

2-28-2014

## Financial Education Program Evaluation

Diana Burk  
*Utah State University*

Jean M. Lown  
*Utah State University, jean.lown@usu.edu*

Lisa K. Boyce  
*Utah State University*

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### Recommended Citation

Burk, D., Lown, J. M., & Boyce, L. K. (2014). Financial Education Program Evaluation. *Journal of Human Sciences and Extension*, 2(1), 1. <https://scholarsjunction.msstate.edu/jhse/vol2/iss1/1>

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## Financial Education Program Evaluation

**Diana Burk**

**Jean M. Lown**

**Lisa K. Boyce**

*Utah State University*

*This study illustrates the process of program evaluation using a logic model. Guided by the Transtheoretical Model of Change and a logic model, this study evaluated the effectiveness of a Retirement and Savings Seminar by measuring participant ( $n = 54$ ) satisfaction, financial knowledge, financial confidence, and financial behavior change compared to a similar group of 134 non-participants. Participants were very satisfied with the seminar. Their financial knowledge and confidence scores significantly increased from pretest to posttest. Financial knowledge and confidence scores improved more than the comparison group while controlling for group differences in age, income, and pretest scores. Two months later, participants were more likely than the comparison group to have adopted positive financial behaviors as measured by the Financial Preparedness for Retirement Scale. Financial educators can use this study as a model for planning, conducting, and evaluating their programs.*

*Keywords:* financial education, program evaluation, retirement

### Introduction

Financial education should empower consumers to improve their understanding of financial fundamentals and become more aware of financial opportunities and risks (Lusardi, 2006). While growth in financial education programs is laudable, it is essential to rigorously evaluate them to determine if they achieve their objectives (Collins & O'Rourke, 2010). Logic models are effective tools for planning and implementing a rigorous program evaluation (University of Wisconsin Extension, 2002).

With the world's aging population projected to increase dramatically by mid-century (Reznik, Shoffner, & Weaver, 2005), concern is growing over retirement preparation. Many individuals are facing retirement with inadequate wealth and may not be able to retire when planned (Lown, 2008; VanDerhei, 2011); thus, many seniors will need to continue working past traditional retirement age (Helman, Copeland, & VanDerhei, 2010). Additionally, the lingering global financial crisis has resulted in income cuts, reduced hours, or unemployment, leaving workers 45

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Address correspondence to Jean M. Lown at [Jean.Lown@usu.edu](mailto:Jean.Lown@usu.edu)

years and older particularly vulnerable (Pynoos & Liebig, 2009). Consequently, effective retirement preparation programs are needed.

### **Purpose of Study and Program Description**

The purpose of this study was to evaluate the effectiveness of a *Retirement and Savings Seminar* as measured by participant satisfaction, and financial knowledge, confidence, and behavior change, illustrating the use of a logic model to guide a program evaluation. Other educators can use this program evaluation, conducted by independent evaluators, as a model. The seminar, taught yearly by a retired professor, was offered free to university employees and their spouses/partners using a curriculum designed by the instructor (Swensen 2010). The six-week seminar (one hour/week) in lecture format with PowerPoint presentations included ample question and answer time. Topics included investment time horizon, time value of money, investment types, asset allocation, diversification, risk tolerance, mutual funds, pensions, and annuitization as a strategy to avoid outliving one's resources.

Prochaska's (1979) Transtheoretical Model of Change (TTM) provided the theoretical framework for the evaluation. According to the TTM, individuals progress through five stages of behavior change (precontemplation, contemplation, preparation, action, and maintenance) to modify a problem behavior or acquire a positive behavior. A logic model is a conceptual framework of how an educational program is expected to produce the intended outcomes (Bamberger, Rugh, & Mabry, 2006). It depicts the problem and goal statement along with assumptions and factors that influence outcomes (University of Wisconsin Extension, 2002).

The following research questions guided the study:

1. How satisfied were participants with the seminar?
2. Did knowledge increase more for participants than for the comparison group?
3. Did confidence increase more for participants than for the comparison group?
4. Two months after completing the seminar, did financial behavior change more for participants than for the comparison group?

