

Consumers' insurance literacy: evidence from survey data

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Abstract

This study analyzes data from a survey developed and fielded by the author to assess consumers' insurance literacy, measured by the score on a 10-question quiz about insurance. The results show that consumers' insurance literacy is relatively low. There is significant variation in literacy by demographic characteristics, but in multivariate analysis the most significant correlates of literacy are measures of financial education and interest in personal finance. Insurance literacy is also found to be related to consumers' confidence in insurance decision-making and to the insurance information sources preferred by consumers. Consumers who prefer informal sources of information such as family and friends have significantly lower insurance literacy than others. © 2011 Academy of Financial Services. All rights reserved.

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1. Introduction

Over the past several decades, deregulation has increasingly shifted responsibility for financial decision-making to consumers, while at the same time the range and complexity of financial products has increased (OECD, 2008). Governments, businesses and educators around the world increasingly recognize the importance of a financially literate consumer population. In response, research on consumer financial literacy, the factors that influence it and the best approaches to enhancing it is receiving greater emphasis (Kozup and Hogarth 2008; OECD 2008). However, relatively little financial literacy research has focused on insurance products and consumers. A recent meta-analysis of consumer financial literacy

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studies found that only 16 of the 52 surveys (30.8%) include any questions about insurance or risk management. A majority of the studies have a primary focus on saving and investing (Huston 2010). This is an important missing component of consumer financial literacy research and education.

Insurance products and services make up a significant fraction of the national economy and are important in household budgeting and financial planning. OECD statistics for 2008 show that insurance premiums account for 9% of U.S. gross domestic product. U.S. Department of Labor statistics show that the average household spends nearly 11% of its income on private insurance and pensions. The National Association of Insurance Commissioners (NAIC) calculates that insurance is one of the largest consumer expenditures for many families, with an average family spending over \$7,000 per year for auto, home, life, and health insurance (Iuppa, 2006).

Insurance is also among the most complex financial products that many consumers will purchase in their lifetimes. Insurance is purchased to protect against risks to life, health, and property, liability for damages to others, and old-age. The nature of these risks and the products to insure them differ considerably. Informed consumption decisions require consumers to choose an appropriate level of coverage, to understand policy terms and contractual features, to compare services and financial soundness of competing insurers, and to understand their rights and responsibilities under the contracts.

This study develops and fields a survey to assess consumers' knowledge, confidence and capability in insurance decisions. The survey poses a series of questions about insurance as a way to assess consumers' insurance knowledge. The results are intended to provide insight into consumers' insurance literacy, which are defined here to include both specific knowledge and knowledge of principles that will allow for effective decision-making (Huston 2010). Thus, the survey includes questions on insurance principles in addition to questions regarding insurance product features. The study relates individuals' survey responses to demographic characteristics, insurance experience, and education, to provide insights into the correlates of consumers' insurance capabilities. The survey also assesses consumer confidence in insurance decisions, facilitating study of the relationship between knowledge and confidence.

The paper is organized as follows. First, background information is provided regarding what is known already about consumers' knowledge and decision processes in insurance. The survey and data collection process is then explained, and the characteristics of survey respondents and general findings are summarized. The following two sections present multivariate analysis of consumers' insurance knowledge, and its relationship to insurance decision-making, respectively, to provide insights into the potential sources and consequences of insurance literacy. The final section of the paper presents conclusions and implications of the results for literacy research and education.

2. Background

There is not a large body of research on consumers' insurance literacy. However, the existing research suggests that consumers' knowledge and decision skills related to insurance

purchases are lacking. Research sponsored by the National Association of Insurance Commissioners (NAIC) and conducted by Cude (2005) finds that many U.S. consumers do not understand insurance disclosures, and most consumers do not read them. Recent NAIC surveys also suggest that consumers have a poor understanding of policy language and terms. On a ten question test of knowledge of insurance policy terms, the NAIC found that the average consumer scores only 40% correct (NAIC, 2010). An earlier NAIC survey in 2006 had found that only one-third of consumers thought that they have a good understanding of their coverage.¹ Consistent with this perception, the NAIC found that many consumers do not know what a pre-existing condition is in a health insurance policy, and most consumers do not know what a statement of coverage such as “100/300/100” means in an automobile insurance policy (NAIC, 2010). Survey evidence from other countries also reveals low levels of insurance literacy among consumers (OECD, 2008).

