Kasetsart Journal of Social Sciences

Dark personality impacts on saving and spending attitudes: A multi-group analysis between self-support and loan students

Chinun Boonroungrut[a],*, Huang Fei[b], Sasitorn Dechprom[c]

[a] *Faculty of Education, Silpakorn University, Nakorn Pathom 73000, Thailand*
[b] *School of Psychology, Central China Normal University, Wuhan 430079, PR. China*
[c] *Puey Ungphakorn School of Development Studies, Thammasart University, Bangkok 12120, Thailand*

Article Info

Abstract

This research explored differences and compared the influences of the Dark Triad personality, Machiavellianism (MACH), Narcissism (NAR) and Psychopathy (PSY), towards saving and spending attitudes between self-support and loan students. The randomly selected 610 Thai undergraduate students completed the measures namely Saving Behavior Scale and Short Dark Triad Thai Version (SD3-TH). The Structural Equation Modeling with a multi-group analysis was applied to compare the differences across groups. The present findings revealed that spending attitudes shared the highest positive correlation with PSY in a loan student group. Spending attitude in self-support students was predicted significantly by all positive Dark Triad traits; however, spending attitude in loan students was predicted by only positive MACH and PSY. On the other hand, saving attitude showed a moderately strong relationship with MACH which significantly predicted the same in both groups of students. Based on the present findings, MACH generalizability benefits in saving attitude and PSY shows the possibility to define potentially risk spending intention across two groups of students.

© 2020 Kasetsart University.

Introduction

Understanding the individuals' financial behavior is a necessity for economists and policymakers (Cronqvist & Siegel, 2010). Several studies on children's saving behavior find that it formed as a function of parental requests, and it seemed to be understood as legitimate and rewarded (Furnham, 1999). Practically in personal money management, two main broad saving and spending remedies are to increase saving or to discount any excess. (Frederick, Novemsky, Wang, Dhar, & Nowlis, 2009; Hershfield et al., 2011; Ho, Lim, & Camerer, 2006). Firstly, pre-commitment limits the present undesirable behaviors towards starting to save for a later day. In this direction, the desirable behaviors could be promoted for their future planning. Some retirement plans implied pre-commitment concept to save for future income. Secondly, increasing the appeal of time to spend or wait to enjoy future spending leads people to look forward to imagining their future use of money and investment. People with impulse control issues like spending may face difficulties with limiting present spending in order to ensure a positive future. In this case, intertemporal encouraging with financial interventions could share effect in elaboration potentially on the future outcome (Weber et al., 2007).

Although we have already discovered that there is a relationship between saving and spending attitudes, it is an apple and orange issue. Some spending motives play a more immediate role than the motive to save. With saving there is the option to postpone, and this postponement is always repeated (Watson, 2003). Moreover, saving behavior seems to be a process, not an event. When limit or discount expenditure

cannot explain saving absolutely, their causal sequences are still questioned. With this complex issue, studies have found no set priority marker between saving and spending. Thus, the hypothesis was raised to examine underlying interrelations that might be influenced from a dark side of human namely 'Dark Triad' personality.

Literature Review

Brief Understanding of Saving Behavior in Students

Although literature of students' financial behavior is limited in gender and major differences, it is firmly known that the saving ability might evolve significantly from the pre-school stage with the children family background in both saving and spending behaviors; this shows that genetic predispositions and social transmission both play a key role. Students who learn some subjects related management indicated more skill in decreased risk to be indebted in the future. Since the last decade, young students have tended to learn more about saving advantage such as future investment. While a perceived allowance might facilitate the development of monetary competence, saving money in a bank is productive and defensive. It is recognized as an effective form of students' money management starter. In addition, saving can be defined by the quality of behavior found within present and future consumption patterns. Assessing any choice alternative also shows significant influence on students decision-making on the difference values of their spending (Argyle & Furnham, 2013; Sonuga-Barke & Webley, 1993).

