

8-11-2015

Perceptions of Retirement Savings Relative to Peers

Janet L. Kopusko
Oklahoma State University

Helen Kiso
Susquehanna University

Douglas A. Hershey
Oklahoma State University

Paul Gerrans
University of Western Australia

Follow this and additional works at: http://scholarlycommons.susqu.edu/psyc_fac_pubs

 Part of the [Psychology Commons](#)

Recommended Citation

This Article is brought to you for free and open access by Scholarly Commons. It has been accepted for inclusion in Psychology Faculty Publications by an authorized administrator of Scholarly Commons. For more information, please contact sieczkiewicz@susqu.edu.

Perceptions of Retirement Savings Relative to Peers

Janet L. Kopusko¹, Helen Kiso², Douglas A. Hershey¹, and Paul Gerrans³

1. Department of Psychology, Oklahoma State University

2. Department of Psychology, Susquehanna University

3. Department of Accounting and Finance, University of Western Australia, Crawley, Australia

ABSTRACT

Do individuals' perceptions of how much others save for retirement influence their own long-range financial saving decisions? In this study, social comparison theory was used as a theoretical touchstone for understanding the impact of interpersonal perceptions on saving behavior. Respondents ($N = 224$) reported not only the amount they had saved for retirement during the previous year, but they also reported perceptions of the magnitude of their savings relative to peers and completed 6 psychological scales related to retirement planning. A 2-stage ordinary least squares (OLS) regression approach was used to examine: (a) the extent to which nine demographic indicators were predictive of individuals' retirement savings practices, and (b) whether unexplained savings from the initial regression model could be hierarchically predicted using the 6 psychological scales and perceptions of one's savings relative to peers. The findings suggest that social comparisons do account for savings practices over and above demographic and psychological indicators. Results are discussed in terms of how individuals' implicit social comparisons might shape not only their perceptions, but also their saving behavior.

Many individuals find it helpful to talk to others about saving for retirement (Hershey, Henkens, & van Dalen, 2010). Discussions with peers regarding the retirement saving process or the adequacy of savings can facilitate or hinder planning efforts, by placing into context perceptions of the quality of one's own money management strategies. Social comparisons of this type (also known as peer comparisons) are not new to the psychological literature; indeed, it is a topic that has been extensively studied by social psychologists in a variety of ways over the years (see Corcoran, Crusius, & Mussweiler, 2011; Garcia, Tor, & Schiff, 2013; Hoorens & van Damme, 2012, and Suls & Wheeler, 2000 for reviews). However, we were only able to identify one investigation that examined perceived social norms in relation to saving for retirement (Griffin, Loe, & Hesketh, 2012). The goal of the present study is to apply the concept of social comparisons, originated by Festinger (1954), and by extension social comparison biases, to the topic of financial planning for retirement. Therefore, the true value added aspect of the present investigation involves determining whether individuals' perceptions of others' saving practices has an influence on one's own saving behavior, over and above that which can be explained using psychological measures already shown to predict saving.

Numerous studies suggest that Americans will not receive sufficient pension income after leaving the workforce (Adams & Rau, 2011; Helman, Copeland, & VanDerhei, 2012; Lee & Law, 2004; Lusardi & Mitchell, 2007, 2011). Pension income in the United States follows the well-known three-pillar classification typology (cf., World

Bank, 1994). The first pillar consists of a publicly managed (social security) system with mandatory participation linked to employment and a goal of reducing poverty among the old. For approximately 24% of Americans 65 years and older, social security payments represent their primary stream of income (Wald, 2014). The second pillar consists of occupational pension contracts (e.g., 401[k] plans), although only about half of all employers offer pension programs (Rhee, 2013; Turner & Rhee, 2013). The third pillar is represented by voluntary private saving arrangements such as individual retirement accounts (IRAs), annuities, and other forms of personal investments. With respect to the accumulation of third-pillar resources, the amount of personal savings in the United States is troublingly low. In fact, the median retirement account balance for households that are saving is only \$40,000, with a paltry \$3,000 savings balance for all households including those that are not saving (Rhee, 2013). In sum, minimal social security payments in combination with an incomplete patchwork of occupational pension coverage makes it critically important for individuals to cultivate their own personal saving nest egg over the course of their working lives.

Among psychologists, retirement planning is typically studied by examining the way in which cognitive and personality constructs influence not only planning activities, but also the tendency to save. Work in the cognitive arena, for example, shows that saving rates are tremendously impacted by one's level of financial and investment knowledge (Croy, Gerrans, & Speelman, 2010a; Lusardi & Mitchell, 2011; Noone,

O'Loughlin, & Kendig, 2012; Van Rooij, Lusardi, & Alessie, 2011) and the quality and clarity of one's retirement goals (Petkoska & Earl, 2009; Stawski, Hershey, & Jacobs-Lawson, 2007). Complementing this line of work, studies of personality reveal that certain traits (such as conscientiousness, future time perspective, locus of control, emotional stability, and having a proactive personality) are positively related to planning and saving (e.g., Griffin et al., 2012; Hershey, Jacobs-Lawson, McArdle, & Hamagami, 2007; Hershey & Mowen, 2000; Noone, Stephens, & Alpass, 2010; Noone et al., 2012; Petkoska & Earl, 2009; Webley & Nyhus, 2006). As part of this investigation, we will examine the extent to which cognitive and personality variables are linked to individuals' perceptions of saving relative to their peers.

Relative to the dozens of studies that focus on cognitive and personality dimensions as determinants of financial planning, far fewer investigations have examined the role social forces play in shaping the retirement planning process. Studies by Lunt and Livingstone (1991), Hershey and colleagues (2010), and Duflo and Saez (2002) have found that social support from one's partner (or spouse) and peers have a positive impact on planning behaviors (see also Brown & Laschever, 2012; Chalmers, Johnson, & Reuter, 2008), and Griffin and colleagues (2012) report that perceptions of social norms based on individuals close to the respondent motivate the tendency to plan and save (see also Croy, Gerrans, & Speelman, 2010b, 2012, and Weiner & Doeschler, 2008).