### **Review of Literature**

Program evaluation is an essential element of successful financial education (Collins & O'Rourke, 2010; Fox & Bartholomae, 2008; National Endowment for Financial Education [NEFE], 2012). Through program evaluation, educators can assess the merit of a program, suggest improvements, and analyze participant impacts (Bamberger et al., 2006).

Despite its importance, consumer education program evaluation is often conducted in a cursory manner (Collins & O'Rourke, 2010). To be effective, the evaluation should be incorporated into

every phase of program design and implementation (Bamberger et al., 2006; Fox & Bartholomae, 2008). A logic model helps guide this process.

Even with the growth in financial education programs, relatively few studies have assessed the impacts (Collins & O'Rourke, 2010). The U.S. Department of the Treasury (2004) identified eight key elements for the content, delivery, impact, and sustainability of successful financial education programs to guide developers. Despite these guidelines, evaluating financial programs remains difficult (Hogarth, 2006). Specifically, individuals who take advantage of financial education are more motivated than those who do not. This can confound evaluation results because these participants are already motivated to change their behavior. A comparison group was essential to determine if participants improved more than non-participants (Collins & O'Rourke, 2010) and was matched on key variables (i.e., gender and employment category) to make the groups as similar as possible in the absence of random assignment (Gall, Gall, & Borg, 2007). Garman, Kim, Kratzer, Brunson, and Joo (1999) evaluated the effectiveness of a workplace financial education program by comparing the financial wellness and personal financial behaviors of participants to non-participants. From a posttest, they concluded that the workplace education resulted in improved financial well-being. Using nonexperimental, pretest-posttest single group research designs, researchers have also concluded that workplace financial literacy programs can have a positive effect on the attitudes, knowledge, and behaviors of participants (Holland, Goodman, & Stich 2008; Kim, 2007).

Another study evaluating the impact of personal finance education on the investment knowledge and savings rates of students using a post-test only design showed that a college-level personal finance course was associated with higher levels of investment knowledge and financial experiences (Peng, Bartholomae, Fox, & Cravener, 2007). Similarly, Mandell and Klein (2007) evaluated a high school personal finance course to examine motivation to learn or retain skills, concluding that motivation was a key to financial literacy.

A pretest and two consecutive midterm observations with comparison groups were used to assess changes in financial behaviors in a course for soldiers (Bell, Gorin, & Hogarth, 2009). Bell et al. (2009) concluded that the self-selected treatment group was more likely to save on a regular basis, to have a longer planning time horizon, and to have retirement savings.

Yet the answer to the question, "Does financial education work?" remains ambiguous. Key findings in the program evaluation literature suggest that, overall, financial education produces positive changes in financial knowledge, confidence, or behaviors (Bell et al., 2009; Garman et al., 1999; Holland et al., 2008; Kim, 2007). However, several limitations remain. Specifically, negative program evaluation results may not be published (Collins & O'Rourke, 2010). Also, methodological problems make it difficult to measure the magnitude of program impacts (Hathaway & Khatiwada, 2008).

In a comprehensive review of financial education program evaluations, the majority of the studies that Collins and O'Rourke (2010) examined used a posttest only or pretest-posttest design with no comparison group. According to Bamberger et al. (2006), these are the weakest research designs. Attrition and reliance on self-report data are common limitations (Collins & O'Rourke, 2010). Dropouts can affect outcomes, and self-reports can result in positive response bias. After reviewing 41 consumer education program evaluation reports, Collins and O'Rourke (2010) noted several other methodological problems including selection bias, measurement issues, and a lack of theory. The present study addresses these concerns by using a theory-based, logic model-driven, pretest-posttest design with a comparison group.

### Methods

This study evaluated the effectiveness of a *Retirement and Savings Seminar* by measuring participants' satisfaction, knowledge, confidence, and behavior change compared to a comparison group. The six-week seminar was advertised to employees by the university's human resources office. The research was approved by the university's Institutional Review Board for the Protection of Human Subjects and conducted by independent evaluators.