Dark Triad and Financial Misbehavior

The Dark Triad personality of humans refers to 3 traits together: strategic Machiavellianism (MACH), overconfident Narcissism (NAR) and reckless Psychopathy (PSY) (Paulhus & Williams, 2002). Past studies found an association among these traits with stealing, cheating and fraud. Some traits such as NAR and PSY showed misbehavior especially in power and a growing illegitimate financial behavior problem called White Collar Crime (Jones, 2014). Theoretically, the 3 unique traits predict different outcomes although several studies pointed out that MACH and PSY contents overlap each other including the first study in Thai university students context (Boonroungrut & Huang, 2018). MACH shared high ability in planning and strategic selfishness in long-term gains more than the other two. MACH values money more and takes benefits from others when there is maximal gain with minimal risk; however, MACH showed more significant advantage in beneficial finance behavior than the other two. NAR was explained by callous manipulation, egotism, grandiosity and entitlement. Overconfidence and unrealistic optimism drives NAR to face repeated risk to be indebted because of feeling of entitlement to things they want. Individuals with high NAR made risky investments nominated by their underlying impulsivity. High PSY persons exhibit reckless impulsivity which is regarded as a threat of consequent risk on working team and financial investment. Several studies on spending on gambling raised some cues that high PSY

person is associated with risk in someone's spending, and PSY and NAR individuals always lose more than MACH (Babiak, Neumann, & Hare, 2010; Boonroungrut & Oo, 2017; Jones, 2013, 2014).

This study was designed to compare monetary attitudes between self-support students and loan students who have in-debt status after graduation. The questions this present research seeks to address are: (i) Are there significant differences in Dark Triad, saving and spending attitudes between self-support and loan students? (ii) How significant does Dark Triad predict saving and spending attitudes between those two groups of students?

Methodology

Participants

A total of 610 Thai undergraduate students were randomly selected from 3 public and 3 private universities in Bangkok and Nakorn Pathom provinces during the beginning of 2018. All participants submitted the answer via online platform in their university computer centers. They were 58 percent female, ages ranged between 17 to 38 years ($M = 19.60$, $SD = 3.39$), 68 percent self-support students, 32 percent loan students, 56.4 percent from Languages and Arts, 13.2 percent from Management Sciences, Economics and Politics and others from Mathematics and Sciences.

Measures

Saving Behavior Scale was adopted in this study. The 17-item questionnaire applies 5-Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Three attitudinal components consist of 6-item on saving, 3-item on indifference (not included in the present study) and 8-item on spending. The example items are "I will save money only when I want to buy something in the near future." and "I sometimes enjoy shopping." The reliability was at .69, .73 and .64 respectively (Sereetrakul, 2014; Sereetrakul, Wongveeravuti, & Likitapiwat, 2013).

The Dark Triad was measured by Thai Short Dark Triad (SD3-TH). The 15-item scale was reconstructed from the original 27 items questioning on human dark personality traits. The SD3-TH revised some items in MACH and PSY subscales; however, it still covered 3 components of the Dark Triad as the original English version with good psychometric properties testing among Thai university students. The reliability was at .87, .73 and 0.80 respectively (Boonroungrut & Huang, 2018).

Data Analysis and Goodness of Fit Criteria

Notably, all analysis was performed using Maximum Likelihood estimation with the built-in Structural Equation Modeling (SEM) in AMOS 24 together with SPSS 23. The overall goodness-of-fit criteria were judged under these conditions: CFI and GFI greater than .90 and RMSEA around .06 or lower expected value. The hypothesized model could fit with the observed data with a desire for nonsignificant χ^2 value. A χ^2/df could not vary or be lower than 3, better with ≤

2 (Byars-Winston, Estrada, Howard, Davis, & Zalapa, 2010). In this study, the baseline model consists of a structural model described by all observed variables, so it could be measured with the group equity assumptions at least or starts up with equal structural weight, equal structural covariance and equal structural residuals across the groups.

