Motivating Personal Contributions to Health Savings Accounts

Anne C. Duke, Ph.D., CPA, University of North Georgia[1]
Brenda J. Cude, Ph.D., University of Georgia[2]

Abstract

Each individual enrolled in a health savings account (HSA) plan faces myriad conflicting forces when deciding whether to defer the immediate benefit of take-home pay for the potential future benefit of making HSA contributions. Personal contributions to HSAs allow high-deductible health insurance plan enrollees to accumulate funds to cover out-of-pocket medical expenses. If an enrollee does not have HSA or other personal funds, he or she might not be able to receive needed medical attention. Contributions also allow eligible consumers to take full advantage of the various financial and tax planning benefits of HSAs. In this study, the first of its kind, hypothetical experimental surveys were conducted using a nationally representative sample of 505 respondents to determine factors that motivate personal contributions to HSAs. One treatment required respondents to view digital recordings of three current HSA enrollees speaking about their personal motivations to make contributions. The VIDEO treatment was associated with a statistically significant increase in the hypothetical level of HSA funding selected. In addition, higher education levels were associated with significantly higher levels of personal HSA contributions.

Keywords: Health savings accounts, employee benefits, health insurance, high-deductible health insurance, health care spending, savings, matching, consumer education, tax planning

Introduction

A health savings account (HSA) is an investment/savings account that enrollees can use to accumulate tax-deferred funds to pay for medical expenses. Since their creation by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, HSA plans have grown in popularity. According to the annual census by America's Health Insurance Plans (AHIP), 13.5 million Americans were enrolled in an HSA plan as of January 2012, a 18% increase over the 11.4 million reported in 2011 and a 69% increase over the 8 million reported in 2009 (AHIP Center for Policy and Research, 2012). Contributions to an HSA are allowed if a consumer is covered by a statutorily-defined high-deductible health plan. HSA contributions may be made by the account holder, his or her employer, or both. However, contributions are not required by statute. In fact, many consumers who are eligible to contribute to an HSA never do so (Fronstin & EBRI, 2011).

Recent health insurance reform could increase or decrease the popularity of HSA plans. Tanner (2011) anticipated that the Patient Protection and Affordable Care Act would seriously impede the growth of CDHPs. In contrast, Sperling and Shapira (2011) suggested that the high cost of U.S. health care and changes in the health insurance market might cause a "sea of change" in the direction of HSA-type health insurance plans (p. 43). They said that this change would be similar to the move away from the defined-benefit retirement plans to the currently more popular defined-contribution plans.

Enrollees in HSA-eligible plans must use HSA or other personal funds to pay out-of-pocket medical expenses until the high-deductible of their health insurance plan is satisfied. If an enrollee does not have HSA or other personal funds for this purpose, he or she might not be able to receive needed medical attention. Although technically "covered" by health insurance, an enrollee without HSA or personal funds to cover the deductible could be rendered virtually uninsured. Within a family, a high-level of out-of pocket medical expenses can compete even with the basic need for food (Nielsen, Garasky, & Chatterjee, 2010). In addition, significant tax benefits accrue to enrollees by paying for medical expenses

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[1]Associate Professor, Chair, Acounting and Law, 1201 Bishop Farms Parkway, Univeristy of North Georgia, Watkinsville, GA 30677, U.S.A., 706-207-3744, anne.duke@ung.edu.
[2]Professor, Housing and Consumer Economics, 201 Housing Research Center (House B), 407 Sanford Dr., University of Georgia, Athens, GA 30602, U.S.A., 706-542-4857, bcude@uga.edu.

with HSA funds rather than personal funds. Because of the health-related and financial benefits of making HSA contributions, the recent rapid increase in HSA eligible high-deductible health plans, recent

economic instability experienced by U.S. families, and changes to the U.S. healthcare system, the current study was designed to discover factors that motivate enrollees to make personal HSA contributions.