Other research suggests that many consumers may not be effective insurance shoppers. Surveys in the United States show that word-of-mouth and informal sources are the dominant information-gathering strategies for insurance consumers and that many consumers have a poor understanding of price and quality variations across insurers (Cummins et al., 1974; Schlesinger and Schulenberg, 1993). A study in the United Kingdom found that 90% of life insurance consumers considered only one insurance policy before making a purchase, and 59% simply followed the advice of a sales person.² Formal empirical analysis of automobile insurance purchase decisions in Germany found that consumers switch insurance providers much less frequently than would be predicted by a rational search model (Schlesinger and Schulenberg, 1993).

The results of focus group research conducted as part of this study also suggest a lack of sophisticated purchase behaviors.³ Many focus group participants relied heavily on word-of-mouth referrals of friends, parents, insurance agents or neighbors for making insurance product decisions. Participants mentioned other, objective information outlets as providing trustworthy information, yet indicated that they did not tend to use those sources. Most focus group participants had significant experience with insurance purchase, and a majority characterized themselves as somewhat or very knowledgeable about insurance. However, through discussion, some misconceptions about insurance were demonstrated. Examples include purchasing insurance that is arguably not needed because the monthly premium was low; believing that automobile insurance premiums one has paid over time should “add up” to pay for the accident losses one experiences; that experiencing a loss indicates insurance was needed, while experiencing no loss indicates that insurance premiums were wasted; that the insurance needs of all consumers are the same. These common misconceptions underscore the problem of inadequate consumer knowledge in insurance markets.

3. Data collection and sample

Data for this study were gathered from consumers through a telephone survey administered by a professional survey firm. Households in which someone was employed in the insurance industry or as an insurance regulator were ineligible for the survey. Potential respondents were first contacted by mail, and as a result the overall response rate was 50%.

Table 1 Summary statistics

Variable	Observations	Mean	SD
Age	365	47.16	16.06
Percent White	360	62.78%	
Percent Black	360	19.44%	
Percent Hispanic	360	9.17%	
Percent Asian or other race	360	8.61%	
Percent immigrant	370	18.65%	
Percent male	370	42.97%	
Percent living in a large city or suburb of large city	367	49.05%	
Percent living in a medium-sized city or suburb of medium city	367	22.07%	
Percent living in a small town	367	17.44%	
Percent living in a rural area	367	11.44%	
Percent household income < \$25,000	338	24.26%	
Percent household income \$25,000-\$50,000	338	34.32%	
Percent household income \$50,000-\$75,000	338	19.53%	
Percent household income > \$75,000	338	21.89%	
Years of education	367	14.32	2.59
Percent insurance course in school	370	10.00%	
Percent personal finance course in school	370	26.49%	
Percent insurance seminar	370	17.30%	
Percent personal finance seminar	370	24.05%	
Percent confident or extremely confident in insurance decisions	361	42.94%	
Percent somewhat confident in insurance decisions	361	30.47%	
Percent not confident or not really confident in insurance decisions	361	26.59%	
Percent excellent or very good money manager	370	36.49%	
Percent good money manager	370	40.27%	
Percent fair or poor money manager	370	23.24%	
Number of insurance policies	370	3.89	1.61

The survey sample consisted of adult residents of a single state, and was selected to be representative of the state by geography (by urban vs. ex-urban regions) and to be racially balanced (by Whites vs. other races). Completed surveys were obtained from 370 respondents. The survey was designed to gather information on consumers' insurance, knowledge and confidence in making insurance decisions. The survey also collected data on respondents' age, race, family status, and other demographics, to facilitate the comparison of responses across different sample subsets.

Summary statistics for the sample are reported in Table 1. Forty-three percent of respondents were male. Sixty-three percent of respondents were White, and 37 percent were from minority groups. Respondents' ages ranged from 18 to 86, with a mean age of 47.2. Forty-nine percent of respondents lived in a large city or its suburbs; 22 percent lived in a medium sized city or its suburbs and 29 percent lived in a small town or a rural area. Eight-four percent of respondents were native-born U.S. citizens, while 18.6 percent were immigrants. The median respondent income category was \$25,000-\$50,000 and the median respondent had some schooling beyond high school.