Results

Preliminary Analysis

In the common method variance checking according to the review of Podsakoff, MacKenzie, Lee, and Podsakoff (2003), a single-factor method approach with un-rotated solution determined only 31.64 percent of the variance. It revealed that no score was influenced by this form of bias. The Inspection of the skewness values declared the acceptable symmetric distribution in all measures ranging between -.43 in saving to .43 in MACH and kurtosis ranging between -.43 in PSY and .65 in spending. The multivariate outliers were removed by Mahalanobis' distance at critical alpha values at .01. The variance inflation factors indicated lower than 2.0. Besides, no extremely high bivariate correlations between constructs in both groups of students are as shown in Table 1. Additionally, all measures of the entire samples had satisfactory levels of reliability with above .81. The correlation analysis presented the same in both groups of students. Saving showed the highest correlation with MACH at .55 in self-support group and .52 in loan group, and spending showed the highest correlation with PSY at .52 in self-support group and .66 in loan group.

As indicated in Table 2, the measure mean scores were differences between two groups of students in which loan students were higher in saving, spending, MACH and NAR, but self-support students were higher in PSY significantly.

Test of hypothesized model for the Combined Samples

A baseline model was created to examine the hypothesized relationships, and it showed the overall structure model fits were critiqued with a significant level: $\chi^2 = 4.80$, $\chi^2/df = 4.80$, CFI = .99, GFI = .99, RMSEA = .11. Notably, the scalar estimation specified potentially a problem insignificant path between NAR and saving. After removing, the model was a better fit with the data that declared these followed determined insignificant criteria at .05 level: $\chi^2 = 4.80$, $\chi^2/df = 2.40$, CFI = .99, GFI = .99, RMSEA = .06. All paths were significantly predictive causal. Saving attitude was significantly predicted positively by MACH and NAR and negatively by PSY determining $R^2 = .43$. Spending attitude was significantly predicted positively by MACH and NAR and PSY determining $R^2 = .31$.

Comparison of Self-support and Loan Status Groups

In the multiple-group analysis, five structural paths were assessed as illustrated in Figure 1. Two multiple-group models were examined: the first model could vary between groups indicating different structural paths; the other model was constrained to be equal. The results of the model which was allowed to vary showed that the model fit indices with insignificant presence to the data: $\chi^2 = 8.55$, $\chi^2/df = 2.14$, CFI = .99, GFI = .98, RMSEA = .06. The test of the model which constrained all paths to be equal provided these fitness indices: $\chi^2 = 19.27$, $\chi^2/df = 2.75$, CFI = .99, GFI = .97, RMSEA = .07. The inspection showed the differences between these two above mentioned models level, $\Delta\chi^2(3) = 10.66$. It indicated that the structural coefficients were indeed significantly different at the model level between groups. So, each path difference was followed-up. A series of five χ^2 difference tests examined the significant differences as shown in Table 3, which declared one coefficient in the path MACH to saving was held invariant across two groups of students.

Table 1 Inter-correlations and reliability of the measures between two groups of students

Variables	Saving	Spending	MACH	NAR	PSY	α Self-Support
Saving	-	.17*	.55**	.24**	.30**	.91
Spending	.14	-	.46**	.49**	.52**	.82
MACH	.49**	.31**	-	.44**	.44**	.79
NAR	.34**	.41**	.76**	-	.58**	.89
PSY	.09	.66**	.51**	.78**	-	.86
α Loan	.87	.85	.80	.85	.95	-

Note: **$p < .01$.