Theoretical Focus

According to classical economic theory, participants should fund their HSAs if doing so is beneficial to them. Classical theory assumes that consumers always act rationally. However, recent literature has begun to shed light on consumers' inability to overcome natural weaknesses. Behavioral economic concepts explain what truly motivates consumer decision making, and recent academic literature suggests that an understanding of behavioral economic concepts can be used to draw consumers toward sound decisions. Sunstein and Thaler (2003) coined the term "libertarian-paternalism" to describe this process. They suggested that the freedom of choice demanded by libertarians and the concern for human welfare demanded by paternalists can be achieved at the same time. Consumers are often given choices. Libertarian-paternalism requires that the consumer be granted freedom of choice but that the choice options help motivate the consumer to make beneficial choices (Sunstein & Thaler, 2003).

Employers and insurance companies must design HSA plans. They must also create resources that the insured can use to choose a level of HSA funding that is both feasible and beneficial. The goal of the current study was to determine how HSA plans might be designed and framed in order to motivate plan participants to increase personal HSA contributions. One of the factors examined in the study was the effect of exposing HSA enrollees to three digital recordings of three current HSA enrollees, whom the viewer might consider peers, speaking about their personal motivations to make contributions. Researchers have found that increasing consumer education about all aspects of health insurance is likely to reduce confusion and lead to better decision making (Domaszewicz, Havlin, & Connolly, 2010; Klug & Chianese, 2010). Moses and Hogg (2009) suggested that "a good visual can cut across literacy, numeracy, and language barriers" (p. 23) and that benefits administrators should "supply messages through media they will see, read, and hear" (p. 26). Block and Keller (1997) found that when respondents believed they could follow the recommendations in a message, vivid information was more persuasive than non-vivid information in health communications. Also, researchers have suggested that concerning benefits information, "families and friends are key motivators" (Moses & Hogg, 2009, p. 25) and that in some circumstances, peer feedback can help with decision making (Beshears, Choi, Laibson, Madrian, & Milkman, 2010).

Another motivational factor examined in the study was the effect of exposing HSA enrollees to employer matching contributions. Employer matching has been found to increase contributions to 401(k) defined-contribution retirement plans. Choi, Laibson, Madrian, and Metrick (2002) examined individual behavior of 401(k) participants at two companies before and after permanent changes in the employer matching structure. In the natural experiment, they found that implementing an employer match can increase 401(k) participation (Choi et al., 2002). Dworak-Fisher (2011) examined data from the National Compensation Survey and also found that an employer match provided a powerful incentive for employee contributions to 401(k) plans. In the current study, it was assumed that employer matching would also lead to an increase in personal HSA contributions.

Other factors examined in this study were the formulation of HSA funding questions using Enhanced Active Choice language (Keller, Harlan, Loewenstein, & Volpp, 2011) and the offer of an annual cash reward to enrollees who increased their HSA balance by a minimum amount. Offering a cash reward is similar to the "tontine" that Baker and Siegelman (2010) suggested might draw young and healthy individuals into the health insurance pool. The results for the Enhanced Active Choice and cash reward treatments are not reported in this paper.

Theoretical Model

After a review of literature and theory, the current study proposed that the HSA contribution level chosen by enrollees will increase under the following conditions:

H_1.   Each enrollee receives educational instruction via digital media (VIDEO) about the benefits of HSA funding.

H_2.   Employers are willing to match (MATCH) some portion of employee contributions.

Methodology

Two randomized block-design online survey experiments were conducted to assess the validity of the hypotheses, one for family-coverage respondents (N=253) and one for single-coverage respondents (N=252). In each experiment, an approximately equal number of respondents (N = 30) were randomly assigned to either the CONTROL group or a treatment group. For both experiments, respondents consisted of English-speaking, U.S. residents who were between the ages of 20 and 60 and were nationally representative in terms of demographic characteristics. The data were collected by the Qualtrics Corporation of Provo, UT.