Work by Kemp, Rosenthal, and Denton (2005) suggests that major interpersonal life events such as divorce, remarriage, and the death of a spouse often serve as catalysts when it comes to retirement saving, but in other situations, they can serve as constraints. Moreover, both Chang (2005) and Duflo and Saez (2003) report that individuals make use of their social networks to obtain retirement saving and investment information; however, reliance on one's social network is a strategy more often adopted by lower-income individuals. And although numerous investigations demonstrate that married couples save more for retirement than single or divorced individuals (see Knoll, Tamborini, & Whitman, 2012), this effect is generally attributed to overall higher household incomes among couples as opposed to some form of social facilitation.

Social Comparison Processes

Social comparison theory suggests that our perceptions, behaviors, opinions, and abilities are, in part, dependent on comparisons to similar others (Festinger, 1954). Comparisons of this type are fundamental to judgment and decision-making, and accordingly, social comparison theory is conceptually tied to multiple real-world decision contexts (Guimond, 2005; Suls & Wheeler, 2000). In existing studies, social comparison theory has been applied to a range of evaluative dimensions including perceptions of illness severity (Buunk et al., 2012), work performance (Raat, Kuks, van Hell, & Cohen-Schotanus, 2013), the willingness to engage in prosocial behaviors (Yip & Kelly, 2013) and eating disorders (Ty & Francis, 2013) among others. Other basic research in this area explores the frequency with which social comparisons are made (Fujita, 2008); why some individuals are more likely to engage in social comparisons than others (Buunk & Gibbons, 2005; Suls, Martin, & Wheeler, 2002); how different types of (upward and downward) social comparisons result in different affective experiences (Martinot & Redersdorff, 2005); and the manner in which social comparisons are cognitively processed (Buunk & Gibbons, 2007). The

fact that key aspects of social interactions (e.g., social support; social influence) have been shown to have a significant impact on planning motives suggests that it is worth examining how people think about their own retirement savings in relation to their peers (Duesenberry, 1949).

In the present study, we exploit the theoretical notion of social comparison processes by having individuals rate the quality of their own retirement savings efforts relative to peers.

Present Investigation

In this article, we report the results of a quasi-experimental study, in which we sought to extend our understanding of retirement saving practices using concepts drawn from social comparison theory. This represents a unique contribution to the literature as social comparison theory has not been emphasized as a key construct in the retirement savings decision domain. Thus, our first empirical objective will be to examine the extent to which a set of nine demographic dimensions covary with individuals' actual saving practices. Toward this end, an ordinary least squares (OLS) regression model will be estimated, allowing us to obtain a set of residual scores that control for demographic differences in sample characteristics. These residual values amount to "unexplained savings," or in other words, the unexplained determinants of one's savings contributions once demographic influences have been statistically controlled. Beyond generating unexplained savings scores (which will be used in a subsequent analysis), this model will be informative as it will show which demographic predictors account for variation in saving behavior. The nine predictors in this analysis will be age, gender, annual income, educational level, marital status, self-rated health, number of dependents, the number of years one expects to live in retirement, and whether or not the respondent expects to retire. On the basis of previous studies, we expect to find savings to be related to being older, being male, having a high income, having more years of formal education, and being married (Adams & Rau, 2011; Cobb-Clark & Stillman, 2006; Glass & Kilpatrick, 1998a; Helman, Copeland, & VanDerhei, 2006; Lum & Lightfoot, 2003; Palameta, 2003). It is unclear whether the remaining predictors will emerge as significant once the five predictors above are entered into the equation.

In an OLS hierarchical regression analysis the unexplained savings scores (from above) will be used as the criterion. In this model, scores on the six psychological scales will be entered in the first block of the equation. Those six psychological measures will be general self-efficacy, future time perspective, financial activation (a measure of savings-related goal strength), retirement goal clarity, self-rated financial knowledge, and financial risk tolerance. In prior investigations each of these variables has been demonstrated to be positively predictive of retirement savings (Dulebohn, 2002; Hershey & Mowen, 2000; Hogarth, Anguelov, & Lee, 2005; Jacobs-Lawson & Hershey, 2005; Lusardi & Mitchell, 2005; Neukam & Hershey, 2003). That said, it is unclear how many of the six predictors will emerge as significant when the entire set is simultaneously entered into the equation, and how much additional variance these psychological variables will account for over and above the variance explained by the demographic predictors in the initial analysis.

The second step in the hierarchical regression will involve entering a single predictor—perceived savings relative to peers—to assess the extent to which social comparison ratings influence saving practices. If the perceived savings variable does, in fact, emerge as significant, then

this would suggest that individuals do use social comparison information to help guide their savings decisions. If significant, we would anticipate perceived savings scores to be positively related to savings practices. That is, a positive beta weight would imply those individuals who think they are saving a great deal relative to peers would indeed be saving more than average; those who believe they are saving less than their peers would indeed be saving less than average.

METHOD

Participants

Participants in this study were Americans who ranged in age from 24 to 46 years that were part of a larger investigation on the psychological determinants of financial planning for retirement. Questionnaires were mailed to 650 households that were part of a large, nationally representative consumer mail panel. Of those, 297 questionnaires were returned, resulting in a 46% response rate. We attribute the relatively high response rate for a mail survey of this type to the fact that each respondent received a nominal financial incentive for completing the questionnaire. To ensure adequate respondent representation, the mailings were stratified on the basis of geographical region, race, and socioeconomic status.