Respondents typically owned insurance, with an average of 3.88 policies and a median of four insurance policies owned by each respondent. The survey specifically queried whether the respondent owned auto, home, life, health, disability, long-term care, or any other insurance policies. Despite experience with insurance, only 43 percent felt confident or very

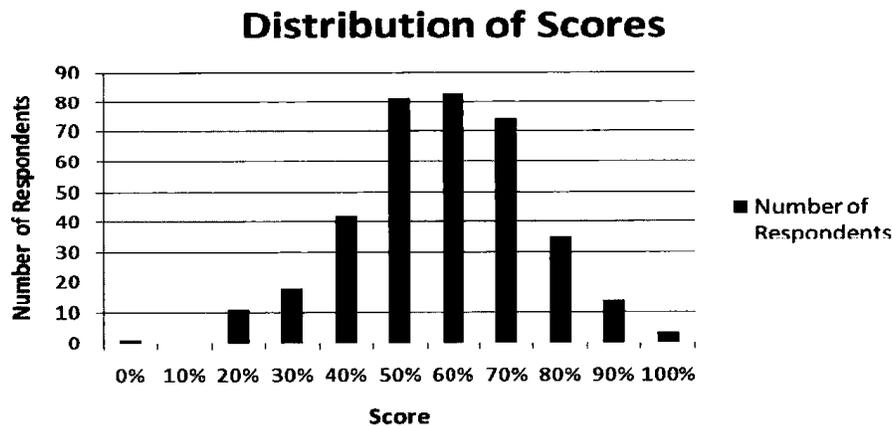


Fig. 1. Quiz scores.

confident in making insurance purchase decisions. In contrast, most respondents felt fairly confident in their abilities as a money manager, with 76.8 percent rating themselves as good or better at managing their money.

4. Assessment of insurance knowledge

The survey attempted to measure respondents' general level of knowledge about insurance by including a ten question assessment of knowledge. The quiz was developed using basic insurance textbooks and existing insurance examination instruments as inputs. The questions focused on insurance principles as well as on features of specific types of insurance policies. All questions were formatted as agree-disagree, with "don't know" answers allowed. A total of 362 respondents completed the knowledge-assessment portion of the survey. The questions included in the assessment are displayed in the Appendix.

Overall scores on the knowledge assessment ranged from a low of 0 (0%) to a high of 10 (100%). The average score on the quiz was 58 percent, and the median score was 60 percent. These results are comparable to those obtained by previous researchers using different knowledge assessment instruments (NAIC, 2010; OECD, 2008). The correct-response rate varied substantially across questions, ranging from a low of 35% to a high of 86%. Fig. 1 displays the distribution of scores across respondents, which conforms to expectations by exhibiting an approximate bell shape.

Table 2 displays the relationship between respondent scores and respondent demographic characteristics. The data reveal that white respondents scored an average of 60 percent while minorities' scores averaged 55 percent; males scored an average of 62 percent while females' scores averaged 55 percent. Native-born citizens and immigrants averaged 59 percent and 54 percent correct responses on the quiz, respectively. There are also large differences in scores by household income, with respondents in the highest income categories (greater than \$75,000) averaging 62 percent and those in the lowest income categories (less than \$25,000) averaging 52 percent. Married respondents scored higher than unmarried respondents, and respondents who live in or around a large city scored lower than other respondents. All of

Table 2 Quiz score by demographic characteristics

Respondent characteristics	Mean score	<i>t</i> -statistic	Significance
White	60%	2.59	***
Non-White	55%		
Male	62%	3.72	***
Female	55%		
Native-born (U.S.)	59%	2.14	**
Non-native (Immigrant)	54%		
Income > \$75,000	62%	2.00	**
Income < \$75,000	57%		
Income < \$25,000	52%	-3.70	***
Income > \$25,000	60%		
Age 65 or Older	59%	0.47	
Age < 65	58%		
Age 25 or younger	55%	-1.17	
Age > 25	58%		
Married	61%	3.32	***
Not married	55%		
Lives in large city	55%	-2.94	***
Lives in other area	61%		
Lives in small town or rural area	60%	1.34	
Lives in other area	57%		

Significance levels for *t*-tests are based on two-sided tests. *Denotes means significantly different at the ten percent confidence level; **denotes a significant difference at the five percent confidence level; and ***denotes the one percent confidence level.

these differences are statistically significant at the five percent confidence level or higher. There are no statistically significant differences in scores by age group.