In the first step of the online survey process respondents selected either single health insurance coverage (i.e., "covers you alone") or family coverage (i.e., "covers you and other family members, including children and/or spouse"). This selection determined the insurance premiums, deductible levels, and HAS contribution amounts presented in the remainder of the experiment, all of which varied significantly between these two categories. Limiting the information to each respondent's coverage category was intended to minimize confusion and maximize comprehension. Then each respondent viewed basic information about HAS plans that matched his or her selection (see Table 1). Next, the survey assumptions were presented. After viewing randomly assigned treatments, respondents answered questions designed to measure the dependent and independent variables.

Table 1

Summary of Basic Information about High-Deductible Health Insurance Plans and Health Savings Accounts Given to Every Respondent

- Explained what a health insurance deductible is and how it works
- Explained what preventive care is and that it is often not subject to the deductible
- Explained that a high-deductible health insurance plan must have a high deductible, generally has lower monthly premiums, and allows contributions to an HSA
- Explained that an HSA is an account in which the insured can save money to pay for deductibles and other medical expenses, earnings (wages/salary) put into an HSA are not subject to federal income tax, funds taken out of an HSA to pay for medical expenses are not taxed, and funds taken out of an HSA for non-medical expenses (before the age of 65) are subject to income tax and a 20% penalty (2011)
- Explained that funds deposited into an HSA can be invested in stocks, bonds, and other investments (like a retirement account) and that returns on investments in an HSA are not taxed when earned
- Explained that HSA funds do not have to be spent each year, can be saved for future medical expenses or even for retirement, belong to the account holder, and move with an account holder when employment changes
- Stated the maximum HSA contribution allowed by statute

Assumptions

The cost of insurance premiums and deductible amounts were based on 2010 annual averages for covered workers reported by the Kaiser Family Foundation (Kaiser Family Foundation, Health Research and Educational Trust, & National Opinion Research Center, 2010). Table 2 summarizes the assumptions. One assumption, presented in both experiments, was that the respondent was covered exclusively by a HSA plan and not by any other additional plan. This condition was based on IRS regulations that do not allow an employee to make HSA contributions when covered by a second, lower-deductible health insurance plan (Internal Revenue Service, 2011). Respondents were also told that their current HSA balance was zero, eliminating any potential confusion caused by the assumption of an existing balance.

Table 2

Summary of Assumptions for Single and Family Coverage

	Single Coverage	Family Coverage
Cost of insurance premium	$50 monthly/$600 annually	$300 monthly/$3,600 annually
Level of deductible	$3,000	$4,000
Other insurance policy	You have no other health insurance coverage	You have no other health insurance coverage
Coverage	Covers you only	Covers you and other family members
Current HSA balance	$0	$0

Note. The cost of insurance premiums and deductibles are based upon national averages for 2010 (Kaiser Family Foundation et al., 2010). Maximum annual HSA contributions are established by statute.

Digital Media Treatment
　　Respondents randomly assigned to the digital media treatment (VIDEO) were asked to view three video clips about the benefits of making personal HSA contributions. The clips contained the personal thoughts of three actual HSA holders of various ages and gender who might have been considered peers. In the videos, the speakers answered the question "Why do you think it is important to make personal HSA contributions?" The individuals recorded were not given a prepared script or coached in any manner. Instead, they were encouraged to explain the need for personal HSA contributions as if speaking to a spouse or family member. The video clips, which average 1 minute in length, can be viewed at the following locations:
　　　　　　http://springtreedigital.com/videos/video1.flv
　　　　　　http://springtreedigital.com/videos/video2.flv
　　　　　　http://springtreedigital.com/videos/video3.flv

Matching Treatment
　　Respondents randomly assigned to the matching treatment (MATCH) were asked to make the following additional assumption: "For purposes of this survey, please assume your employer has decided to make a 25% match to your HSA contributions." A 25% match was chosen because an analysis of data from the Health and Retirement Study indicated that a match of 25% increased 401(k) participation by 5% (Engelhardt & Kumar, 2007).

