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The Effects of Human Psychological Factors on Accounting Prudence

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Abstract: This research investigates the effects of psychological factors on accounting prudence. Specifically, we examine the influence of need for achievement, innovativeness, risk propensity, and internal locus of control on accounting prudence. In our models, we control for other factors, including gender, education level, and job. The results presented herein indicate that innovativeness and risk propensity characteristics positively influence liberal accounting bias. Furthermore, we document that the need for achievement and internal locus of control do not influence liberal accounting bias.

Keywords: Accounting prudence; Need for achievement; Innovativeness; Risk propensity; Locus of control.

JEL classification: M12; M41; M54.

1. INTRODUCTION

To date, there is a paucity of accounting research examining the role of human psychological factors on accounting decisions. What's more, little research focuses on the effects of human psychological characteristics on accounting prudence. The International Accounting Standards Committee (IASC) (1989) defines prudence as

“the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated.”

At the same time, prudence does not permit the creation of hidden reserves or excessive provisions to deliberately understate assets or income or overstate liabilities or expenses (IASC, 1989). Therefore, the IASC requires that financial statement preparers practice prudent accounting as opposed to either conservative accounting bias or liberal accounting bias.

In our study, we examine the influence of accountants' psychological factors on their accounting prudence. As professionals, accountants are perceived to be individuals with unique values, attitudes, and needs. These characteristics of accountants significantly affect their behavior and decision making. In investigating the determinants of accounting prudence, we test for the potential effects of psychological factors, including risk propensity, innovativeness, need for achievement, and internal locus of control.

Results of data analysis indicate that respondents tend to engage in liberal than conservative accounting practices. They have high need for achievement, innovativeness, and internal locus of control levels. They also tend to be risk takers. Results provide evidence that innovativeness and risk propensity positively affect liberal accounting bias. However, need for achievement and internal locus of control do not affect liberal accounting bias.

The study offers several contributions to the accounting literature and to practice. In providing theoretical explanation for the psychological determinants of accounting prudence, we contribute to the stream of research investigating the judgment and decision making of accounting professionals. Recently, there has been a significant amount of discussion and debate surrounding the issue of prudence in accounting. For example, the Association of Chartered Certified Accountants (ACCA, 2014) suggests that there is a considerable debate about whether International Financial Reporting Standards (IFRS) should include the importance of prudence in their conceptual framework.¹ Since we identify several important psychological attributes that influence prudence behavior, our study should be of interest to accounting practitioners and standard setters.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1. Agency Theory

The agency relationship is a relationship between a principal and an agent. Principals hire agents to provide services and delegate some authorities to the agents (Anthony and Govindarajan, 2007). In an employment contract, stockholders assume the role of principals and the accountants and managers assume the role of agents. Based on an assumption in agency theory that people are self-interested (Eisenhardt, 1989), accountants and managers will engage in opportunistic behaviors. Specifically, agents tend to engage in liberal accounting bias behavior (*i.e.*, increase accounting earnings) in order to obtain high bonuses permanently, or to improve their reputation (Eisenhardt, 1989; Belski *et al.*, 2008).

2.2. Accounting Prudence

Accounting prudence consists of three parts, namely prudent accounting, conservative accounting bias, and liberal accounting bias (Penman, 2001). Prudent accounting calls for having a cautionary view when facing business uncertainty by permanently choosing accounting methods, accruals estimation, and real activities manipulation that do not overstate assets or income, do not understate liabilities or expenses, do not understate assets or income, and do not overstate liabilities or expenses. Therefore, financial statements fulfill reliability quality that involves neutral and free from bias qualities. There are three methods to do prudent accounting (Scott, 2012; Belski *et al.*, 2008). The first is the permanent accounting method, for example, an accountant permanently chooses an average instead of FIFO or LIFO inventory cost flow assumption. Second is the accrual estimation, for example, a manager continuously uses an average method in estimating bad debts instead of a high or low bad debt estimations. The third method is real activity

manipulation, for example, a manager continuously does production as same as the demand instead of an over or under production.