Table 3 explores the relationship between scores and respondent education, as well as measures which represent specific educational inputs to insurance knowledge. These include taking an insurance or personal finance course in school, attending an insurance seminar, or attending a personal finance seminar. The table also includes several indicators of interest in personal finance topics, under the assumption that this interest may then lead to greater knowledge attainment. These include subscribing to financial publications and expressing an interest in saving and investing.

The data show only small differences in scores by level of educational attainment: respondents with a college degree or higher education average 60 percent on the quiz compared with 57 percent for respondents with less education. This difference is statistically significant, however. There are larger differences in quiz scores associated with specific coursework in insurance or personal finance. Respondents who reported taking a course on insurance scored an average of 65 percent and those who took a course in personal finance averaged 62 percent, while respondents without such coursework averaged 57 percent on the quiz. These differences are also statistically significant. Respondents who had participated in a seminar on insurance topics outside of school did not perform significantly better than others, but those who had participated in a seminar on personal finance did perform significantly better (averaging 64 percent on the quiz). Respondents who subscribe to at least one financial publication also score significantly higher on the quiz, averaging 65 percent

Table 3 Quiz score by educational characteristics

Respondent characteristics	Mean score	<i>t</i> -statistic	Significance
College or more education	60%	1.85	**
Less than college education	57%		
High school or less education	57%	−0.71	
More than high school education	59%		
Insurance class in school	65%	2.47	***
No insurance class in school	57%		
Personal finance class in school	62%	2.73	***
No personal finance class in school	57%		
Insurance seminar	61%	1.27	
No insurance seminar	58%		
Personal finance seminar	64%	3.62	***
No personal finance seminar	56%		
Subscribe to financial publication(s)	65%	4.16	***
No financial publication(s)	56%		

Significance levels for *t*-tests are based on two-sided tests. *Denotes means significantly different at the ten percent confidence level; **denotes a significant difference at the five percent confidence level; and ***denotes the one percent confidence level.

compared with 56 percent for all other respondents. Finally, respondents who express interest in saving and investing average 59 percent on the quiz, compared with 52 percent for others, and this difference is statistically significant at the five percentage confidence level.

Individuals may also gain insurance knowledge through experience in purchasing and owning insurance. As noted previously, survey respondents on average had substantial experience in purchasing insurance, with a median of four policies per household. However, there is substantial variation across the sample: 10% of respondents held only one or no insurance policies, and 15% of respondents held six or more policies. Fig. 2 displays the distribution of insurance policy ownership (by number of policies), and reports the mean quiz score among respondents in each ownership category. The figure shows a slight positive relationship between the number of policies and quiz score, but the largest difference is

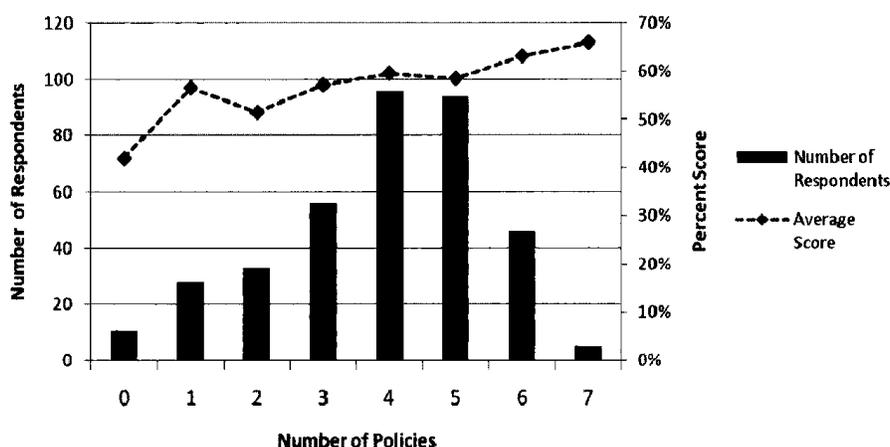


Fig. 2. Number of insurance policies and quiz score.