Table 2 Saving Behavior and Dark Triad Differences Between Self-Support and Loan Students

	Self-Support		Loan		t	p
	M	*SD*	*M*	*SD*		
Saving Attitudes						
Saving	3.55	.89	4.03	.75	-4.94	.000**
Spending	2.91	.70	3.27	.86	-3.61	.000**
Short Dark Triad (SD3-TH)						
MACH	3.19	.72	3.58	.82	-4.00	.000**
NAR	2.92	.83	3.21	.84	-2.79	.006**
PSY	2.89	.88	2.63	1.19	2.09	.037*

Note: *$p < .05$. **$p < .01$.
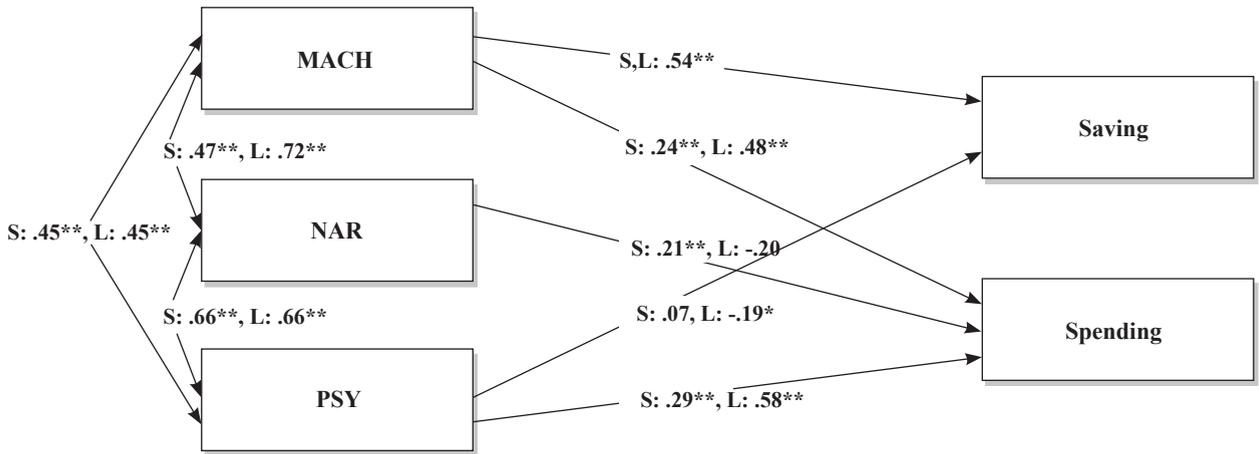
Figure 1   Standardized coefficients presenting for S; self-support and L; loan
Note: S,L; no difference between groups, $*p < .05.$ $**p < .01.$

Table 3   Summary of Multi-Groups Analysis

Paths	Self-Support				Loan				Δ χ^2/df [a]	Z score
	Est.	*SE*	CR	Beta	Est.	*SE*	CR	Beta		
MACH										
⇒ Saving	.64	.08	8.09**	.53	.54	.08	6.12**	.47	.38	- .87
⇒ Spending	.23	.06	3.85**	.24	.50	.11	4.61**	.48	4.06*	2.14**
NAR										
⇒ Spending	.19	.05	3.10**	.21	-.22	.14	-1.58	-.20	5.73*	-2.61**
PSY										
⇒ Saving	.07	.06	1.20	.10	-.18	.06	-2.19*	-.20	5.60*	-2.38**
⇒ Spending	.29	.05	4.13**	.28	.58	.07	5.49**	.59	3.83*	1.97**

Note: [a]; corresponding constrained relationship, Est.; estimation value, SE; standard error, CR; critical Ratio. $*p < .05.$ $**p < .01.$

Discussion

The present data provided understanding of the saving & spending attitude differences between self-support and loan students. Interestingly, MACH showed high correlation not only with saving but also spending. Some basic possible explanation might include impulsivity underlying in all Dark Triad traits (Furnham, Richards, & Paulhus, 2013; Paulhus & Williams, 2002), but it could not address clearly how the relationship happened in that way. These interesting findings which emerged in exploration of spending attitude among loan students, similarly to the study of Eichelberger, Mattioli, and Foxhoven (2017) additionally found that those students were not knowledgeable in personal finance especially in complex debt options and long-term spending. Some studies raised the possible evidence that borrowing could be against saving attitudes more than the psychological mechanisms of spending.