The convenience sample consisted of 74 university employees who registered for the seminar. Self-selection introduces a bias which is difficult to avoid when offering educational programs. Because the seminar is offered only once a year, it was not feasible to randomly assign some registrants to wait a year. The human resources office provided employee email addresses to solicit a comparison group which was matched for registrants' gender and employment category.

The research design was a pretest, posttest, comparison group with a follow-up. The pretest was emailed prior to the seminar, the posttest was emailed after the final session, and the follow-up was sent two months later. Email addresses were used to track responses across the three surveys. A gift card drawing was the incentive for survey completion.

An inadequate program theory model is a threat to construct validity (Bamberger et al., 2006). Thus, a logic model was developed to identify how outputs and impacts were achieved (see Figure 1 on the next page).

Two researchers and two financial professionals evaluated the procedures and confirmed face and content validity. A pilot study helped refine the survey questions.

**Figure 1. Logic Model**

<i>Problem Statement</i>
<ul style="list-style-type: none"> <li>▪ Insufficient financial knowledge and preparation for retirement</li> </ul>
<i>Goal Statement</i>
<ul style="list-style-type: none"> <li>▪ Increase financial knowledge to improve retirement security</li> </ul>
<i>Assumptions</i>
<ul style="list-style-type: none"> <li>▪ Resources are adequate and available</li> <li>▪ Participants (and spouses/partners) are willing and able to attend all sessions</li> <li>▪ Knowledge leads to behavior change</li> </ul>
<i>External Factors</i>
<ul style="list-style-type: none"> <li>▪ Participants' personal preferences and experiences</li> <li>▪ University employee benefits and retirement options</li> </ul>
<i>Inputs</i>
<ul style="list-style-type: none"> <li>▪ Instructor</li> <li>▪ Room</li> <li>▪ Time</li> <li>▪ Materials</li> <li>▪ Equipment</li> <li>▪ Technology</li> </ul>
<i>Outputs</i>
<ul style="list-style-type: none"> <li>▪ Number of employees (and their spouses/partners) who attend</li> <li>▪ Number of sessions provided</li> </ul>
<i>Activities</i>
<ul style="list-style-type: none"> <li>▪ Schedule meeting time and place</li> <li>▪ Conduct sessions on retirement planning topics</li> <li>▪ Facilitate retirement preparation</li> <li>▪ Provide education and advising</li> </ul>
<i>Short-term Impacts</i>
<ul style="list-style-type: none"> <li>▪ Increase in participants' financial knowledge</li> <li>▪ Improvement in participants' financial confidence</li> <li>▪ Overall participant satisfaction</li> <li>▪ Employees are aided in setting financial goals</li> </ul>
<i>Long-term Impacts</i>
<ul style="list-style-type: none"> <li>▪ Participants improve (or maintain) retirement planning financial behaviors, i.e., collect information, attend seminars, decide on date or age, calculate needs</li> </ul>
<i>Overall Impacts</i>
<ul style="list-style-type: none"> <li>▪ Financially secure retirement for participants</li> <li>▪ Participants achieve retirement goals</li> </ul>

## Measures

Satisfaction, financial knowledge, financial confidence, and financial behavior change were the dependent variables. The National Endowment for Financial Education's (NEFE) (2012) *Financial Education Evaluation Online Toolkit* served as a guideline for question wording.

*Satisfaction* was measured by: How would you rate your overall level of satisfaction with the Retirement and Savings Seminar? Responses ranged from 1 = *not at all satisfied* to 5 = *very satisfied*. Three open-ended questions also assessed seminar implementation and quality.

