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When it comes to financial literacy, is gender
really an issue?

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Abstract

In Australia the introduction of compulsory superannuation has resulted in the financial services industry flourishing and the introduction of numerous new products and services. As a result financial education is critically important to differentiate the extensive range of providers, products and services as means to achieve financial security. Several research papers published since 2000 have attempted to measure the level of financial literacy in today's society. Some of these studies have suggested that gender is a significant variable impacting on the level of financial literacy. However, to date no such evidence relating to gender difference and its impact on the level of financial literacy is available in Australia. The purpose of this pilot study was to explore the validity of the research outcomes of Chen and Volpe (2002) in an Australian context. To this end the study concentrates on determining the level of financial literacy among Australian undergraduate business students at the University of Western Sydney (UWS).

KEYWORDS: financial planning; gender; financial literacy; Australia; students

WHEN IT COMES TO FINANCIAL LITERACY, IS GENDER REALLY AN ISSUE?

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ABSTRACT

In Australia the introduction of compulsory superannuation has resulted in the financial services industry flourishing and the introduction of numerous new products and services. As a result financial education is critically important to differentiate the extensive range of providers, products and services as means to achieve financial security.

Several research papers published since 2000 have attempted to measure the level of financial literacy in today's society. Some of these studies have suggested that gender is a significant variable impacting on the level of financial literacy. However, to date no such evidence relating to gender difference and its impact on the level of financial literacy is available in Australia. The purpose of this pilot study was to explore the validity of the research outcomes of Chen and Volpe (2002) in an Australian context. To this end the study concentrates on determining the level of financial literacy among Australian undergraduate business students at the University of Western Sydney (UWS).

Keywords: financial planning; gender; financial literacy; Australia; students.

INTRODUCTION

In Australia, the introduction of compulsory superannuation has given individuals greater responsibilities for their own financial well-being and long term retirement planning, increasing the need for consumers to be financially literate.

In response, the financial services industry has flourished. It has introduced numerous new products and services to meet consumer needs. This has given individuals greater choice and flexibility in how they manage their finances, but has also created greater complexity.

Several research papers have raised the suggestion that gender is a significant variable impacting on the level of financial literacy (Goldsmith and Goldsmith, 1997; Goldsmith, Goldsmith and Heaney, 1997; Chen and Volpe, 2002). These findings suggest that women, in comparison to men, are more risk-averse and less confident when making financial decisions, and are consequently less financially literate.

Here we address the validity of the research outcomes of Chen and Volpe (2002) in an Australian context. To this end, our study concentrates on determining the level of financial literacy among Australian undergraduate business students at one Australian University - the University of Western Sydney (UWS) and on investigating whether any gender difference can be discerned.

LITERATURE REVIEW

Research interest in the topic of financial literacy developed little more than a decade ago. The research undertaken has mainly been conducted in the United States of America (USA) and the United Kingdom (UK). Although there appears consensus regarding the importance of financial literacy (Cutler, 1994; Hogarth, 2002; NIACE, 2003; The Jumpstart Coalition for Personal Financial Literacy, 2003) empirical research on financial literacy is limited (Greenspan, 2001).

The US Jumpstart Coalition for Personal Financial Literacy (a broad-based, non-profit group focused on developing financial literacy) conducts annual research amongst 12th graders across the USA. They report finding poor levels of financial behavior amongst youth across the United States of America (The Jumpstart Coalition for Personal Financial Literacy, 2002). Similarly, major studies undertaken in the USA by the US Employee Benefit Research Institute (EBRI) and the Congressional Budget Office (CBO) indicate poor financial behavior by both adults and youth. Similarly, Trend Profiles¹(2002) suggest that most individuals have few assets and high levels of debt and predications indicate a reliance on social welfare over the coming decades, as many individuals will retire without adequate means of retirement income (Administration on Aging, 2002; TIAA-CREF Institute in the USA, 2003).

Research undertaken in the UK, has indicated similar findings to that in the United States. Tomlinson, a former Chief Inspector of Schools, stated that far too many young people do not have the basic financial skills to function on a daily basis (Hoare, 2003). The Chief Executive of the UK Institute of Financial Services, Gavin Shreeve further suggests:

I don't think there's any doubt that financial literacy is a real problem in this country. We would say that the way to protect the consumer is not to regulate, regulate, regulate but to educate them so they understand what they are told and what they are sold (Hoare, 2003, 32).