Table 4 OLS estimates of quiz score

	Model 1		Model 2		Model 3	
Male	0.071	***	0.059	***	0.051	***
	3.980		3.244		2.832	
White	0.010		0.013		0.017	
	0.444		0.578		0.760	
Age	0.001		0.001		0.001	
	1.008		1.473		1.491	
Years of education	0.005		0.002		−0.001	
	1.416		0.542		−0.372	
Immigrant	−0.035		−0.035		−0.029	
	−1.251		−1.275		−1.048	
Large urban city	−0.020		−0.019		−0.028	
	−0.930		−0.887		−1.376	
Does not own insurance			−0.128	**	−0.091	*
			−2.156		−1.688	
Insurance course			0.043		0.025	
			1.362		0.760	
Personal finance course			0.039		0.019	
			1.799		0.832	
Financial publications					0.054	***
					2.612	
Insurance seminar					−0.009	
					−0.384	
Personal finance seminar					0.039	*
					1.909	
Interested in saving and investing					0.056	**
					2.248	
Number of observations	345		345		345	
Adjusted R^2	0.071		0.095		0.118	

Models also include an indicator for region of the state in which the respondent lives. Standard errors are robust to arbitrary forms of heteroskedasticity. t -statistics are reported below the coefficient estimates. Coefficient estimate significantly different from zero at the ten percent confidence level is indicated by *; ** indicates significance at the five percent confidence level; and *** indicates significance at the one percent confidence level.

between respondents who own no insurance and those who own one or more policies. Respondents who own no insurance achieve noticeably lower scores than those who own one or more policies. A one-way analysis of variance (ANOVA) confirms that the overall differences in scores by number of policies owned are statistically significant (F -statistic = 3.21, $p = 0.0027$). A t -test also confirms that respondents who own no insurance score significantly lower than other respondents ($t = 3.14$, $p = 0.0018$).

Table 4 examines the relationship between respondent characteristics and quiz scores in a multivariate setting, using linear regression analysis. The dependent variable is the quiz score, measured as a percentage. Estimates reported in the first column of the table use only the respondent demographics as explanatory variables (gender, age, race immigrant status, education). The estimates in column two of the table include the demographic characteristics and variables to proxy for insurance education and experience (insurance class in school, personal finance class in school, insurance ownership). Estimates in the final column of the

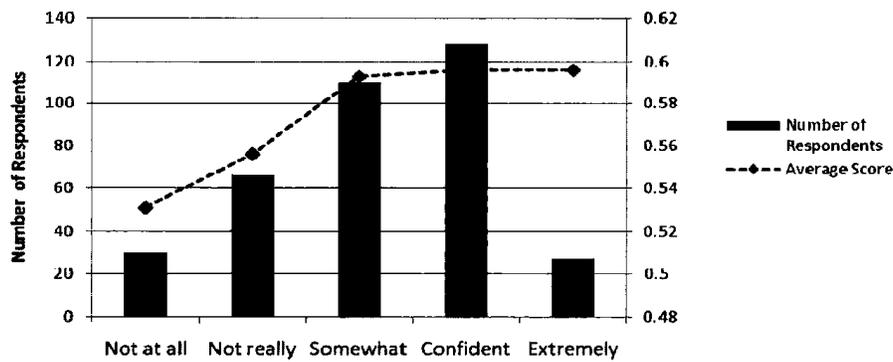


Fig. 3. Insurance confidence and quiz score.

table also add variables that proxy for the respondent's interest in financial topics (insurance seminar, personal finance seminar, financial publications, stated interest).

The estimates show that insurance experience and interest in saving and investing are the most significant predictors of a respondent's score on the quiz. Respondents who do not own any insurance policies score nine to twelve percent lower on the quiz than other respondents, and this difference is significant at the ten percent confidence level or better. Subscribing to financial publications, having attended a seminar on personal finance topics, and expressing an interest in saving and investing are statistically significant, and are positively related to the quiz score. Each of these variables is associated with a four to five percent higher quiz score, and so they are economically significant as well. The only demographic characteristic that is statistically significant is gender, with males scoring five to seven percent higher on the quiz than females.

5. Knowledge and insurance decision-making

5.1. Decision-making confidence

Because financial literacy encompasses both understanding and application of personal finance concepts, examination of the relationship between insurance knowledge and the application of that knowledge is important. One indicator of the likelihood of applying knowledge effectively is confidence in decision-making. Thus, it is of interest to understand the degree to which consumers express confidence in insurance decision-making, and whether confidence is correlated with insurance knowledge.

