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The Role of Behavioral Economic Factors on Saving Decision: The Case of Gen-Y in Thailand

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Abstract

Thailand has consistently faced the problem of insufficient savings, which can be partly attributed to behavioral economics. This study employs the behavioral life cycle theory to explore how behavioral economic factors, namely self-control and mental accounting, impact the saving decision among young adults in Thailand. The study surveyed 367 Thai Gen-Y individuals and used Tobit regression to estimate the effects of both mainstream and behavioral economic factors on their saving behavior and intentions. The findings indicate that behavioral economic factors affect Thai Gen-Y's saving decisions differently. While mental accounting only influences saving intentions, self-control significantly increases both saving intentions and behaviors. Based on these findings, nudging policies that address self-control problems, such as implementing automatic saving programs, may be effective in improving the saving habits of Thai Gen-Y.

Keywords : Self-Control, Mental Accounting, Saving, Generation Y

Introduction

Insufficiency of saving has long been a problem in Thailand, at both the household and the national levels. In 2011, the saving rate of Thai households was only 11% of their monthly income and still quickly declined to 6.4% in 2019 (SCBEIC, 2020). Compared to Thai Gen-X, the saving rate of Thai Gen-Y was approximately 10% lower (Amornvivat et al., 2014). This is because Thai Gen-Y had a higher propensity to spend than previous Gens at a similar age (Amornvivat et al., 2014). According to ThaiHealth (2016), 45% of Thai Gen-Y had spending that exceeded income and only 50% of them had saving. In addition, 45% of them reported that their debt payments were a significant burden. As saving is a challenge for Gen-Y and it is important to accumulate saving early in the life cycle, this study analyzes the factors that influence the saving decision of Gen-Y in Thailand and offers policy suggestions that could help mitigate the savings issue.

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Mainstream economic theories and many empirical studies are largely based on the life-cycle model (Ando & Modigliani, 1963) that describes the spending and saving behavior of individuals over a lifetime. According to this model, the main factors that influence saving behavior are socioeconomic characteristics such as age, marital status, education level, presence of children, and monthly income (Nyhus & Webley, 2001; Harris et al., 2002; Rha et al., 2006; Yao et al., 2015).

In addition to the mainstream factors, research has found that behavioral factors also affect saving behaviors and the behavioral life cycle theory was developed as an extension of the mainstream life cycle theory (Shefrin & Thaler, 1988). The behavioral life cycle theory proposes that saving behavior is influenced by two important factors: self-control and mental accounting. Self-control involves an individual's capacity to manage their thoughts, emotions, and actions to reach a particular objective (Thaler, 1988), while mental accounting refers to the psychological mechanism by which individuals divide their money into separate accounts based on factors like the origin, purpose, or timing of the funds (Thaler, 1998). These factors can shape how individuals perceive and decide on their savings.

When it comes to saving behaviors among Gen-Y, previous studies have confirmed that both mainstream and behavioral economic factors such as education, income, and self-control have positive effects (Thung et al., 2012; Rutsaikaew et al., 2014; Widyastuti et al., 2016; Ladsaart et al., 2018; Sakaew, 2021).

The measurement of saving is crucial, and prior studies have employed various approaches to measure both saving intention and behavior. Saving intention can be assessed through hypothetical questions (Burke, 2018; Beshears et al., 2020) or by evaluating respondents' level of intention through a set of questions (Satsios et al., 2020). Saving behavior can be measured through individuals' actual saving flow, such as monthly savings (Rha et al., 2006; Fisher, 2010), or their saving stock, such as their current saving level (NSO, 2020)

Previous studies have shown that factors determining saving can vary for different measures of saving. Ladsaart (2018) found that self-control and educational level directly affect attitude toward saving but not saving behavior. Kitchon and Lakawathana (2018) observed that financial literacy, married, and male affect the size of saving but not attitude toward saving; while age, educational level. and income affect attitude toward saving but not size of saving. Widyastuti et al. (2016) provided a piece of evidence that financial literacy affects saving behavior but not saving intention and attitude towards saving.