The UK's National Institute of Adult Continuing Education (NIACE) 2002 also concluded that adults had a poor grasp of basic financial knowledge. They further stated that many individuals aged 50 and over had difficulty with basic financial skills, while, at the same time confirmed that individuals are living longer and faced increasing pressure to take responsibility for their own retirement. Additionally, NIACE raised the issue that a large number of people in this age group,

¹ Trend profiles: The Administration on Aging (2002) part of the U.S. A. Department of Health and Human Services and one of the nation's largest providers of home and community-based care for older persons and the TIAA-CREF Institute in the USA (2003). The TIAA-CREF Institute serves as a bridge between the business of TIAA-CREF and the business of higher education.

(approaching retirement), had few assets, limited income, poor skills and the inability to improve this situation (NIACE, 2002).

In Australia, the ANZ Bank National Report on Adult Financial Literacy (2003, 2005) indicated some positive results, with most participants having an appreciation and understanding of basic financial services. However, the study also discovered a lack of skills in understanding superannuation and retirement planning (ANZ, 2003:58). Less positive findings from OECD International Adult Literacy Survey, stated that “around 45 per cent of Australian adults have inadequate literacy to cope in a sophisticated economy and one in five do not have the necessary literacy skills to effectively participate in daily life” (Adult Learners, 2003).

Specifically, gender has been claimed to be a significant variable affecting the level of individual financial literacy. Some research findings have suggested that women are more risk-averse than men; less confident when making financial decisions, and less knowledgeable in terms of financial literacy Goldsmith and Goldsmith (1997); Goldsmith, Goldsmith and Heaney (1997), and Chen and Volpe (2002). The authors of these studies have raised concerns that gender difference affects significantly womens’ ability to achieve financial security and in particular, on women’s ability to adequately provide for their retirement.

Chen and Volpe (2002) analysed approximately 900 useable responses from students across 14 universities. These students were undertaking different degrees and attending different campuses. Their findings report poor financial literacy skills overall. However, students undertaking a business major were likely to know more about personal finance than students undertaking non-business majors. The suggestion from Chen and Volpe (2002) was that this group of students would have an interest in business and that there would be a strong likelihood that they were studying finance related subjects. Chen and Volpe’s results suggest that an investigation of business students exclusively would offer a unique opportunity investigate whether gender differences exist among a group of similar students.

Chen and Volpe (2002) and Goldsmith et al (1997) linked risk taking and confidence as contributors to gender differences in financial literacy. Similarly, Chen and Volpe (2002); Bajtesmit and Bernasek (1996); Powell and Ansic (1997) reported that women were more risk averse than men. Conversely, Schubert et al (1999) stated that under controlled economic conditions, female subjects do not generally make less risky financial choices than male subjects (Schubert et al, 1999:384). They suggest that risk attitudes about female investors and managers may be more prejudice than fact (Schubert et al. 1999:381). These findings were supported by Hamacher (2001) who stated that “the differences within gender are actually greater than the differences between genders” (Hamacher 2001,1).

Chen and Volpe (2002) suggest that women have less confidence than men and that this may explain why men are more financially knowledgeable than women. By deduction, a lack of financial knowledge, confidence and a reluctance to take risk are factors likely to impact on women’s financial ability. However, another possible reason for the lack of confidence and risk taking displayed by women in financial skills may be due to their traditional role. Women, as part of society, undertake homemaker and carer duties. This role may be more significant in affecting

their ability to participate in the paid workforce or in well-paid positions (Sharp, 1988) and, therefore, inhibit their ability to accumulate savings.

AIM AND METHOD

The aim of this pilot study is to investigate if any differences in financial literacy among Australian UWS business students can be explained by gender. Additionally the survey instrument has been broadened to examine not only student's personal financial knowledge but their understanding of financial terms and decision making skills.

The impetus for this research was developed from the research studies undertaken by Chen and Volpe (2002), Goldsmith and Goldsmith (1997) and Goldsmith et al. (1997). In particular Chen and Volpe (2002) assessed financial knowledge as a barometer for financial literacy and observed that business students would have similar (homogenous) personal interest in finance, have similar background knowledge and would be studying similar university subjects.