*Financial knowledge* was assessed with two measures. The first was a self-rating of perceived financial knowledge ranging from 1 = *very poor* to 5 = *excellent* (NEFE, 2012). The second measure consisted of 12 multiple choice questions ( $\alpha = .69$ ). Three of the questions assessed basic financial literacy (Lusardi, 2010). Two questions from the Rand American Life Panel (ALP) measured adults' ability to comprehend basic financial concepts (Lusardi & Mitchell, 2009). One question from the Metlife Retirement Income IQ Test was included (Metlife Mature Market Institute, 2008). Six questions from the "Test Your Money Smarts" quiz assessed basic investing knowledge (U.S. Securities and Exchange Commission, 2001). Scores were computed by adding the number of correct responses. Individuals who did not answer at least 11 of the 12 questions were excluded from analysis to avoid distorting results.

*Financial confidence* was assessed using 11 items from three measures. One question from the ALP survey assessed retirement planning confidence (Lusardi & Mitchell, 2009). Four questions measured retirement planning basics (AARP/ACLI, 2007). Six items measured financial self-efficacy (Schwarzer & Renner, 2009). Because each of these measures used a different response scale, raw scores were normalized using z-scores and then summed to generate a financial confidence score. Cronbach's alpha for financial confidence was .92.

*Financial behavior change* was measured using the 10-question Financial Preparedness for Retirement (FPR) scale ( $\alpha = .92$ ; Ross & Willis, 2009) and the Retirement Personality Type (RPT) (Employee Benefit Research Institute, 1999) to measure respondents' TTM stage of change. The RPT classifies individuals into five types corresponding to the TTM stages of behavior change: (1) deniers (precontemplation), (2) impulsives (contemplation), (3) strugglers (preparation), (4) savers (action), and (5) planners (maintenance).

Data on gender, marital status, employment category, education, race, age, current and projected retirement assets, and household income were collected. Household income was measured in five categories from less than \$50,000 to \$150,000 or more. Current and projected retirement assets (excluding the primary home) were measured in six categories from less than \$100,000 to \$1,000,000 or more. Group membership (participant vs. comparison group) was dummy coded.

## Analyses

Data analyses began with descriptive statistics to portray the characteristics of the participants and to measure satisfaction. Regression analysis was used to determine if financial knowledge of the treatment group differed significantly from the comparison group and to compare the two groups' financial confidence scores. A one-way repeated measures analysis of covariance (ANCOVA) was performed to determine if financial preparation for retirement changed significantly across time for each group. A Wilcoxon signed-ranks test was used to compare each participant's Retirement Personality Type (RPT) from the pretest to the follow-up.

## Results

### Sample Description

Responses were received from 47 of the 74 seminar participants on the pretest (63.5%), 37 (49.3%) on the posttest, and 31 (41.3%) on the follow-up. Attrition analyses found no significant differences between respondents who completed the pretest and posttest and those who did not. Of the 550 employees recruited for the comparison group, 134 completed the pretest (24.4%), 90 completed the posttest (16.4%), and 91 (16.5%) returned the follow-up.

Demographic characteristics are shown in Table 1 on the next page. Women represented 62.2% of the treatment group and 57.4% of the comparison group. Consistent with employee demographics, most respondents were married, Caucasian, and had a college education. Chi-square analyses revealed significant differences between the treatment and comparison groups. According to an independent samples *t*-test, the treatment group ( $M = 49.2$ ,  $SD = 11.18$ ) was significantly older than the comparison group ( $M = 44.2$ ,  $SD = 11.06$ ),  $t(79) = 2.522$ ,  $p < .05$ . The treatment group reported significantly higher household incomes ( $\chi^2 = 12.20$ ,  $df = 4$ ,  $p < .05$ ) and current retirement assets ( $\chi^2 = 16.92$ ,  $df = 5$ ,  $p < .05$ ) than the comparison group, as expected since the treatment group was older, had more time to accumulate assets, and were closer to retirement, which is not surprising since the seminar title included "retirement."