Dependent Variable
　　Survey respondents selected the theoretical amount they would contribute to their HSA by answering the question "How much of your earnings would you put into your Health Savings Account (HSA) this year?" Ten choices were given. For family-coverage respondents, the choices ranged from $0 to "More than $400 per month." Because, for 2011, the IRS allowed HSA holders with family coverage to contribute a little more than twice as much as those with single coverage ($6,150 vs. $3,050), the family-coverage choices were double the amount of the corresponding single-coverage choices. The option to make no contribution was always included because some respondents might not desire or feel financially able to contribute funds. The top end of the choice set was left open ended to prevent confusion caused by a potential matching contribution.
　　To improve the accuracy of the data analysis, the ten contribution levels were collapsed into five. This step was necessary to achieve the normal distribution required by ANOVA. The resulting dependent variable AMOUNT had five levels (1-5). The level "1" meant the respondent stated a $0 contribution. For family-coverage respondents, a value of "2" meant the respondent stated a contribution of either $50 or $100 per month; "3" meant either $150 or $200; "4" meant either $250 or $300; and "5" meant either $350, $400, or greater. The single-coverage values were half those of the family-coverage values.

Demographic and Health Insurance Information from Respondents
　　After responding to the dependent variable questions, respondents answered questions to describe their personal demographic and health insurance characteristics (see Tables 3 and 4). Demographic information was gathered concerning education, race, employment status, income, gender,

health status, marital status, number of children, housing status, age, and state of residence (all respondents were U.S. residents). Family structure has been shown to influence health care expenditure decisions (Bhargava & Nielsen, 2012). Health insurance information gathered included whether the respondent was covered by health insurance at the time of the survey, how the coverage was obtained, the type of coverage, the respondent's opinion about the adequacy of the coverage, and the respondent's opinion about which group (individuals, families, employers, or government) has the highest level of responsibility to provide for the health care expenses of individuals.

Variables used in Analysis

In Part 2 of the data analysis, the influence of several key independent variables was examined.

HIGHEDU. Survey respondents stated their level of education. Eight choices were given, ranging from "Less than High School" to "Professional Degree (JD, MD)." According to Fronstin and the EBRI (2010), enrollees in HSA plans are more likely to be highly educated than enrollees in traditional plans. In particular, enrollees with at least a college degree are more likely to be enrolled in HSA plans (Fronstin & EBRI, 2010). The dummy variable HIGHEDU was created and given a value of "1" if a respondent reported at least a "4-year College Degree."

COVEREDHDHP. Respondents self-reported whether they already had health insurance coverage and the type of coverage. The dummy variable COVEREDHDHP was created and given a value of "1" if the respondent reported coverage by an HDHP and zero otherwise.

Findings

Description of Data

After the experiments were designed and tested, the data were collected by the Qualtrics Corporation of Provo, UT. Data collection began on September 28, 2011 and ended on October 5, 2011. Table 3 reveals the demographic characteristics of the single-coverage and family-coverage respondents. Respondents came from all age groups, but respondents were predominantly white and more female than male in both experiments. Although about one-half of the respondents in both experiments were employed full-time, 31% of the family-coverage respondents and 28% of the single-coverage respondents reported their employment status as "other." These respondents might have been students, retired, or disabled. Another possibility is that these respondents were employed both full and part-time and felt that the "other" category best described their personal work life. In addition, descriptive information was gathered from the respondents about aspects of their health insurance coverage. This information is presented in Table 4. The vast majority of respondents were covered by a health insurance policy (95.64%). Of those covered, 64.39% were provided coverage through their own employer or the employer of their spouse. Of those covered, 10.97% were covered by a high-deductible health insurance plan (HDHP).