Therefore, the objective of this research is to investigate how mainstream and behavioral factors, as per the behavioral life-cycle theory, contribute to the saving intention and behavior of Thai Gen-Y individuals. The findings of this study will help identify the critical factors that influence both the intention to save and actual saving

behavior. The understanding in the intention-and-behavior gap is essential for effective policy design, as it might require a set of policies to both motivate people to save more and follow through on their saving plans.

Objectives

To examine mainstream and behavioral economic factors that influence saving intention and behavior of Gen-Y individuals in Thailand.

Literature Reviews

Life Cycle Hypothesis

Modigliani and Brumberg (1954) initially proposed the life cycle hypothesis of intertemporal consumption to explain aggregate consumption and saving, and it is still commonly applied to comprehend family saving habits today. This theory states that consumers optimize utility by selecting the best amount of consumption based on their preferences and the resources that are currently and potentially available. Additionally, the life cycle hypothesis assumes that individuals plan their spending over their lifetimes, taking into account their future income. Therefore, individuals have two choices: taking on debt to spend money now or saving money for their future.

Behavioral Life Cycle Hypothesis

Although the life cycle theory is still popularly used by economists to explain saving behaviors, some economic psychologists have argued that this theory is inadequate. It has been criticized for failing to incorporate psychological concepts such as thriftiness and refraining from consumption (Warneryd, 1989). The behavioral life-cycle hypothesis (BLC), first proposed by Shefrin and Thaler (1988), incorporates three important behavioral features claimed to be missing in the economic analyses of household saving: self-control, mental accounting, and framing. The BLC hypothesis assumes that "self-control is costly, and that economic agents will use various devices, such as pension plans, to deal with the difficulties of postponing a significant portion of their consumption until retirement" (Shefrin & Thaler, 1988). Shefrin and Thaler proposed a dual preference framework in which both planner (long-term) and doer (short-term) preferences exist within a person. Because the willpower to save is costly, the planner may seek techniques for achieving self-control, which include having rules and mental accounting. The idea of having saving rules is consistent with earlier thoughts of Strotz (1955) who proposed that people use external mechanisms, such as precommitment, to impose self-control. Although advocates of the BLC argue that behavioral variables such as self-control and mental accounting should be included in models of saving behavior, few empirical studies have been undertaken. The lack of empirical studies may be due to the lack of nationally representative data sets that

include good information on both household financial information and these important behavioral variables.

Determinants of Saving Behaviors

According to the behavioral life cycle hypothesis and related literature review, factors like self-control and mental accounting have a positive effect on saving behavior (Thaler, 1998; Rha et al., 2006; Rutsaikaew et al., 2014; Ladsaart et al., 2018; Muehlbacher & Kirchler, 2019).

In addition, socioeconomic factors also affect saving behaviors. Specifically, age, education, being male, and income have positive effects on saving behavior (Lindqvist, 1981; Harris et al., 2002; Rha et al., 2006; Fisher, 2010; Grossbard & Pereira, 2010; Qiao, 2012; Yao et al., 2015; Mokkaraphand, 2018; Allport et al., 2019; Sakaew, 2021). Moreover, the number of family members, and number of children have negative effects on saving behavior (Rha et al., 2006; Curtis et al., 2015; Ge et al., 2018).

Moreover, several research works found that saving decisions may differ between genders. Most findings found that females save more money than males (Fisher, 2010; Mokkaraphand, 2018; Allport et al., 2019; Sakaew, 2021). However, some study revealed that males are better at risk management, make more money than females, and then save more money than females (Grossbard & Pereira, 2010; Qiao, 2012). Gender does not have a different effect only in saving behaviors, but also in self-control and mental accounting. Empirically, females were found to be more likely to engage in mental accounting than males (Antonides et al., 2011; Muehlbacher et al., 2017; Muehlbacher & Kirchler, 2019). For self-control, empirical studies have given mixed results on gender differences but more of them reported that females are more self-controlled than males (Gibson et al., 2010; Hosseini-Kamkar & Bruce Morton, 2014).