About three-fourths of the treatment group rated their pretest knowledge as fair or good, increasing to 89% on the posttest. Similarly, about 70% of the comparison group judged their pretest knowledge as fair or good, increasing to 84% on the posttest. On the financial knowledge scale, the average treatment group score increased from 9.5 ( $SD = 2.40$ ) on the pretest to 10.5 ( $SD = .94$ ) on the posttest. Since the comparison group did not receive the education, it is not surprising that their average knowledge score remained consistent (9.2,  $SD = 2.41$  on the pretest; 9.6,  $SD = 2.22$  on the posttest). Using standardized z-scores, the treatment group financial

confidence scores improved from pretest ( $M = -.4$ ,  $SD = 7.84$ ) to posttest ( $M = 1.8$ ,  $SD = 6.91$ ). Conversely, the comparison group scores decreased from pretest ( $M = .2$ ,  $SD = 8.38$ ) to posttest ( $M = -.7$ ,  $SD = 8.64$ ).

**Table 1. Demographic Characteristics**

Variables	Treatment group		Comparison group		$\chi^2$
	N	%	N	%	
Gender					
Male	17	37.8	52	42.6	.32
Female	28	62.2	70	57.4	
Marital status					
Married	34	75.6	85	70.2	
Living together/partnered	-	-	1	0.8	
Widowed	-	-	2	1.7	5.08
Divorced	5	11.1	11	9.1	
Separated	1	2.2	-	-	
Never married	5	11.1	22	18.2	
Employment category					
Faculty	7	15.6	26	21.1	
Professional staff	25	55.6	58	47.2	1.08
Classified employee	13	28.9	39	31.7	
Education level					
High school or GED	2	4.4	6	4.9	
Some college/technical training	10	22.2	22	17.9	
Bachelor's degree	14	31.1	43	35.0	1.40
Master's degree	13	28.9	29	23.6	
Ph.D./professional degree	6	13.3	23	18.7	
Ethnic group					
American Indian/Alaskan Native	1	2.2	-	-	
Asian/Pacific Islander	1	2.2	3	2.5	
Black/African-American	-	-	-	-	3.46
Hispanic/Latino	-	-	-	-	
White/Caucasian	43	95.6	117	95.9	
Other	-	-	2	1.6	
Total household income					
Less than \$50,000	12	26.7	55	45.5	
\$50,000 to less than \$75,000	7	15.6	31	25.6	
\$75,000 to less than \$100,000	11	24.4	14	11.6	12.20*
\$100,000 to less than \$150,000	10	22.2	12	9.9	
\$150,000 or more	5	11.1	9	7.4	
Current retirement assets					
Less than \$100,000	20	44.4	74	61.2	
\$100,000 to less than \$250,000	4	8.9	20	16.5	
\$250,000 to less than \$500,000	14	31.1	9	7.4	16.92*
\$500,000 to less than \$750,000	2	4.4	7	5.8	
\$750,000 to less than \$1 million	1	2.2	4	3.3	
\$1 million or more	4	8.9	7	5.8	

\* $p < .05$

The average Financial Preparedness for Retirement (FPR) treatment group score increased from pretest to posttest and from posttest to follow-up (see Table 2). The average comparison group FPR score increased from pretest to posttest, but decreased at follow-up.

**Table 2. Financial Preparedness for Retirement Scores**

FPR score	<i>N</i>	Min	Max	<i>M</i>	Median	<i>SD</i>
Treatment group						
Pretest	40	13	39	25.6	24.5	7.16
Posttest	34	15	40	28.7	29.0	6.64
Follow-up	31	17	40	31.1	32.0	5.42
Comparison group						
Pretest	127	10	40	25.7	25.0	8.27
Posttest	56	14	40	30.2	31.0	6.94
Follow-up	89	13	40	26.6	26.0	7.45

Correlations among the dependent variables (i.e., financial knowledge, financial confidence, and financial behavior) and the between group differences (i.e., age, total household income, and current retirement assets) were examined to identify covariates. The value of current retirement assets was excluded from these analyses to avoid multicollinearity because this variable was highly correlated with total household income ( $r = .469, n = 45, p < .01$ ).