This study will therefore will examine gender differences amongst "like" students (that is students studying business at the University of Western Sydney). Furthermore this study will investigate financial literacy in terms of three components: 1. Knowledge of personal finance: 2. Understanding of financial terms and concepts and 3. The skill to utilize both knowledge and understanding to make beneficial financial decisions. The broader definition of financial literacy for this study is defined as:

1. Knowledge of personal financial is a basic concept in understanding money and its use in daily living. Following the guidelines as set out in the ANZ Bank¹ report. This includes the way income and expenditure are managed and the ability to use the common methods of exchanging and managing money such as ATMs, cheques, EFTPOS and credit cards. Further, personal financial knowledge incorporates an understanding of everyday situations that need to be understood such as insurance, credit and an appreciation of savings and borrowings.

2. The understanding of financial terms and concepts includes an understanding of key financial concepts central to investing and managing funds to increase wealth and security. Individuals require an awareness of features available for borrowing and investing. This awareness includes the understanding of prospectuses and annual statements, compound interest calculations and delaying the use of funds for consumption (known as opportunity cost. Individuals further need to be aware that high return investments are also likely to involve high risk, the realisation that market values fall as well as rise, and the principles of diversification. This need introduces a new complex set of skills in relation to products and how they work, the advantages and disadvantages.

3. The third component of the definition is the skill to utilize knowledge and understanding to make beneficial financial decisions. The ability to utilize knowledge and understanding is a specific skill required to make complex financial and investment decisions that will benefit the individual by increasing wealth and financial security. This key aspect of the definition is essential if individuals are to be truly financially literate.

The final survey instrument consisted of 49 questions and is divided into four sections. The four sections request information on the respondents: (1) general personal financial knowledge (2) understanding of financial concepts and terms (3) the skill needed to utilize knowledge and understanding and respondents experience (4) and the demographics of the respondents.

The population for this study was a sample of undergraduate students at the University of Western Sydney undertaking a Bachelor of Business Degree in 2004. The sample reflected the population of business students studying Construction and Property, Accounting, Economics and Finance and Management at UWS. This allowed the authors to investigate the question of gender and whether any gender differences were discernible. In the survey instrument, students were asked whether they worked in the finance area. It is plausible that students who did so would have a higher degree of knowledge and understanding of financial matters. Additionally, questions focused on the students' academic status and achievement, the degree being undertaken, the number of years they have been at university, their grade point average and whether they are attending university on a full or part-time basis.

The group administration method was employed to distribute the survey, consistent with Goldsmith and Goldsmith (1997) and Goldsmith et al. (1997).

LIMITATIONS

The principal limitation of this study is the investigation of individual financial literacy drawn from one university.

RESULTS AND DISCUSSION

Table 1 presented below displays the distribution of data, the age and relevant characteristics regarding respondents.

Table 1. Characteristics of sample

		No	% Women	No	% Men	No	%
1	Gender	83	50%	82	50%	165	100%
2	Age						
	Under 20	33	40%	24	29%	57	35%
	21-25	32	39%	43	52%	75	45%
	26-30	8	10%	8	10%	16	10%
	31-45	7	8%	5	6%	12	7%
	46-65	2	2%	0	0%	2	1%
	Other	1	1%	2	2%	3	2%
3	Working Experience						
	Part Time	58	70%	60	73%	118	72%
	Full Time	19	23%	14	17%	33	20%
	Not Working	6	7%	8	9%	14	8%
4	Work Experience (Years Worked)						
	1 Year	4	5%	4	5%	8	5%
	2 Years	28	34%	15	18%	43	26%
	3 Years	20	24%	26	32%	46	28%
	4 Years	31	37%	37	44%	67	41%
5	Work Experience (Finance Sector)						
	Yes	10	12%	16	20%	26	16%
	No	73	88%	64	78%	137	83%
	other			2	2%	2	1%
6	Academic Achievement (Grade Average)						
	Pass	28	34%	34	40%	62	37%
	Credit	45	54%	42	51%	87	53%
	Distinction	7	8%	5	6%	12	7%
	High Distinction	3	4%	0	0%	3	2%