Methodology

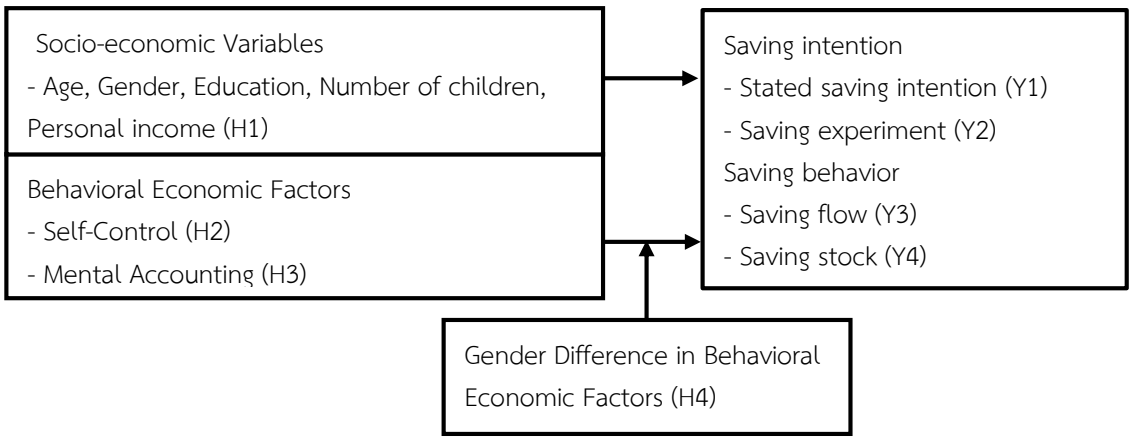

Figure 1 Research Framework

From the behavioral life cycle framework and literature reviews, this study has four hypotheses as follows:

H1: Socio-economic variables including education, age, female, and income have positive impacts on saving behaviors; while having children has negative impacts on saving intention and behaviors.

H2: Self-control has a positive impact on saving intention and behavior.

H3: Mental accounting has a positive impact on saving intention and behavior.

H4: Self-control and mental accounting have a larger effect on females' saving intention and behavior.

The Survey

The survey was collected from Thai Gen-Y aged 22 to 42. Data collection was conducted for three months, from May 2021 to August 2022. A sample of 367 people was obtained through an online Google form.

The questionnaire used in this survey composes of 4 parts including (1) screening questions for Gen-Y, (2) saving intention and behavior, (3) self-control and mental accounting and (4) socio-economic questions.

Variable Measurement

From the conceptual framework, we have two groups of saving behaviors to analyze in this paper, including saving intention and saving behavior. In saving intention, we have stated saving intention and saving experiment. In saving behavior, we have saving flow and saving stock.

1. **Saving Variables**

Saving Intention

For stated saving intention, we made an inquiry following Satsios et al. (2020), with four question items to be interpreted by using the five-point Likert-scale method. The higher the score the subjects assign (close to 5), the more intention toward saving they have. The details for these questions are as follows: 1. I always try to pick saving schemes that yield high profits. 2. It is always important to save as much as possible. 3. It is important to have some money left at the end of the month. 4. Saving should be encouraged in today's society. (Satsios et al., 2020).

Saving experiment was collected by the hypothetic scenario in the following question "If you have an extra income of 10,000 baht and you have the opportunity to deposit this money in a special saving account and have an interest rate of 5% per year, that can be used as many times as you want; how much would you like to deposit from this extra income? (Enter 0-10,000)" (adapted from Burke (2018) and Beshears et al.