Saving and spending can occur together. In this case, it can explain why people save money and wait to enjoy future spending or investment (Choi, Laibson, Madrian, & Metrick, 2005; Griskevicius et al., 2012; Nyhus & Webley, 2001). Within the context of saving behavior, one spending item of the Saving Behavior Scale supports the saving and spending relationship which includes this statement "I will save money only when I want to buy something in the near future."(Sereetrakul, 2014).

Based on the present study, if we regarded this situation of the save for future spending as budgeting planning, the strategic MACH individuals could explain potentially why they shared a positive relationship with both saving and spending attitude. The present findings concluded that higher MACH loan students seem to be reasonable as in the words of Fox, Bartholomae, Letkiewicz, and Montalto (2017). They explained how difficult it would be for those students

to manage to make personal repayment to the loan provider after graduation. This influences the career decision-making among loan students who realized the seriousness of in-debt status after graduation. Although NAR might help an individual to generate a business with higher entrepreneurial attitude than another traits, it also presented close relationship with spending as noted in this study. Remarkably, the financial indifference tended to be higher when individuals received more saving in MACH and NAR (Boonroungrut, Dechporm, Oo, & One, 2018). That might be one of the possible reasons why both MACH and NAR showed positive with spending. If theses above mentioned statements are true, loan students could be more at risk having a future problem with saving because they have started the borrowing cycle. The real situation among Thai loans can be supportive evidence in that more than 50 percent of graduated students, in medical and healthcare fields, who have stable careers showed late outstanding debt status (Chirdchupunseree & Chantuk, 2016).

With respect to a future contribution, this research provided cues on how individuals prioritized either their saving or spending attitudes. It clearly recognized that high MACH and PSY loan students with spending could be considered in any providing money management programs for undergraduate, especially in Thailand, where the almost 66 percent or about 2 million students under The National Student Loan Scheme made overdue repayment or non-repayment after their graduation (Salam, 2018). Based on these findings, although MACH declared advantage in financial management across groups of students, PSY construct shows possibility to be a screening measure to define potentially risk spending behaviors before implementing any financial intervention in the future.

Limitation and Conclusion

There are some implementation limitations which deserve attention. First, the number of self-support students was silently larger than loan students. Second, this study was a cross-sectional design that showed no cause and effect claim. Last, the development of short Dark Triad (Thai version) was psychometrically reconstructed by switching items between MACH and PSY mainly in short-term manipulation issue that might influence monetary attitudes. It is worthy to strengthen future investigation of the original construct; see the measure detail in Jones and Paulhus (2014).

In conclusion, the present findings demonstrated that spending attitude in self-support students was predicted significantly by all positive Dark Triad traits. Spending attitude in loan students was predicted by positive MACH and PSY. Saving attitude in both groups is positively and significantly predicted by MACH. The findings emphasize the recommendation for high PSY students with higher spending, especially in the loan group. Nonetheless, this paper fulfills the literature of the Dark Triad that MACH generalizability benefits in financial management, and PSY shows possibility to define potentially financial risk attitude in spending across two groups of students.

Conflict of Interest

These is no conflict of Interest.

Acknowledgment

References

Argyle, M., & Furnham, A. (2013). *The psychology of money.* New York, NY: Routledge.

Babiak, P., Neumann, C. S., & Hare, R. D. (2010). Corporate psychopathy: Talking the walk. *Behavioral Sciences & the Law, 28*(2), 174–193.

Boonroungrut, C., Dechporm, S., Oo, T. O., & One, K. (2018). A mediation study of human dark personality and the prediction of students' monetary attitudes. *The Journal of Basic and Applied Research, 4*(3), 49–57.

Boonroungrut, C., & Huang, F. (2018). A dark personality traits measurement (Short Dark Triad: SD3-TH) psychometric properties testing of Thai version. *The CMU Journal of Education, 2*(1), 1–17

Boonroungrut, C., & Oo, T. (2017). Dark Triad trends in personality studies: Systematic review with bibliometric network analysis. *Journal of Humanities and Social Sciences Mahasarakarm University, 36*(6), 89–99.