7	Degree Major						
	Construction and Property	28	34%	34	40%	62	37%
	Accounting	45	54%	42	51%	87	53%
	Economics and Finance	7	8%	5	6%	12	7%
8	Management	3	4%	0	0%	3	2%
	Student Status						
	Part Time	22	27%	10	12%	32	19%
	Full Time	58	70%	70	85%	128	78%
9	Other	3	4%	2	2%	4%	3%
	Year of Studies						
	1st Year	32	39%	11	13%	43	26%
	2nd Year	1	1%	13	16%	14	8%
	3rd Year	38	46%	57	70%	95	58%
	Other	12	14%	1	1%	13	8%

Table 1 indicates 77% of respondents were less than 25 years of age. 71.52% of students surveyed work part time at the time of the survey, while 20% of respondents worked full-time. Additionally a high percentage of students (40%) have worked for at least four years. This indicates a large cohort of younger students and suggests most students balance work and study, with very few students able to cope with full-time work and full-time study.

Table 2 indicates the results of the first section of the questionnaire.

Table 2 Section 1 of the Questionnaire Responses to Financial Knowledge

Total Respondents 165	No. of Women	% of Women	No. of Men	% of Men	Total % of Correct Answers	Difference
	83		82			
Credit Card Debt	68	82%	59	72%	77%	-10%
Financial goals	79	95%	79	96%	96%	
Application for a loan	75	90%	72	88%	89%	1%
Fixed interest loan	72	87%	67	82%	84%	6%
Credit card	44	53%	30	37%	45%	17%
Estate Planning A	28	34%	37	45%	39%	-8%
Estate Planning B	64	77%	61	74%	76%	3%
Auto/Car Insurance	77	93%	76	93%	93%	
Purchasing insurance	54	65%	52	63%	64%	2%

This section sought to obtain information about general personal financial knowledge. These questions assessed knowledge in the key areas of insurance, investment, savings and borrowings.

Table 2 represents the percentage of correct responses from both male and female participants. On average 82% of respondents choose the correct response in all questions in this section. Only two questions out of nine were answered correctly less than 50% of the time. The results suggest that most students have a good knowledge of personal finance. The results to these questions have been analysed by gender and it can be seen that females had a correct response more times than males, with the exception of the question on estate planning and financial goals. It is interesting to note that eighty-two percent of women correctly answered question three, which asked about credit card debt, compared with 71.95% of men. Further, 53.01% of women correctly answered question seven, which asked generally about credit cards, compared with 36.59% of men.

Table 3 reflects the second section of the questionnaire which investigated understanding of financial terms and concepts. All of these questions incorporate financial terms used in investment strategy including superannuation. The questions sought the respondents understanding of investment terms such as managed funds, risk, opportunity costs and gearing.

Table 3 Section 2 of the Questionnaire Responses Regarding the Understanding of Financial Terms and Concepts						
Total Respondents 165	No.	%	No.	%	Total % of	%
	Females	Females	Males	Males	Correct Responses	Difference
Balanced investment	83		82			
Conservative investment	26	31%	18	22%	27%	10%
Growth investment	42	51%	30	37%	44%	14%
Superannuation	39	47%	37	45%	46%	2%
Investment strategy	75	90%	74	90%	90%	
Advantages of home ownership	61	73%	58	71%	72%	2%
Gearing	18	22%	23	28%	25%	-7%
Gearing Scheme	23	28%	29	35%	32%	-8%
Investment	35	42%	30	37%	39%	6%
Taxation	70	84%	60	73%	79%	11%
Shares	27	33%	31	38%	35%	-5%
Managed fund	35	42%	27	33%	38%	10%
Opportunity cost	70	84%	66	80%	82%	4%
Diversified share portfolio	51	61%	41	50%	56%	11%
	70	84%	74	90%	87%	-6%

Table 3 indicates nine questions out of fourteen were answered correctly by less than 50% of participants. The results indicate most students have a poor understanding of financial terms and concepts. With respect to gender, the above table indicates the median percentage of females who answered questions correctly was 46%, slightly higher than that of males at 43%. The difference between males and females in this section of the results was not significant statistically².