(2020)). This question is to evaluate the marginal propensity to save, which is part of the intention to save.

Saving Behavior

Saving flow was collected by this question "If you save money regularly, how much do you save on average each month? (baht per month)". This question is similar to the one in past research undertakings (Rha et al., 2006; Fisher, 2010). It is specific to actual saving behavior and pattern the respondent plans for saving. The data collected from this question will be log-transformed because the data have a high range of values between the maximum and minimum data points.

Saving stock was collected by this question "If you must stop working suddenly and indefinitely or have not received any income; how long will you be able to use your saving to live on (Answer by typing month or year, e.g., 1 year, 3 months)" (NSO, 2020). This question was used in the National Statistical Office of Thailand's saving survey for evaluating the actual total saving people have for a living when they have not received any income. More details for all dependent factors are provided in Table 1.

Table 1 *Descriptive Statistics and Definition of Variables*

Variable		Definition	Descriptive statistics			
			Mean	S.D.	Max	Min
Saving intention						
Y_1	Stated saving intention	Intention toward to saving (five-point Likert-type scale) measurement by the questions from Satsios et al. (2020)	4.18	0.66	5	1.75
Y_2	Saving experiment	Saving experiment measurement by adapting the question from Burke (2018) and Beshears et al. (2020) (answer 0 to 10,000 baht)	5,751	3,504	10,000	0
Saving behavior						
Y_3	ln(Saving flow)	Natural logarithm of recurrent saving (baht per month)	6.07	3.47	10.82	0
Y_4	Saving stock	Number of months that respondents can sustain expenditure without income (months)	10.47	14.85	126	0

2. Self-control and Mental Accounting

Variables from the behavioral economic perspective include self-control and mental accounting. The self-control was measured by the self-control test with 13 questions using the five-point Likert-scale (Rosenbaum, 1980; Tangney et al., 2004). More details about questions for self-control are provided in Table 2.

Table 2 *Five-point Likert-scale Questions for Self-control Measurement*

1. I am good at resisting temptation.
2. I have a hard time breaking bad habit. (R)
3. I am lazy. (R)
4. I say inappropriate things. (R)
5. I do certain things that are bad for me, if they are fun. (R)
6. I refuse things that are bad for me.
7. I wish I had more self-discipline. (R)
8. People would say that I have iron self-discipline.
9. Pleasure and fun sometimes keep me from getting work done. (R)
10. I have trouble concentrating. (R)
11. I am able to work effectively toward long-term goals.
12. Sometimes I can't stop myself from doing something, even if I know it is wrong. (R)
13. I often act without thinking through all the alternatives. (R)

Note: For the Likert-scale, 1=strongly disagree and 5=strongly agree. For reversed items (R), 1=strongly agree and 5=strongly disagree.

Source: Tangney et al. (2004).

For mental accounting, we adopted Muehlbacher and Kirchler (2019)'s 5 question items to be interpreted using the five-point Likert-scale method. The higher the score the subjects assign (close to 5), the more mental accounting they have i.e., the degree to which mental accounting is applied to keep an overview of expense smooth in their mind. More details about questions for mental accounting are provided in Table 3, and the descriptive statistics for the behavioral economic factors are in Table 4.

Table 3 *Five-point Likert-scale Questions for Mental Accounting Measurement*

1. It is important to me to keep track of my financial activities precisely.
2. I keep a record of my earnings and expenses.
3. I could at least say roughly how much I have spent this month
4. I classify my expenses into different categories (e.g., clothing, entertainment, education.)
5. Generally, I am someone other would describe as "well organized"

Note: For the Likert-scale, 1=strongly disagree and 5=strongly agree.

Source: Muehlbacher and Kirchler. (2019).