Inclusionary sampling criteria required that: (a) individuals be employed on a full-time basis (i.e., >35 hr/week), and (b) respondents had to have allocated funds to a retirement savings account at some point during the previous 12 months. When these two criteria were applied, the sample was reduced to 224 working adults (126 men; 98 women), who had an average age of 36.6 years ($SD = 6.09$), a mean annual household income of \$60.4K ($SD = \$25.1K$), and an average educational level of 15.0 years ($SD = 2.11$). Half of the sample was married (49.1%) and the remaining respondents were either single, divorced, or widowed (We used data drawn from the U.S. Census Bureau to examine the demographic characteristics of Americans aged 25–44. That comparison revealed that the income, educational level, and marital status for members of the sample in this investigation were highly representative of national averages for these dimensions.). In terms of employment, 21.0% of participants reported being either office or customer service workers, 17.9% held executive/management positions, 16.5% reported being professionals (e.g., law; medicine), 9.4% were laborers, 7.1% were self-employed, and 28.1% indicated their occupation as “other.”

Measures

Retirement saving indicators

Two different approaches were used to assess individuals’ retirement saving effort. The measure of “perceived saving effort” relative to peers is rather straightforward. Participants were asked to respond to the statement, “Relative to my peers, I am saving a great deal for retirement” (1 = *strongly disagree*; 7 = *strongly agree*). Higher scores on this measure indicate higher perceived saving rates relative to peers; lower scores correspond to lower perceived saving rates compared with others. The term “peers” in the context of this question was purposely left undefined. That way, each respondent would be responsible for determining the characteristics of their peer reference group. The mean score for this measure was 3.99 ($SD = 1.86$), and values were found to be reasonably distributed. Some 22.3% of respondents either disagreed or strongly disagreed with the

statement, 25.0% agreed or strongly agreed with the statement, and 52.7% of respondents provided a neutral response (scores of 3–5 on the 7-point scale).

The second measure of saving effort involved calculating an *unexplained saving score* for each participant. As mentioned previously, this score was designed to capture the amount of saving for each respondent relative to those with similar demographic characteristics. In essence, it is the portion of a respondent’s saving that is not otherwise accounted for by a set of nine sociodemographic indicators. Calculation of the unexplained saving score involved a multi-step process. First, participants were asked to respond to the following question: “Not including what you pay in Social Security taxes, estimate the percentage of your gross income you voluntarily allocated to retirement savings during the past twelve months.” Responses to this question were made using an 11-point response scale that ranged from “1 percent” of one’s gross income on the low end of the scale to “greater than 25 percent” on the high end. (Recall that all participants were screened to ensure they had made some level of retirement savings contribution during the preceding twelve months.) Except for the high and low anchor values, scores on this 11-point scale were subsequently transformed to the midpoint of each response category (e.g., scores in the 3–5% category were recoded to 4%).

Self-reported actual retirement saving percentages were then regressed on nine individual demographic characteristics: age, gender, marital status, health status, income, educational level, number of dependents, whether the respondent expected to retire or not, and the number of years the individual expected to live after leaving the workforce. The difference between the actual reported savings and the predicted savings for a respondent served as their unexplained saving score. Positive residual values were derived for individuals who saved more than their hypothetical demographically matched peers; negative residual values were obtained for those who saved less than their hypothetical peers; near-zero residuals were generated for respondents who had saved approximately the same amount as their hypothetical peers.

Individual difference variables

Six psychological and nine socio demographic indicators were assessed as part of this investigation. The psychological measures were all multiple-item scales, each of which contained three to five questions or statements. The six psychological measures were: (a) self-rated financial knowledge (drawn from [Hershey et al., 2010](#); three items, “I know more than most people about financial planning for retirement”), (b) retirement goal clarity ([Stawski et al., 2007](#); five items, “I have a clear vision of how life will be in retirement”), (c) one’s level of financial activation (planning drive subscale)—which is an indicator of the strength (as opposed to the clarity) of an individual’s retirement saving goals ([Neukam & Hershey, 2003](#); five items, “I am highly active in my pursuits toward financial planning for retirement”), (d) future time perspective, which is a measure of the extent to which individuals enjoy thinking about the future ([Hershey & Mowen, 2000](#); four items, “I enjoy thinking about how I will live 10+ years in the future”), (e) financial risk tolerance ([Jacobs-Lawson & Hershey, 2005](#); five items, “I am very willing to make risky investments to ensure financial stability in retirement”), and (f) general self-efficacy ([Mowen, 1999](#); three items, “I feel in control of what is happening to me”).

Ratings for each of the six scales were made using a 7-point Likert-type response format (1 = *strongly disagree*; 7 = *strongly agree*). All six scales have previously been shown to possess a unitary factor structure and acceptable levels of internal consistency reliability. Most have also been shown to demonstrate adequate levels of test/retest reliability and discriminability. In this investigation, the Cronbach alpha values for each of the scales was as follows: financial knowledge, 0.93; goal clarity, 0.87; financial activation, 0.83; future time perspective, 0.76; risk tolerance, 0.83; and general self-efficacy, 0.72.

The nine sociodemographic indicators in the investigation included: (a) chronological age, (b) gender (0 = *male*; 1 = *female*), (c) respondent’s annual income, (d) years of formal education, (e) whether the respondent is married or partnered (0 = *single, widowed or divorced*; 1 = *married or partnered*), (f) self-reported health status (1 = *poor*; 5 = *excellent*), (g) number of dependents, (h) a dichotomous variable that reflects whether respondents expected to retire or not (0 = *never expect to retire*; 1 = *expect to retire in the future*), and (i) the number of years each respondent expected to live in retirement.