This study explored the variables of age, experience, work and confidence level on financial literacy by using a linear regression. Linear regression fits data to models where the dependent variable is a continuous measured variable such as test scores or degrees of financial literacy. Therefore, since it is degrees of financial literacy, which is of interest in this study, a linear regression was conducted. Table 4 indicates that the variables of gender, age, work experience and the respondents reported level of confidence are not significant predictors of financial literacy.

Table 4 Linear Regression

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	14.425	1.212		11.903	.000
	Gender	-.313	.460	-.054	-.681	.497
	Age	.173	.253	.056	.685	.494
	Experience	.318	.255	.102	1.247	.214
	Confidence1	-.455	.266	-.135	-1.709	.089

a. Dependent Variable: FiancialLiteracy

The third section of the questionnaire assesses information about the respondent's personal financial experience and skill in making financial decisions. This includes the use of payment and saving facilities and importantly, the respondent personally responsibility, for their own financial affairs. To further establish a respondent's financial experience, questions sought the participant's frequency in using ATM's, EFTPOS and Internet banking. Additionally to establish the degree of hands on experience and financial ability, students were asked if they took responsibility for their debts.

Responses indicate that 89% of students have a mobile phone while approximately 40% of respondents have a credit card and savings account. Results are similar for both males and females. Respondents use ATM's, EFTPOS and Internet banking for the transfer of money. The results indicate more than 50% of students use an ATM and EFTPOS on a weekly basis. Internet banking is used by 26% of all students. Although a number of students are familiar with the most common types of payment systems, there are some exceptions. Approximately 20% of students do not use EFTPOS and 45% do not use the Internet, while 8% of students do not use ATM's at all.

² Chi-Square test

A number of students do not use Internet Banking. Although further research is needed, anecdotal explanations for students not using this form of banking, may include the fact that students are not comfortable with this method of exchanging money, do not need to use the internet or may not have the facilities such as a computer or Internet connection. Again the results indicate that overall responses from both genders are similar. In summary, the results indicate that both males and females are familiar with most forms of managing and exchanging money. The one exception is Internet banking.

A number of questions have been developed to assess a respondent's degree of skill in making financial decisions. Results indicate 71 students (35 female and 36 male) have a credit card, and at least 57% of those with a credit card pay their account by the due date. This indicates that more than 57% of students are using their credit card effectively by paying their account at the due date and not accruing any penalties, such as interest. Additionally the results indicate with respect to students paying the closing balance on the due date and paying what is affordable that there is little difference between males and females.

This study examined the information relevant to respondent's views, confidence, understanding and behavior in respect to financial literacy. The study sought to establish the respondent's self-perception of confidence in relation to their ability on financial matters. The results indicate that although 40% of students are confident in their own ability, this is matched by an equal number of respondents (36%) who are neutral (neither confident nor not confident). The results suggest that the level of participants' confidence or lack of confidence is spread evenly between both males and females. With 79% of students having a good understanding of the benefits attached to being financial literate and 70% of respondents having a clear impression what financial planning involves. When examining the results on the basis of gender males (41.82%) were more likely to have a higher understanding of the benefits and implications of being financial aware in comparison to females (37.58%).

CONCLUSION AND RECOMMENDATION

The ambiguity of the term financial literacy and a lack of measurement benchmarks make any form of measurement or assessment difficult. However, this study has attempted to investigate all three key components defined by this study as necessary to be considered financially literate.

Results indicated that 74% of respondents were able to correctly answer most questions displaying a reasonable level of general personal financial knowledge. However, only 53% of all students had an understanding of financial terms and concepts. The results also indicated that 60% of students were able to make appropriate financial decisions in their best interests. Whilst the findings of this study indicate there is a need to improve financial literacy skills amongst students, the findings indicated that gender was not a significant factor among Australian students. It is worth noting that the responses in table 2 and 3 indicated females to be slightly more financial literate than males.

The study does, however, suggest that the definition of the term “financial literacy” is of integral importance in determining an appropriate measurement of the level of financial literacy. Standards and benchmarks need to be established to enable the accurate assessment of financial literacy as opposed to personal financial knowledge.