Fig. 3 displays the distribution of survey responses regarding confidence in insurance decisions, along with the average quiz score of respondents in each confidence category. The figure shows a positive relationship between confidence and quiz score, but only at low levels of confidence. Respondents who state that they are "not at all" confident or "not really" confident about insurance decisions have distinctly lower average scores on the insurance quiz than other respondents. A one-way ANOVA shows no statistically significant differences in scores across the five confidence categories ($F = 1.71$, $p = 0.1307$), but a t -test

Table 5 Probit estimates of insurance confidence

	Model 1	Model 2	Model 3
Percent score on quiz	0.779	0.592	0.623
	1.615	1.203	1.239
Male	0.301 *	0.231	0.253
	1.862	1.372	1.497
White	-0.012	0.023	0.027
	-0.069	0.129	0.152
Age	0.000	0.003	0.003
	0.035	0.561	0.587
Years of education	-0.030	-0.051	-0.053
	-0.951	-1.589	-1.590
Immigrant	-0.111	-0.157	-0.141
	-0.552	-0.767	-0.675
Large urban city	-0.154	-0.167	-0.157
	-0.893	-0.948	-0.879
Does not own insurance		-0.771 *	-0.762 *
		-1.723	-1.770
Insurance course		-0.077	-0.112
		-0.280	-0.379
Personal finance course		0.470 **	0.435 **
		2.397	2.094
Financial publications			-0.152
			-0.758
Insurance seminar			0.154
			0.686
Personal finance seminar			0.202
			0.976
Interested in saving and investing			0.099
			0.366
Number of observations	338	337	335
Pseudo- R^2	0.046	0.069	0.075

Models also include an indicator for region of the state in which the respondent lives. Standard errors are robust to arbitrary forms of heteroskedasticity. Coefficient estimates are reported as marginal effects. *t*-statistics are reported below the coefficient estimates. Coefficient estimate significantly different from zero at the ten percent confidence level is indicated by *; ** indicates significance at the five percent confidence level; and *** indicates significance at the one percent confidence level.

confirms that respondents who are “not at all” or “not really” confident score significantly lower on the quiz than other respondents ($t = 2.403$, $p = 0.0168$).

Table 5 reports results of exploring whether a respondent’s confidence is related to insurance knowledge, in a multivariate setting. Because Fig. 3 shows the largest differences in scores between respondents who express at least some confidence in decision-making (somewhat confident, confident, or very confident) and those who are not confident (not at all confident, not really confident), the estimates collapse responses into two categories (“confident” and “not confident”) and a probit model of the probability a respondent is confident in insurance decisions is estimated.⁴ The estimates reported in the first column of the table use respondent demographics and quiz score as explanatory variables. Estimates in column two include respondent education and insurance experience, and those in column three add measures of respondent interest in insurance. The quiz score is treated as prede-

terminated in the models because it is an objective measure (rather than a self-assessment of knowledge), and because the respondent's self-assessed confidence in insurance decisions was asked before the quiz in the survey (and so self-assessed confidence will not be affected by the respondent's perception of how (s)he did on the quiz).

The estimates show that confidence in insurance decision-making is positively related to a respondent's quiz score, but this relationship is not statistically significant in any of the model specifications. The only variables that are statistically significant in all models include a lack of insurance policy ownership that is negatively related to confidence, and a school course in personal finance that is positively related to confidence. These variables were also found in Table 4 to be significantly related to quiz scores. This suggests that certain inputs determine both insurance knowledge and confidence, and helps to account for the positive association between a respondent's expressed confidence and his or her quiz score.

5.2. *Information sources*

An important prerequisite for capable decision-making is to have a sufficient amount of relevant and accurate information. There are a variety of sources that consumers may utilize when seeking information about insurance products or services. Informal sources of information include family and friends, while formal sources may include insurance sellers, third-party experts, print sources such as books or magazine articles, and the Internet (Beales et al., 1981; Lee and Hogarth, 2000).

One positive effect of greater confidence in insurance decision-making may be an increased willingness to seek out information from external sources, and a lesser reliance on informal sources of information such as friends or family. Similarly, a byproduct of greater insurance knowledge may be a better understanding of the availability of insurance information sources and an increased capability of utilizing those sources. Effects may also work in the opposite direction. For example, obtaining information from objective sources may increase consumer confidence in decision-making. And, if objective information sources provide better information then consumers who utilize those sources should have more knowledge of insurance and display higher scores on the quiz administered in our survey.