RESULTS

One of the key variables in this investigation is the unexplained saving score. Recall that values for this variable were the saved raw score residuals from an OLS regression analysis in which respondents’ actual saving rate was regressed on nine different demographic indicators. The resulting residual values reflect the portion of one’s saving behavior not governed by demographic indicators. The regression analysis was statistically significant [$F(9, 214) = 6.97, p < .01, \text{adjusted } R^2 = 0.19$]. Parameter estimates for the predictors in this analysis are shown in Table 1. As seen in the table, three of the nine predictors (gender, income, and years expected to live in retirement) were statistically significant; age emerged as a trend (i.e., significant at the 90% confidence interval).

Next, a hierarchical OLS regression model was estimated to explain unexplained savings in which six psychological predictors were entered in the first block. The first step in the model was statistically significant, $F(6, 217) = 2.38, p < .01, \text{adjusted } R^2 = 0.06$. As seen in Table 2, only

Table 1. Ordinary Least Squares Regression Estimates Used to Compute Residual Saving Scores

Predictor	Unstandardized Coefficient	Standard Error
(Constant)	14.37	47.23
Age (years)	1.008*	0.053
Gender (0 = male)	0.092**	0.060
Income (dollars)	1.000**	0.001
Education (years)	0.943	0.140
Marital status (0 = single)	0.600	0.450
Self-rated health	0.608	0.223
Number of dependents	0.924	0.266
Years expected to live in ret.	1.152**	0.047
Expect to retire? (0 = no)	5.510	6.950

The dependent variable in this analysis was the actual percentage of income respondents saved for retirement during the previous 12 months. Observations = 224. Adjusted $R^2 = 0.194$.

* $p < .10$. ** $p < .01$.

one of the six independent variables—future time perspective—was found to be a significant predictor of unexplained savings. The beta weight for this effect revealed that individuals with a longer future time perspective were more likely to have saved money for retirement than those with a more present orientation to time.

In the second block, perceived savings relative to peers was entered as the sole predictor. The full model was significant, $F(1, 216) = 13.31, p < .01, R^2\Delta = 0.06$. The beta weight for perceived savings relative to peers was 0.18 ($p < .01$). As hypothesized, this effect revealed that individuals who believed they were saving more than peers were actually saving more, on average. In sum, this analysis is significant inasmuch as it demonstrates that psychological factors account for 6% of the variance in savings over and above demographic indicators, and peer comparison scores explain an additional 6% of the variance.

DISCUSSION

The purpose of the present investigation was to apply social comparison theory to the area of financial planning for retirement. The first empirical goal was to examine the extent to which a set of nine demographic predictors accounted for variance in retirement saving practices. The second goal was to determine whether unexplained savings (i.e., residual savings from the first analysis) could be predicted by respondents’ perceptions of savings effort relative to peers, after a set of six psychological variables had been entered into the model. If perceived saving effort relative to peers explains significant variance in unexplained savings *over and above* the set of psychological variables, then that would imply that respondents’ peer comparisons were, in part, responsible for motivating actual saving practices. The absence of a significant effect, in contrast, would imply that perceived peer saving practices play no role in the saving behavior of respondents. The data suggest the former was the case. That is, respondents’ savings were, in fact, influenced by the social comparisons they made.

One intermediate step in conducting the social comparison analysis described previously was to compute unexplained saving scores (i.e., individual saving rates adjusted for each respondent’s

Table 2. Standardized Beta Weights and Standard Errors (in parentheses) From Hierarchical Ordinary Least Squares Regression Analysis Predicting Unexplained Savings (N = 224)

	Beta Coefficient (Standard Error)
Block 1	
Constant	-.5751 (.4655)
General self-efficacy	-.0629 (.0527)
Future time perspective	.1437* (.0700)
Financial activation	.1090 (.0885)
Retirement goal clarity	-.0290 (.0611)
Self-rated financial knowledge	.0842 (.0611)
Financial risk tolerance	-.1026 (.0656)
$R^2 = .06$	
Block 2	
Constant	-.4662 (.4539)
Perceived savings relative to peers	.1786** (.0489)
$Total R^2 = .12$	

* $p < .05$. ** $p < .01$.

demographic characteristics). This computation served to derive and save residual values to be used as a dependent variable in a subsequent analysis. It is worth noting that the beta weights reported in Table 1 reveal which demographic variables are associated with the tendency to save for the future. As seen in the table, men, individuals with higher incomes, and those who expect to live longer in retirement were found to save significantly more for the postemployment period. There was also a trend toward older respondents having higher savings rates than younger individuals. The findings regarding gender, income, and age are consistent with effects observed in numerous previous empirical investigations (Devaney & Su, 1997; Glass & Kilpatrick, 1998b; Hira, Rock, & Loibl, 2009; Jacobs-Lawson & Hershey, 2005; Jefferson & Preston, 2005; Stawski et al., 2007). A more novel finding, however, was that those who expected to live longer in retirement were found to have saved more. This is evidence of a rational decision-making approach to managing longevity risk (Tien & Miao, 2013), in which expectations of the number of years one is likely to live guides one's financial accumulations in the pre-retirement period. This ability to regulate saving effort so as to match anticipated future dissavings (cf., Ando & Modigliani, 1963; Modigliani & Brumberg, 1954) in the post employment period is indeed one of the keys to effectively managing one's personal finances over the course of the life cycle.

In contrast to other studies (Joo & Grable, 2000; Yuh & Olson, 1997), education and marital status were not found to be related to retirement saving rates. Perhaps the lack of an education effect could be due to the relatively high levels of formal education attained by study participants. Furthermore, the lack of a marital status effect (in which married individuals would have been expected to save more than single persons; Poterba, Venti, & Wise, 2011) could perhaps be explained by the relatively young age range of the sample (25–45 years), which is younger than the age at which individuals typically begin to save most aggressively for retirement. One other possible explanation for the null outcomes for these two variables is the possibility of suppressor effects among predictors, given that other predictors had already captured variability in the criterion.