Table 3

Demographic Characteristics of Respondent Samples

	Family Coverage (N = 253)		Single Coverage (N = 252)		Total (N = 505)	
	N	Percent	N	Percent	N	Percent
Gender						
Female	179	70.75	151	59.92	330	65.35
Male	74	29.25	101	40.08	175	34.65
Education						
High school or less	44	17.39	52	20.63	96	19.01
Some college	106	41.90	74	29.37	180	35.64
Bachelor's degree	64	25.30	85	33.73	149	29.51
Graduate degree	39	15.41	41	16.27	80	15.84
Income						
$0-$40,000	69	27.27	117	46.43	186	36.83
$40,001 - $60,000	62	24.51	79	31.35	141	27.92
$60,001 - $80,000	57	22.53	28	11.11	85	16.83
$80,001 - $100,000	36	14.23	12	4.76	48	9.51
More than $100,000	29	11.46	16	6.35	45	8.91
Race						
White/Caucasian	187	73.91	174	69.05	361	71.49
African American	30	11.86	34	13.49	64	12.67
Other	36	14.23	44	17.46	80	15.84
Employment status						
Full time	126	49.80	132	52.38	258	51.09
Part time	31	12.25	30	11.90	61	12.08
Self-employed	17	6.72	19	7.54	36	7.13
Other	79	31.23	71	28.18	150	29.70
Age:						
19 - 29	62	24.51	91	36.11	153	30.30
30 - 39	75	29.64	52	20.64	127	25.15
40 - 49	53	20.95	56	22.22	109	21.58
50 and older	63	24.90	53	21.03	116	22.97

Note. All respondents verified being of an age between 19 and 61.

Table 4

Demographic Health Insurance Characteristics of Respondent Samples

	Family Coverage (N=253)		Single Coverage (N=252)		Total (N=505)	
	N	Percent	N	Percent	N	Percent
Covered by Insurance						
Yes	243	96.05	240	95.24	483	95.64
No	10	3.95	10	3.97	20	3.96
Does not know	0	0	2	.79	2	.40
Provider						
Employer	103	42.39	126	52.50	229	47.41
Spouse's employer	80	32.92	2	.83	82	16.98
Parent	19	7.82	9	3.75	28	5.8
Self-purchase	13	5.35	52	21.67	65	13.46
Other	27	11.11	48	20.00	75	15.52
Does not know	1	.41	3	1.25	4	.83
Type						
HDHP	25	10.29	28	11.67	53	10.97
PPO	119	48.97	89	37.08	208	43.06
HMO	56	23.05	68	28.33	124	25.67
POS	10	4.12	11	4.58	21	4.35
Uninsured/Other	15	6.17	28	11.67	43	8.91
Does not know	18	7.41	16	6.67	34	7.04
Rate Insurance:						
Good	146	57.71	138	54.76	284	56.24
Adequate	91	35.97	93	36.90	184	36.43
Inadequate	16	6.32	21	8.33	37	7.33
Highest responsibility for health care expenses						
Individuals	91	35.97	109	43.25	200	39.60
Families	43	17.00	28	11.11	71	14.06
Employers	61	24.11	55	21.83	116	22.97
Government	58	22.92	60	23.81	118	23.37

Note. Respondents who did not have insurance or did not know whether covered were not asked for the provider or type (family N=10, single N=12).

Data Analysis

Summary. The two-part data analysis revealed that the level of HSA contribution selected was positively influenced by the VIDEO treatment for both single-coverage and family-coverage respondents (Table 5). ANOVA analysis revealed that the level of HSA funding selected was positively influenced by high levels of education for both single-coverage and family-coverage respondents. For family-coverage respondents, HSA funding was also higher when respondents self-reported coverage by a high-deductible health plan (Table 6).

Data analysis part 1. The goal in Part 1 of the data analysis was to examine the effect of each treatment on the dependent variable AMOUNT. Single-coverage and family-coverage respondents were examined separately. Each treatment group was examined in comparison to the control group.

As reported in Table 5, an ANOVA with AMOUNT as the dependent variable and treatment method as the independent variable elicited a significant main effect of the VIDEO treatment for family-coverage respondents ($F(1, 60) = 6.37$, $p = .0143$) and single-coverage respondents ($F(1, 64) = 4.09$, $p = .0474$). Family-coverage respondents who viewed the three videos selected a higher AMOUNT level than those in the CONTROL group ($M_{video} = 3.15$, SE = .208 vs. $M_{control} = 2.40$, SE = .215). The difference in

means was similar for single-coverage respondents (M_{video} = 2.86, SE = .209 vs. $M_{control}$ = 2.29, SE = .172). For all respondents, the sample mean of the AMOUNT variable was lower for the MATCH treatment than the control group.