**Table 3. Correlations Between Variables**

Variable	1	2	3	4	5	6	7	8
1. Financial knowledge scale								
2. Self-assessed financial knowledge	.273**							
3. Financial confidence scale	.368**	.658**						
4. FPR	.371**	.361**	.373**					
5. RPT	.222*	.337**	.470**	.356**				
6. Age	.184*	-.019	.011	.307**	-.020			
7. Total household income	.311**	.174	.304**	.283**	.173	.447**		
8. Current retirement assets	.335**	.341**	.467**	.418**	.242*	.469**	.701**	
9. Group	-.211*	.004	-.141	-.274**	-.280**	-.195*	-.225*	-.139

\* $p < .05$ , \*\* $p < .01$

## Satisfaction

Most respondents were either satisfied (43.2%) or very satisfied (48.6%) with the seminar. When asked if they would recommend the seminar to others, 100% indicated that they would. Two open-ended qualitative questions asked what participants liked most and least about the seminar. The laddering strategy—a method of investing in multiple securities, typically bonds or CDs, so that they mature at regular intervals during retirement—was the favorite topic, perhaps because it was a new concept to many. Several participants also noted the quality of retirement information provided, including applicable examples and illustrations specific for university employees. Suggestions for modifying the curriculum included providing more examples for younger employees and employees with a defined benefit pension, explaining retirement options for individuals who do not expect a 30-year career, and discussing individual retirement accounts.

## Knowledge

To determine if the improvement in treatment group financial knowledge scores resulted from the seminar, a hierarchical regression was performed. Since age and total household income were positively related to financial knowledge (see Table 3), these two covariates were included in the regression analysis. The dependent variable was posttest financial knowledge. The first step in the regression included pretest financial knowledge, age, and total household income; the second step included the group variable (treatment = 0, comparison = 1).

Pretest financial knowledge ( $\beta = .65, p < .001$ ) and group assignment ( $\beta = -.19, p < .01$ ) were both significant predictors of posttest financial knowledge, indicating that while pretest financial knowledge predicted posttest financial knowledge scores, participating in the seminar contributed to posttest financial knowledge above and beyond pretest knowledge, age, and income, accounting for an additional 4% of the variance (see Table 4).

**Table 4. Regression Predicting Financial Knowledge**

Step predictors	<i>t</i> entry	<i>t</i> final	<i>B</i>	SEB	$\beta$	$R^2$ step	$\Delta R^2$	F change	<i>df</i>
Step 1:						.49***			109
Pretest financial knowledge score	9.17***	9.49***	.59	.06	.65				
Age	1.30	.99	.02	.11	.10				
Total household income	1.31	1.29	.15	.01	.10				
Step 2:						.53**	.04	8.20**	108
Group		-2.86**	-.88	.31	-.19				

\*\* $p < .01$ , \*\*\* $p < .001$

## Confidence

A hierarchical regression was used to determine if participating in the seminar predicted an increase in financial confidence above and beyond the contributions of pretest financial confidence, age, and total household income. Because total household income was correlated with financial confidence (Table 3) and was higher in the treatment group than the comparison group, it was included in the model as a covariate as was age. The first step of the regression included pretest financial confidence, age, and household income; group was added in the second step. The regression revealed group as a significant predictor variable ( $\beta = -.17, p < .001$ ) indicating the seminar contributed to financial confidence above and beyond age, total household income, and pretest confidence, accounting for an additional 3% of the variance (see Table 5).