Table 4 *Descriptive Statistics and Definition of Variables*

Variable	Definition	Descriptive statistics			
		Mean	S.D.	Max	Min
Self-control	Self-control is the ability to control behavior in order to avoid temptations and to achieve goals. In behavioral, economics self-control is the concept of individual intertemporal choice and conflict by a planner and a myopic doer to choose. (Thaler, 1988)	3.35	0.58	4.62	1.77
Mental accounting	Mental accounting is the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities (Thaler, 1998), or prefer the different values a person places on the same amount of money based on subjective criteria.	3.77	0.72	5	1

3. Socio-economic Variables

Socio-economic variables are often used as background information for research and thus the questions in this study are basic and straightforward. More details about the social-economic-demographic features are provided in Table 5.

Table 5 *Descriptive Statistics and Definition of Variables*

Variable	Definition	Descriptive statistics			
		Mean	S.D.	Max	Min
Male	Dummy variable for male	0.38	0.48	1	0
Age	Age (years old)	29.52	5.98	42	22
Education	Education (years)	16.10	1.33	18	9
Income	Personal income (bath per month)	24,133	25,821	400,000	0
Children	Dummy variable for having children (aged below 15)	0.38	0.67	4	0

Empirical Model

This research examines the effects of mainstream and behavioral factors on saving intention and behavior. The Tobit model is selected as more than 20% of the data has zero value (Mekbunditkul et al., 2017). The regression equation is as follows:

$$Y_s = \beta_0 + \beta_1 SC + \beta_2 MA + X\gamma + \delta_1 SC \cdot Male + \delta_2 MA \cdot Male + \epsilon,$$

where Y_s is a generic term for the different measurements of saving (Y_1 is stated saving intention, Y_2 is saving experiment, Y_3 is saving flow, Y_4 is saving stock), SC is self-control, MA is mental accounting, X corresponds to the socio-demographic variables including male, age, education, income, children. As the effects of self-control and mental accounting on savings may differ between gender, the interaction terms between self-

control and male $(SC \cdot Male)$ and mental accounting and male $(MA \cdot Male)$ are also added.

Results and Discussion

1. Saving Intention and Behavior

From the survey, it was found that Thai Gen-Ys had high intension to save based on the score of 4.18/5.00 from Satsios et al. (2020)'s saving intention test (Y_1). For the saving experiment, respondents were willing to save more than 50% of the increased income (Y_2). For the actual saving behaviors, Thai Gen-Ys saved 432.68 bath per month on the average (Y_3). With their savings, they can sustain their consumption for 10.47 months if they must stop working suddenly and indefinitely or have not received any income (Y4).

For the relationships among different saving measures, Table 6 show positive and significant correlations among all saving measures except for the pair of stated saving intention and saving stock**.** This shows consistency among all saving measurements and supports the theory of planned behavior that intention determines behavior (Ajzen, 1985).

Table 6 *Correlation Coefficients of Saving Variables.*

Dependent variable		Saving intention		Saving behavior	
		Y_1 (Stated saving intention)	Y_2 (Saving experiment)	Y_3 (Saving flow)	Y_4 (Saving stock)
Saving intention	Y_1 (Stated saving intention)	1.00			
	Y_2 (Saving experiment)	0.16***	1.00		
Saving behavior	Y_3 (Saving flow)	0.17***	0.17***	1.00	
	Y_4 (Saving stock)	0.06	0.12**	0.16***	1.00

Note: Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

2. Factors Determining Saving Intention and Behavior

To examine factors determining saving decision of Gen-Y in Thailand, this study uses the Tobit regressions to estimate how self-control, mental accounting and socio-economic factors affect Gen-Y 's saving decisions with four saving measures including stated saving intention, saving experiment, saving flow and saving stock.