This reasoning implies that we may observe a relationship between the insurance information sources used by a consumer and their level of insurance knowledge and confidence in insurance decision-making. Although this study cannot determine the direction of causation if such an association is found, if different information sources tend to be related to higher consumer knowledge and/or confidence, this may provide suggestive evidence regarding effective decision-making.

The questions contained in the survey allow a direct examination of whether differences in insurance knowledge and confidence are linked to differences in insurance information-seeking behavior. Survey respondents were asked in an open-ended response format where they would seek out information if they or a family member had a question about understanding and selecting insurance products. These responses were grouped by the author into five major categories: Print Items (books, magazines, or library), Industry Experts (insurance agent or insurance company), Other Experts (personal financial planner, insurance regulator,

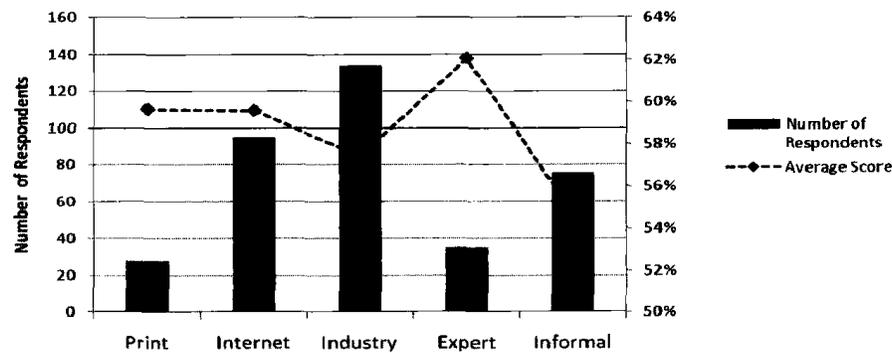


Fig. 4. Insurance information sources.

attorney, bank, or employer), Internet, and Informal Sources (family, friends, or acquaintances).

Fig. 4 displays the distribution of responses. The data show that the most common choice for insurance information among the survey respondents is an insurance agent or insurance company (36% of respondents); the second most common choice is the Internet (26% of respondents); and the third most common choice is informal sources such as friends or neighbors (21% of respondents). Other experts such as financial planners or attorneys were preferred by just under ten percent of respondents, and print sources such as books or magazines were preferred by only seven percent of respondents.

Fig. 4 also displays the mean quiz score among respondents who listed each information source as their first choice. The data reveal a strong association between quiz scores and respondents' most preferred source of insurance information. Those who prefer to obtain insurance information from informal sources such as friends or family have on average the lowest quiz scores among the survey respondents (55%). In contrast, those who prefer to seek information from experts outside of the insurance industry have on average the highest quiz scores among the survey respondents (62%). A one-way ANOVA confirms that the overall differences in scores by preferred source of information are statistically significant ($F = 1.54$, $p = 0.0930$). The t -tests also confirm that respondents who prefer to seek insurance information from informal sources score significantly lower than other respondents ($t = 1.92$, $p = 0.0558$).

Fig. 5 compares the distribution of preferred information sources for consumers who express confidence in insurance decision-making to those who express a lack of confidence in insurance decision-making. The figure shows that consumers who are more confident in their insurance decisions tend to prefer industry and Internet sources more often than consumers who are not as confident in their decisions. Less confident consumers tend to prefer third-party expert sources or informal sources more often than consumers who are confident. However, a one-way ANOVA shows that there are no significant differences in preferred sources of information across these confident and less confident consumers ($F = 1.93$, $p = 0.1661$).

We may make use of the positive correlation between knowledge and confidence, demonstrated earlier, to draw some inferences from comparing Fig. 4 and Fig. 5. Fig. 4 shows a positive relationship between quiz score and a preference to seek information from third

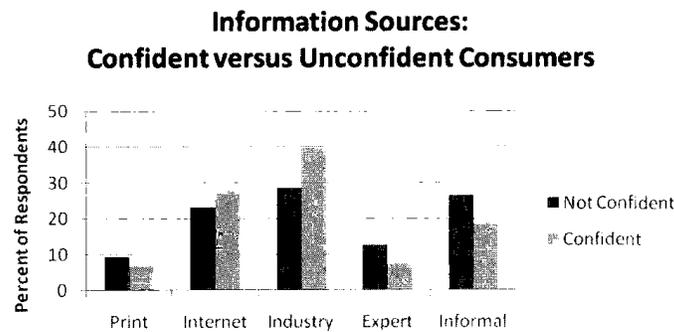


Fig. 5. Confidence and information source.