The second analysis we report, a hierarchical regression in which unexplained savings were regressed on a set of psychological predictors and a social comparison variable, also revealed intriguing findings. Ordinarily, in an investigation of retirement savings one might expect psychological variables such as financial knowledge, financial risk tolerance, retirement goal clarity, and self-efficacy to emerge as robust predictors. However, in the present study this was not found to be the case. Of the six psychological scales included in the first block of the hierarchical regression, only one predictor—future time perspective—led to a statistically reliable outcome. This finding reinforces the important role personality traits play in structuring saving practices; future-oriented individuals have consistently been shown to save more than those whose orientation to time is anchored in the present (Ellen, Wiener, & Fitzgerald, 2012; Hershey & Mowen, 2000; McCullough, 2012). The reason the other psychological predictors failed to emerge as significant is likely due to the fact that: (a) substantial variability had already been partialled from respondents' saving scores, and (b) respondents were fairly homogeneous in terms of age, which would suggest that psychological characteristics that correlate with age (e.g., retirement goal clarity, financial knowledge, financial risk tolerance) might also be truncated, and thus, have little predictive value.

Notably, the second block of the hierarchical regression revealed perceived savings relative to peers to be a significant predictor of unexplained savings. This effect is of particular importance in the present investigation because it serves to establish a putative relationship between social comparisons and saving practices. The magnitude of this effect is worth mentioning—6% of the variability in unexplained savings was captured—in light of the fact that 25.4% of the variance in savings had already been explained by demographic and psychological measures. This finding, in particular, extends the principle of social comparison processes to a previously unexplored real-world decision domain—saving for retirement.

The results from this study are intriguing from a theoretical perspective because they suggest why it is that some robust savers may be motivated to save more for retirement than what is likely to be needed by comparing themselves to perceived high-savers. At the same time, social comparison theory suggests why it is that some poor savers may be complacent in allocating minimal resources toward retirement savings plans by comparing themselves to perceived low-savers. In either case, the perceived saving behavior of imagined others appears to perpetuate one's own saving habits, even though those perceptions may in some cases be biased or inaccurate. Indeed, the best case scenario is one in which an individual's behaviors are not guided by perceptions of others at all, but instead, by a thorough retirement needs assessment that derives from a realistic set of financial and life planning assumptions (Hebeler, 2007).

From an applied perspective, if individuals do indeed use social comparison information to guide their saving efforts, then doing so could be problematic for at least two reasons. The first is because, if those social comparison processes are inaccurate, then attempts to establish a rational savings program will likely be met with limited success. The second problematic aspect of social comparisons in this context is that one's saving strategies are based on the perceptions of others' real or imagined saving behaviors, and not on the basis of a thorough and objective financial needs assessment. Certainly, the latter approach would be superior, but resources used to support rational saving decisions are limited. By making computational and life planning tools (e.g., retirement savings calculators; retirement goal clarity modules) widely available (Carter & Walsh, 1992), ordinary individuals would be empowered to make sound long-range investment decisions on the basis of personally relevant parameters. Such tools, when accompanied by competent professional advice, stand to provide a firm platform from which to make rational judgments regarding personal financial resource management (Gennaoli, Shleifer, & Vishny, 2012; Kotlikoff, 2001).

LIMITATIONS AND FUTURE DIRECTIONS

Although the findings from this study shed light on the way in which social comparison theory relates to financial planning for retirement, certain limitations are acknowledged. The first is that individuals' retirement savings contributions were obtained by means of self-report. That being the case, those reports may have been either inaccurate or biased in a self-serving fashion. We see the need in future investigations to obtain more objective measures of saving. A second limitation involves the fact that the nature of the reference group of "peers" used as the basis of the social comparison rating was unspecified. Perhaps in future investigations, researchers could experimentally manipulate

the members of the comparison group (e.g., friends; workplace colleagues; admired others; family members), to determine whether the magnitude of perceptual biases covary with the characteristics of the reference set. A third limitation is that there could have been some ambiguity surrounding the wording of our measure of saving effort relative to others. That is, someone might indicate they disagree with the statement “Relative to my peers I am saving a great deal for retirement,” because they feel they are saving a tremendous amount. That being the case, future studies might explore the use of a multiple-item approach to measuring perceived savings relative to peers in order to improve robustness and minimize the possibility of semantic ambiguity. One other potentially profitable future direction would be to investigate participants who represent a wider range of ages and explore the possibility of age differences in savings-linked social comparisons. Perhaps it is the case that one’s reliance on social comparisons as a determinant of one’s own perceived saving effort diminishes over the lifespan as a function of increasing age or financial literacy levels.

One other interesting future research direction would be to examine what social psychologists refer to as upward and downward social comparisons (Corcoran et al., 2011; Suls et al., 2002; Zell, Alicko, & Strickhouser, 2015). Upward social comparisons occur in cases in which individuals underestimate their savings relative to peers, thereby concluding their saving efforts are inferior. Downward social comparisons, in contrast, occur when individuals judge their peers to be saving at a rate that is less than oneself, which would lead to perceptions of being in a superior economic position. Those who make upward social comparisons should be motivated to increase saving rates in order to reach perceived equilibrium (or superiority) with one’s reference group. In contrast, individuals who make downward social comparisons would be unlikely to increase their rate of saving based on what they perceive to be an adequate state of affairs. The results of these two types of comparisons, and the implications they have for altering one’s affect and sense of motivational press, have yet to be addressed in the retirement saving context.