Table 7 presents the results of Tobit regression estimating the effects of behavioral and socioeconomic factors on saving decisions with four saving measures. For the behavioral factors, this study found that both the self-control and mental accounting factors have significant effects on some saving measures, but not all. Specifically, self-control positively and significantly affects stated saving intention, saving experiment, and

saving flow, but not saving stock. This indicates that self-control affects the intention to save, as well as short-run saving decisions. The results are consistent with previous research findings. Specifically, there are studies that show that self-control affects saving intention using both the stated preference measure (Rabinovich & Webley, 2007; Thung et al., 2012; Ladsaart et al., 2018) and the experiment method (Beshears et al., 2015; Beshears et al., 2020; John, 2020). Moreover, literature also shows that self-control also affects saving flow (Rha et al., 2006; Fisher, 2010). However, our result does not show that self-control significantly affects the accumulated financial assets. This may be because this study only examines the saving of those Gen-Y who are relatively young. Thus, there is not much variation in the saving stock. Only 15.8% of the samples have saving that can sustain their consumption for longer than one year. Additionally, our results show that the effect of self-control on saving flow differs by gender. A test was performed to determine whether the coefficients of self-control and its gender interaction term were equal. The result shows that the coefficients are not statistically different indicating that self-control has a significant positive effect on female monthly saving, but no significant effect on that of male.

Table 7 *Tobit Regression Analysis of Saving Variables.*

VARIABLES	Y_1 (Stated saving intention)		Y_2 (Saving experiment)		Y_3 (Saving flow)		Y_4 (Saving stock)	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Male	-0.21***	-0.31	-0.02	-0.61	-0.28	1.87	0.86	-14.32
	(0.07)	(0.46)	(0.07)	(0.43)	(0.50)	(3.52)	(1.77)	(10.07)
Years of	0.04	0.04	0.03	0.03	0.10	0.10	1.07*	1.07*
education	(0.03)	(0.03)	(0.03)	(0.03)	(0.18)	(0.18)	(0.57)	(0.57)
ln(income)	0.01	0.01	-0.02	-0.02	0.69***	0.71***	1.31***	1.34***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.19)	(0.18)	(0.39)	(0.40)
Dummy for	-0.05	-0.05	-0.03	-0.03	-0.957*	-0.957*	-0.38	-0.32
children	(0.07)	(0.07)	(0.06)	(0.06)	(0.51)	(0.51)	(1.97)	(1.96)
SC	0.19***	0.24***	0.11**	0.11*	0.90**	1.49***	1.42	0.65
	(0.06)	(0.07)	(0.05)	(0.06)	(0.40)	(0.50)	(1.33)	(1.90)
MA	0.20***	0.13**	-0.03	-0.10*	0.58	0.25	0.73	-0.40
	(0.05)	(0.06)	(0.04)	(0.06)	(0.38)	(0.49)	(1.11)	(1.70)
Interaction		-0.14		-0.01		-1.59**		1.90
(Male x SC)		(0.12)		(0.11)		(0.80)		(2.50)
Interaction		0.15		0.16*		0.82		2.38
(Male x MA)		(0.09)		(0.09)		(0.74)		(2.10)
Constant	2.09***	2.16***	0.15	0.43	-7.53**	-8.31**	-27.68***	-20.97**
	-0.48	-0.53	-0.46	-0.49	-3.49	-3.75	-8.91	-9.69
Observations	367	367	367	367	367	367	367	367

Note: (1) Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

(2) Models (a) include no interaction term, and Models (b) include interaction terms.

For mental accounting, the results show that mental accounting positively and significantly affects stated saving intention, negatively affects saving experiment and has no significant effect on actual saving behaviors. The results are consistent with previous research findings in that mental accounting affects saving intention (Xiao & Olson, 1993; Thaler, 1998). However, we found that mental accounting has a negative effect on the saving experiment variable, which asks "If you have an extra income of 10,000 baht and you have the opportunity to deposit this money in a special saving account and have an interest rate of 5% per year, that can be used as many times as you want; how much would you like to deposit from this extra income? (Enter 0-10,000)". This may be because the respondents may treat the additional income as a windfall or unexpected income. Those with a higher level of mental accounting are more likely to spend the windfall money on consumption compared to money from other sources of income (Arkes et al., 1994; Hodge & Mason, 1995).

