workplace and the role played by financial planners.

References

- American Education Savings Council (ASEC), Employee Benefit Research Institute (EBRI), & Mathew Greenwald & Associates (MGA). (2001). *2001 parents, youth, and money survey*. Washington, DC: Author.
- Braunstein, S. & Welch, C. (2002). Financial literacy: An overview of practice, research, and policy. *Federal Reserve Bulletin*, 87(11), 445-457.
- Chen, H. & Volpe, R. P. (1998) An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2), 107-128.
- Farrell, P. B. Are investors really getting dumber? Retrieved from <http://aol.marketwatch.com/source/blq/aol/archive/20000905/news/current/superstar.asp>. September 5, 2000.
- Federal Reserve Bank of Minneapolis. (1998). Economic literacy survey demographics. "The Region." Retrieved from <http://www.woodrow.mpls.frb.fed.us/pubs/region/98-12/demo.html>. <http://minneapolisfed.org/pubs/region/98-12/demo.cfm>.
- Garman, E. T., Leech, I. E. & Grable, J. E. (1996). The negative impact of employee poor personal financial behaviors on employers. *Financial Counseling and Planning*, 7, 157-168.
- Garman, E. T. (1999). Workplace financial education: Channels of communication, related research findings and recommendations. In E.T. Garman, P.L. Camp, D.C. Bagwell, J. Kim (Eds.), *Personal Finances and Worker Productivity: Vol. 3*. Proceedings of the Personal Finance Employee Education best Practices and Collaborations Conferences, Roanoke, VA (pp. 109-112).
- Gordon, M. 4 out of 5 investors don't know basics, survey says. Retrieved from <http://detnews.com/2001/business/0108/06/c04-261321.htm>. August 5, 2001.
- Hudson, J. Reality of financial trouble hits hard for employees. ComPsych press release. Retrieved from www.compsych.com. February 9, 2004.
- Hancock, John. (2001). *Insight into participant investment knowledge & behavior*. Boston, MA: John Hancock.
- National Endowment for Financial Education (NEFE). (2002). *Financial literacy in America: Individual choices, national consequences*. Denver, CO: NEFE.
- Princeton Survey Research Associates (PSRA) and Investor Protection Trust (IPT). *Investor knowledge survey*. Arlington, VA. April, 1996.

Quinn, J. M. (2000). Mainstreaming financial education as an employee benefit. *Journal of Financial Planning*, 70-79. May.

Trahan, E. T. and Gitman, L. J. (2003). The corporate market for personal financial planning services benefits. *Financial Services Review*, 12(1), 1-18.

Vitt, L. A., Anderson, C., Kent, J., Lyter, D. M., Siegenthaler, J. K., & Ward, J. (2000). *Personal Finance and the Rush to Competence: Financial Literacy Education in the U.S.* Middleburg, VA: Fannie Mae Foundation.

Volpe, R. P., Chen, H. and Pavlicko, J. J. (1996). Personal investment literacy among college students: A survey. *Financial Practice and Education*, 6(2), 86-94.

Volpe, R. P., Kotel, J. E. and Chen, H. (2002). A survey of investment literacy among online investors. *Financial Counseling and Planning*, 13(1), 1-13.



<http://www.westga.edu/~bquest>