Byars-Winston, A., Estrada, Y., Howard, C., Davis, D., & Zalapa, J. (2010). Influence of social cognitive and ethnic variables on academic goals of underrepresented students in science and engineering: a multiple-groups analysis. *Journal of Counseling Psychology, 57*(2), 205–218.

Chirdchupunseree, H., & Chantuk, T. (2016). The pattern analysis of spending from demand for money of nursing students in private university. *Veridian e-Journal International Humanities, Social Sciences and Arts, 9*(2), 597–609.

Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2005). Saving for retirement on the path of least resistance. *The Journal of Financial Researches, 9*(1), 1–65

Cronqvist, H., & Siegel, S. (2010). The origins of savings behavior. *Journal of Political Economy, 123*(1), 123–169.

Eichelberger, B., Mattioli, H., & Foxhoven, R. (2017). Uncovering barriers to financial capability: Underrepresented students' access to financial resources. *Journal of Student Financial Aid, 47*(3), 70–87.

Fox, J. J., Bartholomae, S., Letkiewicz, J. C., & Montalto, C. P. (2017). College Student Debt and Anticipated Repayment Difficulty. *Journal of Student Financial Aid, 47*(2), 111–135.

Frederick, S., Novemsky, N., Wang, J., Dhar, R., & Nowlis, S. (2009). Opportunity cost neglect. *Journal of Consumer Research, 36*(4), 553–561.

Furnham, A. (1999). The saving and spending habits of young people. *Journal of Economic Psychology, 20*(6), 677–697.

Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass, 7*(3), 199–216.

Griskevicius, V., Tybur, J. M., Ackerman, J. M., Delton, A. W., Robertson, T. E., & White, A. E. (2012). The financial consequences of too many men: sex ratio effects on saving, borrowing, and spending. *Journal of Personality and Social Psychology, 102*(1), 69–80.

Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing saving behavior through age-progressed renderings of the future self. *Journal of Marketing Research, 48*(SPL), S23–S37.

Ho, T. H., Lim, N., & Camerer, C. F. (2006). Modeling the psychology of consumer and firm behavior with behavioral economics. *Journal of Marketing Research, 43*(3), 307–331.

Jones, D. N. (2013). What's mine is mine and what's yours is mine: The Dark Triad and gambling with your neighbor's money. *Journal of Research in Personality, 47*(5), 563–571.

Jones, D. N. (2014). Risk in the face of retribution: Psychopathic individuals persist in financial misbehavior among the Dark Triad. *Personality and Individual Differences, 67*, 109–113.

Jones, D. N., & Paulhus, D. L. (2014). Introducing the short dark triad (SD3) a brief measure of dark personality traits. *Assessment, 21*(1), 28–41.

Nyhus, E. K., & Webley, P. (2001). The role of personality in household saving and borrowing behaviour. *European Journal of Personality, 15*(S1), 85–103.

Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and Psychopathy. *Journal of Research in Personality, 36*(6), 556–563.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Salam, M. A. (2018). Thai student loan fund and its current status. *Journal of Asia Pacific Studies, 5*(1), 62–75

Sereetrakul, W. (2014). Factors Predicting Saving Behavior of Students in Bangkok Metropolitan Area. *Suthioarithat, 28*(85), 310–316.

Sereetrakul, W., Wongveeravuti, S., & Likitapiwat, T. (2013). Gender differences in saving and spending behaviours of Thai students. *Research in Education, 90*(1), 68–81.

Sonuga-Barke, E. J., & Webley, P. (1993). *Children's saving: A study in the development of economic behaviour.* London, UK: Psychology Press.

Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of Economic Psychology, 24*(6), 723–739.

Weber, E. U., Johnson, E. J., Milch, K. F., Chang, H., Brodscholl, J. C., & Goldstein, D. G. (2007). Asymmetric discounting in intertemporal choice: A query-theory account. *Psychological Science, 18*(6), 516–523.