CONCLUSION

Earlier in the article the case was made that only one previous investigation had focused on the role of social comparison processes when it comes to saving for retirement. On the basis of the findings from this study, it is believed that work in this vein holds promise. As social beings, individuals are swayed by their impressions of the clothes others wear, the cars they drive, and the places they choose to visit. Although such comparisons are intuitive and often intrinsically appealing, in the retirement saving arena social comparisons can lead individuals to have a false sense of security, or to set the bar at a standard that may never be realized. Suffice it to say that no characterization of the psychological basis of investor behavior would be complete without considering the savings-related perceptions of an individual in his or her own social context.

ACKNOWLEDGMENTS

This work was supported by the National Institute on Aging (R03 #1-R03-AG-19849-01 to D. A. H.). The authors are indebted to Amanda Messer and Jessica Gillard for assistance with the data collection and coding on this project.

REFERENCES

- Adams, G. A., & Rau, B. L. (2011). Putting off tomorrow to do what you want today: Planning for retirement. *American Psychologist*, 66, 180–192. doi:10.1037/a0022131
- Ando, A., & Modigliani, F. (1963). The ‘life cycle’ hypothesis of saving: Aggregate implications and tests. *American Economic Review*, 53, 55–84.
- Brown, K. M., & Laschever, R. A. (2012). When they’re sixty-four: Peer effects and the timing of retirement.” *American Economic Journal: Applied Economics*, 4, 90–115. doi:10.1257/app.4.3.90
- Buunk, A. P., Bennenbroek, F. C., Stiegelis, H. E., van den Bergh, A. M., Sanderman, R., & Hagedoorn, M. (2012). Follow-up effects of social comparison information on the quality of life of cancer patients: The moderating role of social comparison orientation. *Psychology & Health*, 27, 641–654. doi:10.1080/08870446.2011.613994
- Buunk, A. P., & Gibbons, F. X. (2005). Social comparison orientation: A new perspective on those who do and those who don’t compare with others. In S. Guimond (Ed.), *Social comparison and social psychology: Understanding cognition, intergroup relations, and culture* (pp. 15–32). Cambridge, UK: Cambridge University Press.
- Buunk, A. P., & Gibbons, F. X. (2007). Social comparison: The end of a theory and the emergence of a field. *Organizational Behavior and Human Decision Processes*, 102, 3–21. doi:10.1016/j.obhdp.2006.09.007
- Carter, S. R., & Walsh, D. A. (1992). A hypercard-based tool for studying cognitive processes in complex problem solving. *Behavior Research Methods, Instruments & Computers*, 24, 286–297. doi:10.3758/BF03203509
- Chalmers, J., Johnson, W., & Reuter, J. (2008). *Who determines when you retire? Peer effects and retirement*. National Bureau of Economic Research. Retrieved from: <http://www.nber.org/aging/rrc/papers/onb08-13.pdf>
- Chang, M. (2005). With a little help from my friends (and my financial planner). *Social Forces*, 83, 1469–1498. doi:10.1353/sof.2005.0061
- Cobb-Clark, D. A., & Stillman, S. (2006). *The retirement expectations of middle-aged individuals*. IZA Discussion Papers, No. 2449. Retrieved from <http://hdl.handle.net/10419/33727>
- Corcoran, K., Crusius, J., & Mussweiler, T. (2011). Social comparison: Motives, standards, and mechanisms. In D. Chadee (Ed.), *Theories in social psychology* (pp. 119–139). Oxford, UK: Wiley-Blackwell.
- Croy, G., Gerrans, P., & Speelman, C. (2010a). The role and relevance of domain knowledge, perceptions of planning importance, and risk tolerance in predicting savings intentions. *Journal of Economic Psychology*, 31, 860–871. doi:10.1016/j.joep.2010.06.002
- Croy, G., Gerrans, P., & Speelman, C. (2010b). Injunctive social norms primacy over descriptive social norms in retirement savings decisions. *The International Journal of Aging & Human Development*, 71, 259–282. doi:10.2190/AG.71.4.a
- Croy, G., Gerrans, P., & Speelman, C. (2012). Normative influence on retirement savings decisions: Do people care what employers and the government want?. *Australian Journal of Psychology*, 64, 83–91. doi:10.1111/j.1742-9536.2011.00029.x
- Devaney, S. A., & Su, Y. (1997). Factors predicting the most important source of retirement income. *Compensation & Work Conditions*, 2, 25–31