Conservative accounting bias refers to a pessimistic view when facing business uncertainty by permanently choosing accounting methods, accrual estimations, and real activities manipulation that recognize revenues slower, and expenses faster, as well as value assets lower and liabilities higher (Wolk *et al.*, 2001; Penman, 2001). Researchers have a consistent view and definition of conservative accounting. For example, Wolk *et al.* (2001) define conservative accounting as the attempt to select generally accepted accounting methods that result in any of the following:

1. slower revenue recognition,
2. faster expense recognition,
3. lower assets valuation, and
4. higher liability valuation.

Givoly and Hyan (2000) define accounting conservatism as a selection criterion between accounting principles that leads to the minimization of cumulative reported earnings by slower revenue recognition, faster expense recognition, lower asset valuation, and higher liability valuation. Penman (2001) defines conservative accounting as accounting that understates assets on the balance sheet or overstates liabilities. Based on these definitions, it can be concluded that conservative accounting bias is a choice that entails a pessimistic viewpoint. Examples of conservative accounting bias include permanently choosing LIFO cost flow assumption when inventory costs are increasing, estimating higher bad debts, and not offering sales price discounts.

In contrast to conservative accounting, the liberal accounting bias refers to an optimistic view when facing business uncertainty by permanently choosing accounting methods, accrual estimations, and real activities manipulation that recognize revenues faster and expenses slower, as well as value assets higher and liabilities lower (Wolk *et al.*, 2001; Penman, 2001) . Examples of liberal accounting bias include permanently choosing FIFO cost flow assumption when inventory costs are increasing, estimating lower bad debts, and granting sales price reductions.

2.3. Transaction Cost Theory and Accounting Prudence

Transaction cost theory assumes that earnings information influences the term of transaction between a firm and its stakeholders. Specifically transaction terms tend to be more favorable for companies with higher earnings relative to companies with lower earnings (Burgstahler dan Dichev, 1997). Accountants or managers are expected to permanently report higher earnings in order to obtain favorable transaction terms or to reduce transaction costs with the stakeholders. Therefore, we posit that accountants or manager will continuously engage in liberal accounting bias in effort to reduce the cost of transactions. We formulate our first hypothesis as follows:

H1: Accountants tend to engage in liberal accounting bias.

2.4. Need for Achievement, Agency Theory, and Accounting Prudence

Robin and Judge (2013) define the need for achievement as the drive to excel, to achieve a set of standards, and to strive to succeed. Stated differently, the need for achievement is one's personal strive to achieve

goals within their social environment (Cassidy and Lynn, 1989). Individuals who have a high need for achievement have a strong desire to be successful and will vigorously attempt to attain their goals.

Islahuzzaman (2010) investigates the relationships between motivation and entrepreneurship among public accountants. Results show that there was a significant correlation between achievement motives and entrepreneurial orientation. This research also finds that public accountants have moderate achievement motivation and entrepreneurial orientation.

The premise is that the needs, values, and drives of accountants are main determinants of their behavior. The need for achievement may play an important role in affecting accounting prudence judgment. Agency theory assumes that people are self-interested (Eisenhardt, 1989). Therefore, it is expected that an accountant with a high need for achievement has a strong desire to succeed and consequently more likely to engage in liberal accounting bias. The second hypothesis is developed as follows:

H2: Need for achievement positively influences liberal accounting bias.

2.5. Innovativeness, Agency Theory, and Accounting Prudence

Innovativeness is the proficiency to generate and apply new and useful ideas (Koh, 1996). Koh (1996) examines whether entrepreneurial inclination is related to the psychological characteristics of need for achievement, locus of control, propensity to take risk, tolerance of ambiguity, self-confidence and innovativeness. He finds that respondents who are entrepreneurially inclined have greater innovativeness, more tolerance of ambiguity and higher propensity to risk, as compared to those who are not entrepreneurially inclined.

An innovator is an individual who creates and develops a new idea. An innovative accountant will attempt to find a novel solution to overcome a problem. Thus, innovativeness can influence accounting prudence behavior. Agency theory assumes that people are selfish (Eisenhardt, 1989). Therefore, we posit that an accountant with a high innovativeness has high motivation to improvise, to propose, and to apply novel ideas to solve problems and consequently more apt to engage in liberal accounting bias. We formulate our third hypothesis as follows:

H3: Innovativeness positively influences liberal accounting bias.