party sources. If this relationship reflects the fact that more informed consumers are more likely to seek information from such experts, then we would expect to observe in Fig. 5 that more confident consumers utilize third party experts. Because the opposite relationship is observed in Fig. 5, it appears instead that third party experts may provide better information to insurance consumers.⁵ On the contrary, we observe a negative relationship between quiz score and a preference for informal insurance information sources in Fig. 4, and we observe in Fig. 5 that less confident consumers are more likely to prefer informal sources. This means that less confident consumers use informal information sources and know less about insurance. However, we cannot tell whether this means that informal sources provide worse information or whether less knowledgeable (and therefore less confident) consumers avoid seeking information from objective sources. Taken as a whole, however, this analysis is suggestive of a relationship between information sources, insurance knowledge, and decision confidence.

6. Conclusion

Insurance literacy is one important component of consumer financial literacy, but has not been studied much. This study reports results from a survey of consumers regarding insurance knowledge and decision-making. Overall, the study finds that consumers are lacking in insurance knowledge and that they express relatively low levels of confidence in their insurance decision-making. These results suggest that educational efforts in this area would be beneficial.

At the individual level, the study finds that there is a positive relationship between insurance knowledge and confidence in decisions. There is also significant variation across individuals in both insurance knowledge and confidence. One specific finding of interest is that having taken a seminar or class in personal finance is associated with higher scores on a quiz about insurance. However, this may be an indicator of selection into this coursework rather than an indicator of direct benefits from the training. Consistent with this interpretation, other measures of interest (such as subscribing to financial publications and expressing an interest in saving and investing) are also strong predictors of quiz scores.

A second notable finding is the association between consumers' preferred sources of

insurance information and scores on the insurance quiz. Respondents who prefer to utilize informal information sources such as friends or family score significantly lower on the quiz than other respondents, on average. Respondents whose preferred source of insurance information is an expert not directly affiliated with the insurance industry exhibit the highest average scores on the quiz. A greater understanding of the causal effects of insurance training and information sources would provide useful insights into approaches to improving insurance literacy.

Notes

1. Quoted in OECD (2008).
2. Study by the Financial Services Authority, discussed in OECD (2008).
3. Seven focus groups were held to help inform the design of the survey. A total of 66 participants attended these discussions and 61 of the focus group participants completed preliminary questionnaires regarding insurance purchase practices and demographic data. Barbara J. Bristow conducted the focus groups.
4. Estimates using a multinomial logit model of all five response categories showed few statistically significant associations between respondent characteristics and confidence in decision-making.
5. We observed a negative relationship between insurance knowledge and the use of informal information sources in Fig. 4, and we observe in Fig. 5 that less confident consumers are more likely to prefer informal sources. This relationship is expected because of the positive correlation between insurance knowledge and confidence; thus, comparing the figures does not allow us to conjecture anything about the relative value of information obtained from informal sources.

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Appendix Table

Question	Question [correct answer]
Q1	It is often a good idea to buy less insurance for an old automobile than for a new automobile. [agree]
Q2	An automobile insurance policy with the limited tort option costs less because it limits the buyer's right to sue a person who injures them in an accident. [agree]
Q3	A larger deductible on an insurance policy is always a bad deal for the consumer because the insurer pays less of the consumer's losses. [disagree]
Q4	Life insurance has more value for a couple with young children than for a couple whose children are grown. [agree]
Q5	Buying insurance for long term nursing home care has little value because Medicare will cover most of those expenses. [disagree]
Q6	Consumers are protected against insurance company bankruptcies by state funds that pay some of the claims of bankrupt insurers. [agree]
Q7	A homeowners' insurance policy will often pay the medical expenses of a guest who is injured on your property. [agree]
Q8	An annuity offers the same type of insurance protection as an investment-based or cash-value life insurance policy. [disagree]
Q9	Managed care in health insurance gives the insurance company more say in the treatments that a patient receives from his or her doctor. [agree]
Q10	The main purpose of insurance is to reduce the financial risk faced by the consumer. [agree]

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