- Duflo, E., & Saez, E. (2002). Participation and investment decisions in a retirement plan: The influence of colleagues' choices. *Journal of Public Economics*, 85, 121–148. doi:10.1016/S0047-2727(01)00098-6
- Duflo, E., & Saez, E. (2003). The role of information and social interactions in retirement plan decisions: Evidence from a randomized experiment. *Quarterly Journal of Economics*, 118, 815–842. doi:10.1162/00335530360698432
- Duesenberry, J. S. (1949). *Income, saving and the theory of consumer behaviour*. Cambridge, MA: Harvard University Press.
- Dulebohn, J. H. (2002). An investigation of the determinants of investment risk behavior in employer-sponsored retirement plans. *Journal of Management*, 28, 3–26. doi:10.1177/014920630202800102
- Ellen, P. S., Wiener, J. L., & Fitzgerald, M. P. (2012). Encouraging people to save for their future: Augmenting current efforts with positive visions of the future. *Journal of Public Policy & Marketing*, 31, 58–72. doi:10.1509/jppm.09.089
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140. doi:10.1177/001872675400700202
- Fujita, F. (2008). The frequency of social comparison and its relation to subjective well-being. In M. Eid, R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 239–257). New York: Guilford Press.
- Garcia, S. M., Tor, A., & Schiff, T. M. (2013). The psychology of competition: A social comparison perspective. *Perspectives on Psychological Science*, 8, 634–650. doi:10.1177/1745691613504114
- Gennaoli, N., Shleifer, A., & Vishny, R. (2012). *Money Doctors*. NBER Working Papers No. 18174. Cambridge, MA: National Bureau of Economic Research.
- Glass, J. C., & Kilpatrick, B. B. (1998a). Gender comparisons of baby boomers and financial preparation for retirement. *Educational Gerontology*, 24, 719–745. Retrieved from <http://search.proquest.com.argo.library.okstate.edu/docview/619364127?accountid=4117>
- Glass, J. C., & Kilpatrick, B. B. (1998b). Financial planning for retirement: An imperative for baby boomer women. *Educational Gerontology*, 24, 595–617. doi:10.1080/0360127980240606
- Griffin, B., Loe, D., & Hesketh, B. (2012). Using proactivity, time discounting, and the theory of planned behavior to identify predictors of retirement planning. *Educational Gerontology*, 38, 877–889. doi:10.1080/03601277.2012.660857
- Guimond, S. (2005). *Social comparison and social psychology: Understanding cognition, intergroup relations, and culture*. Cambridge, UK: Cambridge University Press.
- Hebeler, H. K. (2007). *Getting started in a financially secure retirement*. New York: Wiley & Sons.
- Helman, R., Copeland, C., & VanDerhei, J. (2006). *The 2006 Retirement Confidence Survey: Will more of us be working forever?* (Issue Brief No. 292). Washington, DC: EBRI. Retrieved from <http://www.ebri.org/surveys/rcs/2006>
- Helman, R., Copeland, C., & VanDerhei, J. (2012). *The 2012 Retirement Confidence Survey: Job insecurity, debt weigh on retirement confidence, savings* (Issue Brief No. 369). Washington, DC: EBRI. Retrieved from http://www.ebri.org/publications/ib/index.cfm?fa=ibDisp&content_id=5017
- Hershey, D. A., Henkens, K., & van Dalen, H. P. (2010). Aging and financial planning for retirement: Interdisciplinary influences viewed through a cross-cultural lens. *International Journal of Aging and Human Development*, 70, 1–38. doi:10.2190/AG.70.1.a
- Hershey, D. A., Jacobs-Lawson, J. M., McArdle, J. J., & Hamagami, F. (2007). Psychological foundations of financial planning for retirement. *Journal of Adult Development*, 14, 26–36. doi:10.1007/s10804-007-9028-1
- Hershey, D. A., & Mowen, J. C. (2000). Psychological determinants of financial preparedness for retirement. *The Gerontologist*, 40, 687–697. doi:10.1093/geront/40.6.687
- Hira, T. K., Rock, W. L., & Loibl, C. (2009). Determinants of retirement planning behaviour and differences by age. *International Journal of Consumer Studies*, 33, 293–301. doi:10.1111/j.1470-6431.2009.00742.x
- Hogarth, J. M., Anguelov, C. E., & Lee, J. (2005). Who has a bank account? Exploring changes over time, 1989–2001. *Journal of Family and Economic Issues*, 26, 7–30.
- Hoorens, V., & van Damme, C. (2012). What do people infer from social comparisons? Bridges between social comparison and person perception. *Social and Personality Psychology Compass*, 8, 607–618. doi:10.1111/j.1751-9004.2012.00451x
- Jacobs-Lawson, J. M., & Hershey, D. A. (2005). Influence of future time perspective, financial knowledge, and financial risk tolerance on retirement saving behavior. *Financial Services Review*, 14, 331–334.
- Jefferson, T., & Preston, A. (2005). Australia's 'other' gender wage gap: Baby boomers and the compulsory superannuation accounts. *Feminist Economics*, 11, 79–101.
- Joo, S., & Grable, J. E. (2000). A retirement investment and savings decision model: Influencing factors and outcomes. *Consumer Interests Annual*, 46, 43–48.
- Kemp, C. L., Rosenthal, C. J., & Denton, M. (2005). Financial planning for later life: Subjective understandings of catalysts and constraints. *Journal of Aging Studies*, 19, 273–290. doi:10.1016/j.jaging.2004.08.004
- Knoll, M. A., Tamborini, C. R., & Whitman, K. (2012). I do... want to save: Marriage and retirement savings in young households. *Journal of Marriage and Family*, 74, 86–100. doi:10.1111/j.1741-3737.2011.00877.x
- Kotlikoff, L. J. (2001). *Household financial planning and financial literacy: The need for new tools*. Boston, MA: MIT Press.
- Lee, W. K. M., & Law, K. W. K. (2004). Retirement planning and retirement satisfaction: The need for a national retirement program and policy in Hong Kong. *Journal of Applied Gerontology*, 23, 212–233. doi:10.1177/07334648042668591
- Lum, Y., & Lightfoot, E. (2003). The effect of health on retirement saving among older workers. *Social Work Research*, 27, 31–44. doi:10.1093/swr/27.1.31
- Lunt, P. K., & Livingstone, S. M. (1991). Psychological, social, and economic determinants of saving: Comparing recurrent and total savings. *Journal of Economic Psychology*, 12, 621–641. doi:10.1016/0167-4870(91)90003-C
- Lusardi, A., & Mitchell, O. S. (2005). *Financial literacy and planning: Implications for retirement wellbeing*. Michigan Retirement Research Center Working Paper #WP 2005–108. Retrieved from <http://deepblue.lib.umich.edu/bitstream/handle/2027.42/49432/wp108.pdf?sequence=1>