2.6. Risk Propensity, Agency Theory, and Accounting Prudence

Risk propensity is a tendency to take or to avoid risks when facing uncertain situations. Accountants are assigned to manage accounting systems. They have to make accounting decisions in uncertain situations. Master and Deines (2011) find that there is a difference in risk propensity between female and male controllers, and between certified and non-certified controllers.

Risk propensity may affect accounting prudence judgment. An individual's risk preference can be defined as an individual's orientation toward taking chances in an uncertain decision making context (Koh, 1996). Certified management accountants or controllers tend to be moderate risk takers. However, non-certified management accountants or controllers have a greater propensity to take risk than certified management accountants or controllers (Master and Deines, 2011). Agency theory assumes that people are self-interested (Eisenhardt, 1989). It is deducted that an accountant with a high risk propensity is more likely to engage in liberal accounting bias. The fourth hypothesis is formulated as follows:

H4: Risk propensity positively influences liberal accounting bias.

2.7. Internal Locus of Control, Agency Theory, and Accounting Prudence

Locus of control is the extent to which individuals believe that they can control events in their lives (Koh, 1996). Individuals with high internal locus of control believe that they are able to better control events in their lives compared to those with low internal locus of control (Koh, 1996). Furthermore, internal locus of control suggests that events in life are caused by controllable variables, for examples, attitude, preparation, and effort. People who have high internal locus of control believe that they have abilities to overcome problems in their lives. In contrast to internal locus of control, external locus of control is the belief that events in life are caused by uncontrollable factors, for example, other people and environment.

A study about internal locus of control among accounting students and lecturers was conducted by Suryaningrum *et al.* (2013). Their findings indicate that accounting students with internal locus of control have higher ethical behavior than students with external locus of control, and among accounting lecturers, there was no ethical behavior difference between internal and external locus of control. These findings support theory of locus of control that individuals with internal locus of control tend to behave more ethically in conflict situations than people with external locus of control.

Bernardi (2013) examines the relationships among locus of control, perceived stress, and performance. He uses 206 newly-hired junior from two Big-Six accounting firms as subjects for his research. He finds that the more internal the individual's locus of control, the more that individual perceived stress as leading to higher achievements.

Our premise is that accountants' drives, needs, and values affect their behaviors and that internal locus of control may influence accounting prudence judgment. Accountants with high internal locus of control will engage in liberal accounting bias. If this logical thinking is related to agency theory assumption that people are self-interested, it can be deduced that an accountant with high internal locus of control will do liberal accounting bias. The final hypothesis is developed as follows:

H5: Internal Locus of control positively influences liberal accounting bias.

3. RESEARCH METHOD

3.1. Sample

This study uses a sample that consists of accounting students in YKPN business school in Yogyakarta. Accounting students are sufficient surrogates for a range of professional and non-professional populations in many decision making experiments (Locke, 2105; Tuttle *et al.* 2002). The sample of accounting students includes individuals enrolled in the undergraduate program, accounting profession education program, and graduate program. There are some students who have graduate degree or doctoral degree taking the accounting profession education program. We gave questionnaires to accounting students currently taking the accounting theory subject or have passed accounting theory, so that we obtain subjects that understand accounting prudence. There are 101 usable responses.

3.2. Variables Measurement

The variables in this research model involves one dependent variable, four main independent variables, and three control variables. The dependent variable is accounting prudence. The main independent variables

are need for achievement, innovativeness, risk propensity, and internal locus of control. Control variables consist of gender, education level, and job. Research variables are measured by using questionnaire as follows:

1. Need for achievement variable is measured by using five items of questions. Each question has a 1 to 7 scale with 1 as strongly disagree and 7 as strongly agree. These question items are adapted from Yosuf *et al.* (2007).
2. Innovativeness variable is measured by five question items. Each question has a seven points of scale. It ranges from 1 to 7 with 1 as strongly disagree and 7 as strongly agree. These are adapted from Jackson Personality inventory 1994 (as cited in Muller and Thomas, 2000).
3. Risk propensity variable is measured by five question items. The items have seven-point scale. The scale ranges from 1 (strongly disagree) to 7 (strongly agree). The questions are adapted from Paunescu and Cantaragiu (2012).
4. Internal locus of control variable is measured by using five items of questions. Each question has a 1 to 7 scale with 1 as strongly disagree and 7 as strongly agree. These question items are adapted from Yosuf *et al.* (2007).
5. This research develops six items of questions to measure accounting prudence. These questions consist of two questions about accounting method changes, two questions about accounting estimation changes, and two questions about real activity manipulation. The questions have scales of 1 to 7 with 1 as strongly disagree and 7 as strongly agree. A score of 4 is neutral, which means that the respondent tends to do prudent accounting actions. If the score is less than 4, this means that respondents tend to engage in conservative accounting bias or disagrees with liberal accounting bias actions. If the score is higher than 4, this means that respondents tend to engage in liberal accounting bias.
6. Gender, education level, and job variables are measured by using non-metric scales.

3.3. Data Analysis Methods

This study uses some statistical tools to test the validity and reliability of questionnaire and research hypotheses. Data analysis consists of:

1. Factor analysis and Cronbach's alpha are used to test the validity and reliability of instruments.
2. Hypothesis 1 is tested by one sample *T* test.
3. Multiple regression analysis is used for testing the hypothesis 2 to 5. Liberal accounting is the dependent variable. Need for achievement, innovativeness, risk propensity, and internal locus of control are the main independent variables. These variables are measured as metric scales. Control variables in this study are gender, education level, and job. These are non-metric variables. The multiple regression equation for testing the hypotheses is as follow:

$$AP = \beta_0 + \beta_1 \cdot NA + \beta_2 \cdot IN + \beta_3 \cdot RP + \beta_4 \cdot ILC + \beta_5 \cdot GD + \beta_6 \cdot EDU + \beta_7 \cdot JOB + \varepsilon \quad \dots(1)$$

Where: *AP* = Accounting prudence; *NA* = Need for achievement; *IN* = Innovativeness; *RP* = Risk propensity; *ILC* = Internal locus of control; *GD* = Gender (1 = female, 2 = male); *EDU* = Education

level (1 = undergraduate student; 2 = graduate student or undergraduate degree; 3 = doctoral student or graduate degree; 4 = Doctoral degree); *JOB* = job (1 = students, 2 = lecturers, and 3 = professionals or managers)

4. Testing of classical assumptions is needed for using multiple regression analysis. The assumptions that must be fulfilled involve normality, no multicollinearity, homoscedasticity, and no autocorrelation assumptions. The testing of classical assumptions is as follows:
 - (a) This research uses Kolmogorov-Smirnov test to investigate the data normality.
 - (b) The existence of multicollinearity is detected by using Variance Inflation factor (VIF). Multicollinearity occurs if $VIF \geq 10$.
 - (c) Homoscedasticity assumption is checked by Gletjer test.
 - (d) Durbin-Watson test is conducted to test the autocorrelation.

4. DATA ANALYSIS

4.1. Validity and Reliability

Research instrument validity is tested by factor analysis. Factor analysis is applied on 101 usable questionnaires. Question items that have factor loadings of less than 0.50 were disposed (a total of six questions). They consist of one question of innovativeness (question 3), one question of risk propensity (question 3), one question of internal locus of control (question 5), and three questions of accounting prudence (question 1, 5, and 6). Table 1 indicates the factor loading of 20 usable questions in this research. The usable questions consist of three questions of accounting prudence, five questions of need for achievement, four questions of innovativeness, four questions of risk propensity, and four questions of internal locus of control. The results of factor analysis reveal that KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy is 0.809. It is greater than 0.60. Bartlett test of sphericity is significant with probability value = 0.000. Therefore, it is concluded that the next analysis can be done.

Reliability of questionnaires is tested by Cronbach's alpha. The five factors which are resulted from factor analysis are tested by Cronbach's alpha. Table 2 indicates the results of reliability test by Cronbach's alpha. If a Cronbach's alpha coefficient is more than 0.60, the factor is reliable (Sekaran and Bougie, 2010). The Cronbach's alpha coefficients of the five factors are more than 0.60, they are reliable. This research uses the mean score of questions that fulfill validity and reliability tests for the next data analysis.