The results of this pilot study suggest that further research is required, using a larger sample so as to further develop a more appropriate definition of financial literacy and additionally provide a possible measurement technique for determining an individual’s level of financial literacy. The researchers are of the view that with a greater understanding as to level of financial literacy presently demonstrated by Australians generally, that targeted educational programs could be designed to improve financial literacy generally for the broader Australian community resulting in widespread benefits.

REFERENCES

- Adult Financial Literacy Advisory Group (AdFLAG) (2000). *Financial Literacy Measurement and Evaluation*. [Online] Available: <http://www.defes.gov.uk/adflag/10.shtml> [2004, November 10].
- Adult Learning Australia (2003). *The Great Literacy Debate*. [Online] Available: <http://www.ala.asn.au/news/030807.html> [2003, November 03].
- Adult Learners (2003). Adult Learners' Week program for 2003: the Great Literacy Debate, **Thursday 7 August 2003**, <http://www.ala.asn.au/news/030807.html> [2008, March 29].
- Administration on Aging (2002). *A Profile of Older Americans: 2002*. US Department of Health and Human Services. [Online] Available: <http://www.aoa.gov/prof/Statistics/profile/2003/profiles2003.asp> [2005, September 24].
- American Association of Retired Persons (AARP) (2002). *Deeper in Debt: Trends Among Midlife and Older Americans*. [Online] Available: http://www.research.aarp.org/econ/dd70_debt.html [2004, February 26].
- Association of College and Research Libraries (ACRL) (2000). *Information literacy competency standards for higher education*. 2000. Approved by the Board of Directors of the Association of College and Research Libraries on January 18, 2000. published by the American Library Association, [Online] Available: <http://www.ala.org/ala/acrl/acrlstandards/standards.pdf> [2005, April 30].
- Australia New Zealand Banking Group (ANZ) (2003). *ANZ Survey of Adult Financial Literacy in Australia – Final Report*. Commissioned by the Australia New Zealand Banking Group from Ray Morgan Research (quoted as ANZ 2003) [Online] Available: <http://www.anz.com/aus/aboutanz/Community/Programs/FinLitResearch.asp> [2005, May 1].
- Australian Securities and Investment Commission (ASIC). 2003. *Financial Literacy in Schools, ASIC Discussion Paper*. June (quoted as ASIC 2003) [Online] Available: [http://www.fido.asic.gov.au/asic/pdflib.nsf/LookupByFileName/FinLit_schools_DP.pdf/\\$file/FinLit_schools_DP.pdf](http://www.fido.asic.gov.au/asic/pdflib.nsf/LookupByFileName/FinLit_schools_DP.pdf/$file/FinLit_schools_DP.pdf) [2005, June 5].
- Australian Securities and Investment Commission (ASIC). 2003. *ASIC calls for financial literacy education in schools ASIC 2003 Media and Information releases*. June (quoted as ASIC 2003) [Online] Available: http://www.fido.asic.gov.au/asic/ASIC_PUB.NSF/byid/935A19434EF2AEDCA256D55000920DO?opendocument [2004, February 23].