Table 5

Mean and (Standard Error) of AMOUNT by Treatment

	CONTROL	VIDEO	MATCH	OTHER TREATMENTS
	Family-Coverage			
	N=30	N = 32	N = 32	N=159
AMOUNT	2.40	3.15[*] (.208)	2.15 (.181)	
	Single-Coverage			
	N = 37	N = 29	N = 37	N=149
AMOUNT	2.29	2.86[*] (.209)	2.21 (.173)	

Note. The p-value is for the t-test of the difference between the mean for each treatment and the mean for the CONTROL group. *p < .05. The results for OTHER TREATMENTS are not reported in this paper.

Data analysis part 2. The goal of Part 2 of the data analysis was to determine the influence of other independent variables on the amount that respondents stated they would contribute to their HSAs. Two of the additional variables analyzed were COVEREDHDHP and HIGHEDU. Two-Way ANOVA models were utilized with two between-subjects factors. Each independent variable was introduced separately, and single-coverage and family-coverage respondents were analyzed separately. The main effect of the independent variable and the treatments was examined as well as any interaction between the independent variable and the treatments. The interaction was removed from the model when found to be insignificant (p > .05). Table 6 reports the results of the analysis.

For family-coverage respondents, the analysis revealed a significant main effect for COVEREDHDHP. Tukey's HSD test indicated that family-coverage respondents (N=25) who self-reported personal health insurance coverage by an HDHP selected a higher AMOUNT level than those not reporting HDHP coverage ($M_{COVEREDHDHP=1}$ = 3.27, SE = .230 vs. $M_{COVEREDHDHP=0}$ = 2.50, SE = .075).

For family-coverage respondents, the analysis also revealed a significant main effect for HIGHEDU. Tukey's HSD test indicated that family-coverage respondents (N=103) who self-reported a personal education level of at least a bachelor's degree selected a higher AMOUNT level than those reporting a lower education level ($M_{HIGHEDU=1}$ = 2.79, SE = .115 vs. $M_{HIGHEDU=0}$ = 2.42, SE = .094).

For single-coverage respondents, the analysis also revealed a significant main effect for HIGHEDU. Tukey's HSD test indicated that highly-educated single-coverage respondents (N = 126) selected a higher AMOUNT level ($M_{HIGHEDU=1}$ = 2.66, SE = .096 vs. $M_{HIGHEDU=0}$ = 2.21, SE = .097).

Table 6

Part 2: Two-Way ANOVA on AMOUNT

		Family Coverage (N=253)			
Source	df	SS	MS	F	*p*
HIGHEDU	1	8.02	8.02	6.08	.0144[*]
Treatment	7	30.59	4.37	3.31	.0022[*]
Within groups	244	322.33	1.32		
Total	252	359.58			
COVEREDHDHP	1	13.00	13.00	10.00	.0018[*]
Treatment	7	28.68	4.09	3.15	.0033[*]
Within groups	244	317.35	1.30		
Total	252	359.58			
		Single Coverage (N=252)			
Source	df	SS	MS	F	*p*
HIGHEDU	1	12.17	12.17	10.54	.0013[*]
Treatment	7	14.51	2.07	1.80	.0888
Within groups	243	280.57	1.15		
Total	251	311.85			
COVEREDHDHP	1	1.26	1.26	1.05	.3064
Treatment	7	19.75	2.82	2.35	.0242[*]
Within groups	243	291.48	1.19		
Total	251	311.85			