4.2. Classical Assumption Tests

Multiple regression analysis is conducted for testing the research hypotheses. Reliability of this analysis needs to fulfill assumptions that include normality, no multicollinearity, homoscedasticity, and no autocorrelation assumptions. Normality test is examined by Kolmogorov-Smirnov test. The results indicate that the data are normal because the probability values are more than 0.05 (Kolmogorov-Smirnov test = 0.200).

The existence of multicollinearity is investigated by using variance inflation factor (VIF). Results of multicollinearity test indicate that the variance inflation factors of all independent variables are less than

Table 1
Rotated Component Matrix

<i>Question Items</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>	<i>Factor 5</i>
<i>AP2</i> : I will always capitalize research and development expenditures					0.718
<i>AP3</i> : I will always estimate bad debt lower					0.540
<i>AP4</i> : I always tend to estimate inventory obsolescence loss lower					0.627
<i>NA1</i> : I have the desire to have high earnings	0.718				
<i>NA2</i> : I like to achieve a higher position for myself in society	0.795				
<i>NA3</i> : I will become successful if I work hard	0.689				
<i>NA4</i> : I need to develop my personal ability continuously	0.647				
<i>NA5</i> : I attempt to prove that I can succeed	0.549				
<i>IN1</i> : I often surprise people with my novel ideas			0.827		
<i>IN2</i> : I prefer work that requires original thinking			0.613		
<i>IN4</i> : I am a very creative person			0.735		
<i>IN5</i> : I like to experiment with various ways to achieve the same thing			0.617		
<i>RP1</i> : I think that risk must be taken for every level of business		0.556			
<i>RP2</i> : I appreciate brave managerial decisions in uncertain conditions		0.665			
<i>RP4</i> : In general, I am of the opinion that, given the characteristics of the business environment, courage and grand actions are needed in order to achieve my objectives		0.814			
<i>RP5</i> : Under uncertain market conditions, in the decision making process, I usually choose to adopt a brave attitude in the idea to utilize the potential opportunities		0.645			
<i>ILC1</i> : My life is determined by myself				0.631	
<i>ILC2</i> : I obtain whatever I want because I work hard for getting it				0.797	
<i>ILC3</i> : I have strong controls on my life direction				0.759	
<i>ILC4</i> : I believe that my success depends on what I do				0.691	

Notes: *AP* = Accounting prudence; *NA* = Need for achievement; *IN* = Innovativeness; *RP* = Risk propensity; *ILC* = Internal locus of control

Table 2
Reliability Test

<i>Variable</i>	<i>Cronbach's Alpha</i>
Accounting prudence	0.665
Need for achievement	0.818
Innovativeness	0.781
Risk propensity	0.761
Internal locus of control	0.780

10 (need for achievement = 1.669, innovativeness = 1.274, risk propensity = 1.511, internal locus of control = 1.557, gender = 1.107, education level = 1.214, and job = 1.217). Therefore, no multicollinearity problem exists.

The existence of heteroscedasticity is detected by the Glejser test. This test uses residuals as the dependent variable and it is applied on the independent variables. The results indicate that there is no heteroscedasticity problem because there is no significant regression coefficient of the independent variable.

Autocorrelation existence is tested by Durbin-Watson test. This attempts to find the range that has d_U and $4-d_U$ as lower and upper limits by using Durbin-Watson d statistic table (Gujarati and Porter, 2009). When the value of Durbin-Watson test is located in this range, this means that there is no autocorrelation. By using significance level of 5% and seven independent variables, it is found that d_U is 1.826 and $4-d_U = 2.174$. The result of data analysis shows that Durbin-Watson value is 1.979. This Durbin-Watson value is located in the range. Therefore, it can be concluded that there is no autocorrelation problem in the multiple regression equation.