**Table 5. Regression Predicting Financial Confidence**

Step predictors	<i>t</i> entry	<i>t</i> final	<i>B</i>	SEB	$\beta$	$R^2$ step	$\Delta R^2$	F change	<i>df</i>
Step 1:						.78***			112
Pretest financial confidence score	18.53***	20.08***	.86	.05	.86				
Age	.07	-.40	.00	.04	.00				
Total household income	1.66	1.61	.52	.32	.08				
Step 2:						.80***	.03	17.02***	111
Group		-4.13***	-3.31	.80	-.17				

\*\*\* $p < .001$

## Behavior

A one-way repeated measures ANCOVA was used to determine if participants' planning behaviors changed as a result of the education. Age and total household income were included as covariates. The ANCOVA revealed a significant interaction effect between time and group [ $F(2, 119) = 10.19, p < .001, \eta = .137$ ], indicating that the treatment group's behavior changed from the pretest to the follow-up (Table 6). No other significant between-subjects main effects were found. The treatment group's Financial Preparedness for Retirement (FPR) pretest scores were lower than the comparison group pretest scores but increased over time, whereas the comparison group's financial behaviors remained relatively unchanged from pretest to follow-up. Thus, participants reported taking action to prepare for retirement (as measured by the FPR scale) as a result of the seminar.

**Table 6. Summary of One-Way Repeated Measures ANCOVA**

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between subjects					
Age	1	392.87	392.87	3.58	.063
Total household income	1	235.45	235.45	2.14	.148
Group	1	97.95	97.95	.89	.349
Error 1	64	7029.51	109.84		
Within subjects					
Time	2	70.25	37.72	3.02	.056
Age x time	2	11.55	6.20	.50	.596
Total household income x time	2	11.17	6.00	.48	.606
Group x time	2	236.71	127.09	10.19	.000
Error 2	119	1486.64	12.47		

### Summary of Findings

Overall, participants were very satisfied with the seminar and would recommend it to other employees. Results show that both financial knowledge and financial confidence improved more for the treatment group than for the comparison group, even when accounting for differences in age, household income, and pretest scores. Two months after the seminar, financial planning actions increased more for the treatment group than the comparison group.

### Discussion

This program evaluation demonstrates the application of techniques using a logic model and comparison group to evaluate the effectiveness of a financial education program by measuring changes in consumer knowledge, confidence, and behaviors. Seminar participants significantly increased their knowledge scores despite being older, having more household income, and having higher pretest knowledge scores than the comparison group. Thus, the seminar successfully improved employees' knowledge levels.

Similar to previous studies (Garman et al., 1999), seminar participants also performed significantly better on the posttest than the pretest in terms of financial confidence in preparing for retirement. Additionally, the treatment group increased their financial confidence scores above and beyond group differences in age, total household income, and pretest confidence scores. These results indicate that seminar participants gained confidence which could help them to build on the knowledge they learned, thereby improving their financial security.

The seminar was also effective in helping participants increase retirement preparation. The results from this program evaluation demonstrate that financial knowledge, confidence, and behavior can be improved in as little as six one-hour sessions. Consistent with this theory, the findings indicated that the seminar helped participants progress to a higher Transtheoretical Model stage of change, as measured by Retirement Personality Type. With each higher stage of change, individuals gain greater self-control, awareness, and ability to act on new positive behaviors. Educational programs, such as the *Retirement and Savings Seminar*, have been used as a medium for helping individuals progress through these stages (Johnson, 2001; Shockey & Seiling, 2004). The findings of this study add support to the use of the TTM model in financial education.

These results are promising and have important policy and program implications given the low levels of financial literacy among older adults (Lusardi, Mitchell, & Curto, 2009), the increase in the aging population facing potentially lengthy retirements (Reznik et al., 2005), and the recent global financial crisis leaving older workers particularly vulnerable (Pynoos & Liebig, 2009). Increasing the opportunity for diverse groups of adults to have access to retirement and financial planning seminars may help prevent some of the hardships that older adults face as they retire. Despite these positive outcomes, it is important to acknowledge that treatment group participants were already motivated to learn and take action (Meier & Sprenger, 2007).

### **Limitations and Strengths**

While the modest sample size is a limitation, it was above the conventional 30 participant minimum per group (Gall et al., 2007), and no bias was detected due to sample attrition. When offering education programs, it is hard to avoid self-selection bias because persons who elect to participate are more motivated than those who do not choose to participate. While random assignment to treatment and comparison groups is ideal, it was not possible in this study because the seminar was only offered once during the year.