*$p < .05$

Discussion

Each individual enrolled in an HSA plan faces myriad conflicting forces when making the decision to defer the current benefit received from take-home pay to gain future benefit by making HSA contributions. Others have written about the complexity of other savings decisions, such as the decision to defer compensation into a retirement account. Although deciding whether to save for retirement is a complex decision, the HSA contribution decision is even more complex. For example, everyone knows that age increases over time and that, eventually, the ability to work diminishes; therefore, assuming survival into old age, retirement funds will be necessary. However, no individual can be certain about the need for future medical care due to illness or injury. Additional factors that demand consideration when making an HSA contribution decision include (a) that medical expenses are tax deductible outside of an HSA (subject to AGI limitations), (b) the larger 20% penalty for withdrawing HSA funds for non-medical purposes, (c) for those with family coverage, the expected medical expenses of the enrollee as well as other family members, (d) potential dramatic changes to the U.S. health care system, (e) the future of Medicare, Medicaid, and Social Security, (f) additional confusion associated with the dual role of HSAs (health insurance and retirement), and (g) fear of additional paperwork when seeking reimbursement.

These factors deepen the complexity of deciding whether to defer compensation for future benefit. The decision to delay short-term gratification is complex due to (a) current needs to pay for food, shelter, clothing, transportation, and information, (b) uncertainty about future events, (c) confusion about tax benefits and tax laws, (d) the natural inclination to follow the status quo, (e) an individual's degree of future orientation, (f) the inability of many to grasp complex financial concepts due to low numeracy, (g) the degree of help for payment of future expenses anticipated from employers, family members, and the government, (h) anticipated life-expectancy, and (i) expectations about the future of U.S. and global economies. Due to these conflicting forces, which are further exacerbated as family size and health uncertainties increase, the decision to put currently usable funds away in an HSA is exceedingly difficult.

Throughout the duration of this study and many conversations with a wide variety of individuals, a high level of ignorance about health insurance matters was observed. Even some highly educated individuals do not know whether their current health plan qualifies as "high-deductible." Often, consumers think that they have an HSA when they actually have a flexible spending account (FSA). Also, at this time,

many consumers are unemployed or wrestling with the possibility of unemployment. Some consumers might not feel financially able to make HSA contributions. In the current study, at the end of each experiment, respondents were permitted to leave comments. One respondent stated, "I think HSAs are a good thing, and my employer offers one. I don't contribute to one because I need the cash to live on now." To elucidate these sentiments and understand consumer motivation better, further qualitative study is warranted.

VIDEO

The VIDEO treatment was associated with a statistically significant increase in the AMOUNT variable for both single-coverage and family-coverage respondents, supporting H_1. These results confirmed findings from previous research that: (a) increasing consumer education about all aspects of health insurance is likely to lead to better decision making (Domaszewicz et al., 2010; Klug & Chianese, 2010), (b) a good visual that can be seen and heard is persuasive in health communications (Block & Keller, 1997; Moses & Hogg, 2009), and (c) family, friends, and peers are very influential in financial decisions (Beshears et al., 2010; Moses & Hogg, 2009).

The exact reasons for these results remain uncertain. For example, whether the significant increase in HSA funding was due to the extra education/information given in the video clips, some type of emotional connection with the speakers, or both is unknown. Perhaps HSA funding is an "experience good," one whose properties can only be assessed after the good is used (Nelson, 1970); the "experience" of the "peers" in the three video clips might have been more influential than the extra education/information given.

MATCH

Each respondent in the MATCH treatment was offered a 25% employer matching contribution with a $500 maximum annual match. This study proposed that those offered a match would increase their personal HSA contributions (H_2). The exact opposite effect was found. For both single-coverage and family-coverage respondents, the MATCH treatment was associated with a non-significant decrease in the HSA contribution level selected. Possibly, a larger sample size, a larger matching percentage, and/or a larger maximum match might have produced different and significant results.