4.3. Descriptive Analysis

Table 3 reports the means and standard deviations of the variables. Mean values of the variables are high. The accounting prudence score has a mean of 4.4818. This means that respondents prefer liberal accounting to conservative accounting. Respondents have very high need for achievement (6.3743) and internal locus of control (6.0470). They also have high innovativeness (5.1782). And, the mean value of risk propensity is 5.5149. This means that the subjects tend to be risk seekers. Need for achievement is the most disperse among the variables because it has the highest standard deviation (0.85975).

An additional test is conducted to discover the respondents' tendency of psychological characteristics and accounting prudence. One sample *T* test is conducted to compare the mean values against a benchmark value of 4 (neutral). Results indicate that mean values of liberal accounting (4.4818), need for achievement (6.3743), innovativeness (5.1782), risk propensity (5.5149), and internal locus of control (6.0470) are significantly higher than 4 (neutral score) at probability value of 0.000. These results show that, on average, respondents have high need for achievement, innovativeness, and internal locus of control. They tend to engage in liberal accounting bias and be risk seekers.

Table 3
Descriptive Statistics

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>
Accounting prudence	4.4818	0.64166
Need for achievement	6.3743	0.85975
Innovativeness	5.1782	0.79122
Risk propensity	5.5149	0.78080
Internal locus of control	6.0470	0.76663

In Table 4, the correlation coefficients among variables are presented. Results of Pearson correlation analysis reveal that all variables are correlated each other at 0.01 probability value levels. The highest

correlation (0.564) is the relationship between accounting prudence and innovativeness. The lowest coefficient (0.276) is the connection between accounting prudence and internal locus of control.

Spearman correlation analysis results indicate that all variables are correlated each other at 0.01 levels, but the correlation coefficient between need for achievement and innovativeness is significant at 0.05 probability value level. The highest correlation coefficient (0.580) is the relationship between innovativeness and accounting prudence, and the lowest (0.255) is the correlation between need for achievement and innovativeness.

Table 4
Correlations among Variables

<i>Variables</i>	<i>NA</i>	<i>IN</i>	<i>RP</i>	<i>ILC</i>	<i>LA</i>
Need for achievement (<i>NA</i>)	1	0.255*	0.428**	0.416**	0.267**
Innovativeness (<i>IN</i>)	0.304**	1	0.435**	0.280**	0.580**
Risk propensity (<i>RP</i>)	0.502**	0.391**	1	0.358**	0.443**
Internal locus of control (<i>ILC</i>)	0.532**	0.313**	0.364**	1	0.260**
Accounting prudence (<i>AP</i>)	0.302**	0.564**	0.443**	0.276**	1

Notes: The correlations below diagonal are Person two-tailed correlations and above diagonal are Spearman two-tailed correlations. Correlation is significant at: **0.01; *0.05 levels (two-tailed).

4.4. Hypotheses Testing

One sample *T* test is used to test hypothesis 1 that accountants tend to engage in liberal accounting bias. Scales of measurement for accounting prudence are 1 to 7 with 1 as strongly disagree and 7 as strongly agree. The question items measure the respondents' judgment in accounting prudence. Scale 1, 2, 3 represent conservative accounting bias attitudes. Scale 4 is neutral while Scale 5, 6, and 7 represent liberal accounting bias. One sample *T* test is conducted by comparing the mean values against a benchmark value of 4 (for accounting prudence question items: score 4 = neutral or prudent accounting, less than 4 = tendency to have conservative accounting bias or disagreements with liberal accounting bias actions, higher than 5 = tendency to have liberal accounting bias or agreements with liberal accounting bias actions). Mean value of the accounting prudence variable is 4.4818. Results of one sample *T* test show that the mean value of 4.4818 is significantly higher than 4 with probability value of 0.000. Hypothesis 1 is supported by the results of data analysis. It is concluded that our subject accountants tend to have liberal accounting bias.

Multiple regression analysis is conducted to test hypothesis 2 to 5. Table 5 shows the results of hypotheses testing. The dependent variable is accounting prudence. It is predicted that need for achievement (hypothesis 2) positively influences liberal accounting bias. The results do not support hypothesis 2. The coefficient of need for achievement is negative (-0.007) and the probability value is not significant (0.951). It is concluded that need for achievement does not positively influence liberal accounting bias. These results do not support agency theory explanation that accountants with high need of achievement will do opportunistic behavior by doing liberal accounting policies. There is a possibility that accountants will act in the best of interest of stockholders. This explanation is derived from stewardship theory (Davis et al., 1997).