This study has a number of strengths. First, the evaluation was conducted by independent researchers who were not involved in developing or conducting the educational program. The evaluation was designed and conducted with the cooperation of, but not the participation of, the instructor to maintain objectivity. Almost all questions in the survey were used in prior studies which established the validity and reliability of the measures.

Another strength was the use of a matched comparison group. According to Collins and O'Rourke (2010), lack of a comparison group was the most serious methodological flaw in financial education program evaluations. The comparison group helps avoid inflating positive effects and minimize the potential internal threats to validity of pretest sensitization and history. Matching participants helps to minimize the likelihood of large group differences. The use of a

logic model, which guided the purpose, research questions, and design of this study, strengthens construct validity. Each of the seminar's short-term impacts identified in the logic model served as the primary dependent variables of the study. Responses to the three open-ended questions provided rich qualitative data to guide decisions about revisions for the next seminar offering.

As suggested by previous financial education program evaluations (Collins & O'Rourke, 2010; Garman et al., 1999), the longitudinal design also strengthens this study. The administration of pretest, posttest, and follow-up questionnaires is more powerful than the more commonly used cross-sectional, one-time program evaluation design because it allows for a better measurement of program impacts. The pretest helps to establish a baseline while the follow-up captures short-term program impacts. The interaction between time and group provides further evidence of the benefit of a longitudinal design to measure behavior change.

### **Recommendations for Financial Educators**

As recommended by Collins and O'Rourke (2010), it is essential for financial educators to demonstrate that their programs not only increase knowledge, but actually improve the behaviors of participants. While the findings from this evaluation may not generalize to diverse populations, they are useful for the program being evaluated and can serve as a model for the evaluation of other financial education programs. Seminar leaders can use the following information to improve the delivery of the program: specific information regarding characteristics of who chooses to participate in relation to the larger population who offered the seminar; level of participant knowledge, confidence, and behavioral gains; and general satisfaction with the seminar. Documentation of participant gains increased the likelihood that funding for the seminar will continue. An examination of the characteristics of participants who choose to attend the seminar can lead to more targeted marketing strategies to attract future participants. This type of information is useful for all financial educators as they work to attract and better serve their target populations.

This study was conducted by independent evaluators; while not always feasible, it is a desirable strategy for increasing the reliability and validity of the results. The use of a logic model to guide the evaluation can further contribute to the value and quality of the results. The University of Wisconsin Extension (2002) logic model tutorial and Bamberger et al. (2006) program evaluation book are useful resources for consumer educators in all fields. While the curriculum was developed by the presenting educator and is not published, the evaluation questions are readily adaptable to other programs and are available from the second author.

### **Recommendations for Future Evaluation Research**

Although evidence was found that individuals changed their financial behaviors as a result of the seminar, the timing of the follow-up suggests ways to improve future program evaluation

studies. Because it was assumed that seminar participants were most likely to take action soon after completing the seminar, a two-month follow-up period was used. However, the follow-up survey may have prompted additional behavior change as individuals were reminded about their retirement goals. Thus, it is recommended that future researchers include a second brief follow-up to capture additional behavior change prompted by the first follow-up. The use of multiple follow-ups may also reveal a better timeline for follow-up observations in future program evaluations.

In sum, the results from this program evaluation demonstrate the success of a retirement seminar in improving financial knowledge, confidence, and behavior for the targeted population. While generalizability of the findings is limited due to the lack of random assignment and diversity in the targeted population, the use of program evaluation methods to assess program outcomes is applicable for all professionals working with adults to better prepare them for retirement.

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*Diana Burk*, MS, is a Transitional Housing Counselor at the Utah State University Family Life Center.

*Jean M. Lown*, PhD, is a professor in the Family, Consumer, and Human Development Department at Utah State University. Dr. Lown's research focuses on retirement planning.

*Lisa K. Boyce*, PhD, is an Assistant Professor in the Family, Consumer, and Human Development Department at Utah State University.