- Lusardi, A., & Mitchell, O. S. (2007). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of Monetary Economics*, 54, 205–224. doi:10.1016/j.jmoneco.2006.12.001
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and retirement planning in the United States. *Journal of Pension Economics and Finance*, 10, 509–525. doi:10.1017/S147474721100045x
- Martinet, D., & Redersdorff, S. (2005). The variable impact of upward and downward social comparisons on self-esteem: When the level of analysis matters. In S. Guimond (Ed.), *Social comparison and social psychology: Understanding cognition, intergroup relations, and culture* (pp. 127–150). Cambridge, UK: Cambridge University Press.
- McCullough, J. B. (2012). The influence of positive psychological factors on small business owners' retirement planning activities. *Financial Services Review*, 21, 1–18.
- Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. Kurihara (Ed.), *Post-Keynesian Economics* (pp. 388–436). New Brunswick, NJ: Rutgers University Press.
- Mowen, J. C. (1999). *The 3M model of personality: Theory and empirical applications to consumer behavior*. Boston, MA: Kluwer Academic Press.
- Neukam, K. A., & Hershey, D. A. (2003). Financial inhibition, financial activation, and saving for retirement. *Financial Services Review*, 12, 19–37.
- Noone, J., O'Loughlin, K., & Kendig, H. (2012). Socioeconomic, psychological and demographic determinants of Australian baby boomers' financial planning for retirement. *Australasian Journal on Ageing*, 31, 194–197. doi:10.1111/j.1741-6612.2012.00600.x
- Noone, J. H., Stephens, C., & Alpass, F. (2010). The process of Retirement Planning Scale (PRePS): Development and validation. *Psychological Assessment*, 22, 520–531. doi:10.1037/a0019512
- Palameta, B. (2003). Profiling RRSP contributors. *Perspectives on Labour and Income*, 15, 59–65. Retrieved from <http://search.proquest.com.argo.library.okstate.edu/docview/213991630?accountid=4117>
- Petkoska, J., & Earl, J. K. (2009). Understanding the influence of demographic and psychological variables on retirement planning. *Psychology and Aging*, 24, 245–251. doi:10.1037/a0014096
- Poterba, J. M., Venti, S. F., & Wise, D. A. (2011). *Composition and draw-down of wealth in retirement*. NBER Working Paper Series #17536. Retrieved from: <http://www.dartmouth.edu/~bventi/Papers/w17536.pdf>
- Raat, A., Kuks, J. M., van Hell, E., & Cohen-Schotanus, J. (2013). Peer influence on students' estimates of performance: Social comparison in clinical rotations. *Medical Education*, 47, 190–197. doi:10.1111/medu.12066
- Rhee, N. (2013). The retirement savings crisis: Is it worse than we think? *National Institute on Retirement Security*. Retrieved from http://www.nirsonline.org/storage/nirs/documents/Retirement%20Savings%20Crisis/retirementsavingscrisis_final.pdf
- Stawski, R. S., Hershey, D. A., & Jacobs-Lawson, J. M. (2007). Goal clarity and financial planning activities as determinants of retirement savings contributions. *International Journal of Aging and Human Development*, 64, 13–32. doi:10.2190/13GK-5H72-H324-16P2
- Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science*, 11, 159–163. doi:10.1111/1467-8721.00191
- Suls, J., & Wheeler, L. (2000). Social comparison theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *The handbook of theories of social psychology* (pp. 460–482). Thousand Oaks, CA: Sage Publications.
- Tien, J. J., & Miao, J. C. Y. (2013). How households adjust their consumption and investment plans under longevity risk: An experimental approach-based study in Taiwan. *Geneva Papers on Risk & Insurance*, 38, 803–823. doi:10.1057/gpp.2013.22
- Turner, J. A., & Rhee, N. (2013). *Lessons for private sector retirement security from Australia, Canada, and the Netherlands*. Issue Brief. National Institute on Retirement Security. Retrieved from http://www.nirsonline.org/storage/nirs/documents/International%20Paper/final_international_august_2013.pdf
- Ty, M., & Francis, A. P. (2013). Insecure attachment and disordered eating in women: The mediating processes of social comparison and emotion dysregulation. *Eating Disorders: The Journal of Treatment & Prevention*, 21, 154–174. doi:10.1080/10640266.2013.761089
- Van Rooij, M. J., Lusardi, A., & Alessie, R. M. (2011). Financial literacy and retirement planning in the Netherlands. *Journal of Economic Psychology*, 32, 593–608. doi:10.1016/j.joep.2011.02.004
- Wald, M. (2014). *Social security is a critical income source for older Americans: State-level estimates, 2010–2012*. Fact Sheet. AARP Public Policy Institute. Retrieved from http://www.aarp.org/content/dam/aarp/research/public_policy_institute/econ_sec/2014/social-security-critical-income-source-AARP-ppi-econ-sec.pdf
- Webley, P., & Nyhus, E. K. (2006). Parents' influence on children's future orientation and saving. *Journal of Economic Psychology*, 27, 140–164. doi:10.1016/j.joep.2005.06.016
- Weiner, J., & Doescher, T. (2008). A framework for promoting retirement savings. *The Journal of Consumer Affairs*, 42, 137–164. doi:10.1111/j.1745-6606.2008.00102.x
- World Bank. (1994). *Averting the old age crisis: Policies to protect the old and promote growth*. Washington: DC: Author.
- Yip, J. J., & Kelly, A. E. (2013). Upward and downward social comparisons can decrease prosocial behavior. *Journal of Applied Social Psychology*, 43, 591–602. doi:10.1111/j.1559-1816.2013.01039.x
- Yuh, Y., & Olson, P. (1997). Factors affecting the retirement fund levels of self-employed households and wage and salary households. *Family Economics and Resource Management Biennial*, 2, 25–31.
- Zell, E., Alicke, M. D., & Strickhouser, J. E. (2015). Referent status neglect: Winners evaluate themselves favorably even when the competitor is incompetent. *Journal of Experimental Social Psychology*, 56, 18–23. doi:10.1016/j.jesp.2014.08.004