Hypothesis 3 states that innovativeness positively influences liberal accounting bias. Results of multiple regression analysis support this hypothesis. Regression coefficient of innovativeness is positive (0.360) and its probability value is significant (0.000). Therefore, we conclude that innovativeness positively influences liberal accounting bias.

Results of multiple regression analysis also support hypothesis 4 that risk propensity positively influences liberal accounting bias. Risk propensity regression coefficient is positive (0.234) and the probability value is significant (0.010). This study concludes that risk propensity positively influences liberal accounting bias.

Hypothesis 5 is not supported by the results of data analysis. Regression coefficient of internal locus of control is positive (0.100) but its probability values is insignificant (0.277). This study concludes that internal locus of control does not influence liberal accounting bias. Stewardship theory can explain these results that accountants will do in the best interests of shareholders in making accounting policies. They will not do opportunistic behavior by doing liberal accounting.

This research includes gender, education level, and job as control variables. Gender regression coefficient is positive (0.171) but its probability value is insignificant (0.167). This means that gender does not influence accounting prudence decision (accounting prudence score mean for female is 4.3989 and for male is 4.6083).

Regression coefficient of education level is positive (0.441) and the probability value is significant (0.000). Based on these results, it can be concluded that education level influences accounting prudence. Specifically, higher levels of education are associated with more liberal accounting bias level (accounting prudence score mean for undergraduate students is 4.3333; graduate students is 4.6863; graduate degree is 6; Doctoral degree is 5.6667). The results indicate that the regression model has controlled for the influence of education level on accounting prudence.

The coefficient for the job variable is negative (-0.558) and its probability value is significant (0.006). It is concluded that job also influences accounting prudence judgments (accounting prudence score mean for students is 4.4708; lecturers is 5.833; professionals or managers is 3.6667). These show that the regression equation in this research has controlled for the influence of job on accounting prudence.

Table 5
Results of Multiple Regression Analysis

<i>Independent Variables</i>	<i>Regression Coefficient</i>	<i>T-Value</i>	<i>Probability Value</i>
Constant	0.514	0.781	0.437
Need for achievement	-0.007	-0.061	0.951
Innovativeness	0.360	4.805	0.000
Risk propensity	0.234	2.638	0.010
Internal locus of control	0.100	1.094	0.277
Gender	0.171	1.394	0.167
Education level	0.441	3.962	0.000
Job	-0.566	-2.789	0.006
R-squared	0.483		
Adjusted R-squared	0.444		
F value	12.417 (probability value = 0.000)		

5. CONCLUSION

This research investigates the influence of psychological characteristics (*i.e.*, need for achievement, innovativeness, risk propensity and internal locus of control) on accounting prudence. Descriptive statistics indicate that respondents prefer liberal accounting bias than conservative accounting bias and tend to be risk seekers. They have high innovativeness, need for achievement, and internal locus of control. Results of data analysis show that innovativeness and risk propensity positively influence liberal accounting bias, while need for achievement and internal locus of control do not influence liberal accounting bias.

This research has some limitations. First, the sample is not chosen at a random basis. Thus, future research ought to explore whether our results can be generalized to the larger population. Second, this study focuses on four main independent variables, namely need for achievement, innovativeness, risk propensity, and internal locus of control. Future work should consider the influence of other independent or moderating variables, such as work experience and social capital.

This research has practical implications for understanding the psychological characteristics of accountants that influence accounting decisions. Research findings indicate that innovativeness and risk propensity positively influence liberal accounting bias. This suggests that owners or top management of firms should consider innovativeness and risk propensity when choosing accountants for their firms. If there is a greater preference to engage in liberal accounting decisions, then managers should consider choosing an accountant with high innovativeness and high risk propensity. On the other hand if liberal accounting bias is deemed to be unethical, then they should choose an accountant with low innovativeness characteristics and low risk propensity attitude.

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