Additionally, the effect of mental accounting on the intention to save in the saving experiment differs between males and females. Similar to the case of self-control, a test was performed to determine whether the coefficients of mental accounting and its gender interaction term were equal. The result shows that the coefficients are not statistically different indicating that mental accounting has a significant negative effect on the intention to save of female, but no significant effect on that of male. The gender difference may be due to the windfall effect, which affects how women spend their money more than men. (Carlsson, 2010).

For the effect of mental accounting on actual saving behaviors, our results show a positive but not significant effect. That is, mental accounting only affects saving intention, but not actual behavior.

Regarding demographic and socio-economic factors, the results show that male Gen-Y has lower saving intention, but not actual saving behavior, compared to females. Income, education, and having children are factors that significantly affect actual saving behaviors. For the saving flow, the results show that individual income has a positive effect, and having children has a negative effect. This is consistent with the literature as a higher income allows each individual to save more and children increase household expenditures (Lindqvist, 1981; Harris et al., 2002; Rha et al., 2006; Curtis et al., 2015; Yao et al., 2015; Ge et al., 2018). For saving stock, individuals with higher income and education are more likely to accumulate more financial assets. This is consistent with previous research results which reveal higher education enables one to accumulate more financial assets (Rha et al., 2006; Fisher, 2010; Ladsaart et al., 2018).

Conclusion and Implication

This study uses the behavioral life-cycle theory framework and the Tobit model to investigate how self-control, mental accounting, and demographic background influence the saving decisions and behaviors of Gen-Y individuals in Thailand. Four measures are used to assess these factors, including two types of saving intentions (stated and hypothetical saving) and two types of actual saving behaviors (monthly and accumulated saving). Among the four models analyzed, self-control is identified as the significant factor that positively influences saving behavior among Gen-Y individuals. In addition, income, years of education, and mental accounting are also key determinants. On the other hand, having children is found to have a negative effect on saving behavior.

The factors that influence saving behavior can differ between intention to save and actual saving behavior. For instance, while mental accounting only affects an individual's intention to save and not their actual saving behavior, self-control was found to increase both saving intention and behavior significantly. These results are consistent with previous research studies, which also found that some factors only affect intention while others affect actual saving behavior (Widyastuti et al., 2016; Kitchon & Lakawathana, 2018; Ladsaart, 2018).

A key limitation of this research is that it was conducted in the situation of Covid-19. Thus, the survey was collected online and had no direct inquiry from respondents. Moreover, all questions were self-reported and some questions, namely saving intention, self-control, and mental accounting, were self-evaluated. This could cause some response biases. For example, they may provide socially desirable responses, exaggerate or under-report certain behaviors, or misinterpret the questions (Tourangeau & Yan, 2007). Additionally, since various factors can influence the decision to save and some can potentially lead to the omitted variable bias, more controlled variables such as debt and necessary expenses in the model can be added in the model.

Notwithstanding the limitations, this study confirms that behavioral economic variables and some socioeconomic variables influence saving variables and that the effects are different for different measures of saving behavior. Since self-control is the most effective variable to influence savings behavior in Gen-Y, some mechanisms can help to increase individual savings behavior, such as an automatic savings program (Thaler, 2004; Beshears et al., 2006). Although mental accounting cannot influence savings behavior, it can influence savings intention. Therefore, interventions that promote mental accounting together with self-control, such as a system that nudge individuals to keep multiple accounts for each specific savings purpose, can further stimulate saving behavior (Rabinovich & Webley, 2007).

Ethical Considerations

The authors declared no potential conflicts of interest with respect to the research, authorship, and/ or publication of this article. All subjects participated voluntarily and provided their online consent to participate in this study. Ethical approval for this study was waived by the Chiang Mai University Research Ethics Committee (COE No. 023/65).

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