- Bajtesmit, V., and Bernasek, A (1996). *Why Do Women Invest Differently than Men?*. *Financial Counselling and Planning*. 7: 1-10. [Online] Available: [2005, September 30].
http://www.biz.colostate.edu/faculty/vickieb/cv_bajtelmsmit_Aug04_withpres.DOC
- Beal, D. and McKeown, W (2001). *Personal Finance*. Singapore: Wiley.
- Beal, D. and Delpachitra, S (2003). Financial Literacy Among Australian University Students. *Economic Papers*. 22(1): 65-78.
- Braunstein., S. and Walsh, C (2002). Financial Literacy: An Overview of Practice, Research and Policy. Article from the *Federal Reserve Bulletin* Division of Consumer and Community Affairs, Federal Reserve Board. [Online] Available:<http://www.federalreserve.gov/pubs/bulletin/2002/1102lead.pdf> [2005, September 30].
- Breitbart, S. and Reynolds, C (2003). Jump-Starting Financial Literacy. *Journal of Accountancy*. 196(6):56-60.
- Burchell, D (2003). *Western Horizon Sydney's Heartland and the Future of Australian Politics*. Australia: Scribe Short Books.
- Chen, H., and Volpe, R. P (1998). An Analysis of Personal Financial Literacy Among College Students. *Financial Services Review*. 7(2):107-128.
- Chen, H., and Volpe, R. P (2002). Gender Differences in Personal Financial Literacy Among College Students. *Financial Services Review*. 11(3):289-307.
- Chen, H., Volpe, R P and Liu, S (2006). An analysis of the importance of personal finance topics and the level of knowledge possessed by working adults, *Financial Services Review*, vol 15, 1 pp. 81-98.
- Goldsmith, R., Goldsmith, E. and Heaney, J (1997). Sex Differences in Financial Knowledge: A replication and Extension. *Psychological Reports*. 81:169-1170.
- Goldsmith, R., and Goldsmith, E (1997). Gender Differences in perceived and real knowledge of financial investments. *Psychological Report*. 80:236-238.
- Goldsmith, R., Goldsmith, E. and Heaney, J(1997). Sex Differences in Financial Knowledge: A replication and Extension. *Psychological Reports*. 81:169-1170.
- Graham, J., Stendardi Jr. E. J., Myers, J. K., and M. J., Graham (2002). Gender differences in investment strategies: An information processing perspective. *The International Journal of Bank Marketing*. Bradford: 20(1):17-27.
- Greenspan, A (2001). The importance of financial education and literacy. *Remarks by the Chairman of the Federal Reserve Board* before the National Council on Economic Education. Chicago, Illinois, October 26 [Online] Available: [2005, June 5].
<http://www.federalreserve.gov/boarddocs/speeches/2001/20011026/default.htm>
- Hogarth, J (2002). Financial Literacy and Family and Consumer Sciences. *Journal of Family and Consumer Sciences*. 94(1):14-28.
- Hoare, S (2003). Making it all. *Financial World*, August, 32-37.
- Jumpstart Coalition for Personal Financial Literacy (2002). *From Bad to Worse: Financial Literacy Drops Further Among 12th Graders*. [Online] Available: <http://www.jumpstart.org/upload/news.cfm?recorded=99> [2004, November 10].
- Jumpstart Coalition for Personal Financial Literacy, Homepage: Coalition for Personal Financial Literacy [Online] Available: <http://www.jumpstart.org/upload/news.cfm?recordid=99> [2004, May 21].
- National Endowment for Financial Education (NEFE) (2001). *Economic Independence Clearinghouse*. [Online] Available: <http://www.nefe.org/amexeconfund/index.html> [2005, July 7].
- National Institute of Adult Continuing Education (NIACE) (2002). *Financial Literacy and Older People – moving on*. Information drawn from the Financial Literacy and Older People (FLOP) project, It Doesn't Add Up report, and the FLOP provider survey [Online] Available: [2004, February 26].
http://www.iace.org.uk/information/Briefing_sheets/Financisal_literacy_older_people.htm
- Powell, M., and Ansic, D (1997). Gender differences in risk behaviour in financial decision-making: An experimental analysis. *Journal of Economic Psychology*. 18(6).



-
- Sharp, R., and Broomhill. R (1988). *Short Changed*. Singapore: National Library of Australia.
- Schubert, R., Brown, M., Gysler, M., and H. W. Brachinger (1999). Gender and economic transactions-Financial decision-making: Are women really more risk-adverse?. *The American Economic Review*. 89(2):381.
- Teachers Insurance and Annuity Association – College Retirement Equities Fund (TIAA-CREF) (1999). *Women and Retirement*. Research Dialogue: A publication of the TIAA-CREF Institute, Issue 61.
- The National Institute of Adult Continuing Education (NIACE) (2002). *Financial Literacy and Older People*. Briefing Sheet 31, July. London, England. [Online] Available [2005, September 30].
http://www.niace.org.uk/information/Briefing_sheets/Financial_literacy_older_people.htm
- Van Derhei, J., and Copeland. C (2003). *Can America Afford Tomorrow's Retirees: Results from the EBRI-ERF Retirement Security Projection Model*. EBRI Issue Brief Number 263, November. [Online] Available
<http://www.sbm.temple.edu/~jvanderh/senate%20aging%20testimony,%20January%202004.pdf> [2005, September 30].