The results for the MATCH treatment are surprising because it seems that consumers struggling to make ends meet would embrace more income. However, respondents might have viewed the HSA strictly as a fund for health care spending; accordingly, the respondents might have seen the employer match as an opportunity to contribute less of their own income. This logic could explain the decrease in contribution level selected by the respondents in the MATCH treatment group. Interestingly, researchers have found that employees are more hesitant to spend HSA funds than health reimbursement arrangement (HRA) funds, which are contributed by the employer alone (Aetna, 2010). Lo Sasso, Helmchen, and Kaestner (2010) found that the marginal employer contribution to spending accounts (predominantly HRAs) was entirely spent on outpatient and pharmacy services. If the employer contributes funds and the employee is more comfortable spending funds that come directly from the employer, the employee might feel less need to make personal contributions. The hypothesis in this study was based upon a review of studies about 401(k) funding. Employer matching appears to increase personal 401(k) contributions (Engelhardt & Kumar, 2007). However, an HSA is quite different from a 401(k). A 401(k) is strictly a savings account for future retirement expenses whereas HSA funds might be needed almost immediately for current health care spending. In fact, an HSA might be more accurately named a "health spending account" because it is not strictly a savings account.

Effect of Independent Variables

Both single-coverage and family-coverage respondents who reported having earned at least a bachelor's degree were associated with a significantly higher level of HSA funding. Therefore, not only did an attempt to educate consumers via the VIDEO treatment produce significantly improved results, but higher education levels in general were also associated with a significantly higher level of HSA funding. The results of this study clearly point toward the importance of consumer education. Family-coverage respondents who reported having personal coverage by an HDHP were associated with a significantly higher level of personal HSA contributions. This correlation could be due to higher levels of experiential knowledge. In other words, many of these respondents had personally experienced the need for HSA funds in order to pay the high deductible associated with their health insurance plans.

Policy Implications

The findings of the current study represent an important contribution to the knowledge about factors that motivate consumers to make personal HSA contributions. Consumers are learning to trust the online rating of peers before making a decision, whether that decision is to buy a certain shampoo or to enroll in a course taught by a certain professor. One important implication of the current study is that employer efforts to educate consumers about the benefits of making personal HSA contributions using peer testimonials that can be seen and heard are likely to increase the level of said contributions. This study, along with future studies designed to clarify HSA funding motivations, could help employers choose to invest in the relatively low-cost option of educating employees about the benefits of making personal HSA contributions. This low-cost option for employers could help achieve the desire stated by one survey respondent: "Let's make health care affordable for everyone."

Invest in education. In this study, the extra effort to educate respondents about the benefits of HSA funding was associated with a significant increase in the hypothetical funding level selected. In addition, among all 505 respondents, those who reported having earned at least a bachelor's degree chose a significantly higher level of HSA funding. Also, family-coverage respondents with the experiential knowledge of actually being enrolled in a high-deductible health plan chose a higher level of funding. These combined factors suggest that efforts to educate consumers, both specifically about the benefits of HSA funding and in general, are likely to increase the level of funding selected. Therefore, policy makers should continue to stress the importance of both consumer education programs and higher education in general.

Limitations

The main weakness of this study is that it gathered data from hypothetical decision making. The respondents might have made different decisions in "real life." However, this weakness is overpowered by the fact that, as required by experimental design, respondents were randomly assigned to treatment groups. Theoretically, the only difference between respondents in each treatment group and the CONTROL group was the treatment itself. This feature of experimental design is what makes the results reliable and why many call an experiment "the gold standard." Other limitations of the study result from the demographic characteristics of the sampled respondents, the preconceived ideas about HSA plans held by respondents, and various imperfections in the information given and the variable design. The nationally representative sample might not have truly represented those U.S. citizens who are enrolled in HSA plans. In fact, the sample might have included respondents who will never actually have the option to make personal HSA contributions. However, many employers are beginning to offer only HSA plans to employees (Belz, 2011), thus strengthening the argument for a nationally representative sample.

Future Research

The current study represents an early empirical exploration of factors that motivate HDHP enrollees to make personal HSA contributions. Future research could include the following: (a) a qualitative study designed to deepen the understanding of why some consumers choose to fund an HSA while others hesitate; (b) a replication of the current study using a larger sample size, a higher matching percentage, non-computer-based methodology, or some other variation in the experimental conditions; and (c) a computational analysis designed to discover which consumers benefit the most from making personal HSA contributions.

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