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Conditional Process Model the Influence of Personality Traits and Behavioral Bias on Perception of Investment Performance

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ABSTRACT

This study examines the influence of personality traits on perceptions of investment performance with behavioral bias as a mediation and demographic factor as a moderation in the Indonesian capital market. Perception of investment performance is dependent variable in this study. While personality traits are independent variable in this study. Bias overconfidence as a mediating variable and demographic factor as a moderating variable. The research data processing uses the conditional process model. The results show that demographic factor is proven to be effective in moderating the influence of personality traits on perception of investment performance by mediating behavioral bias.

Keywords: Behavioral Bias, Covid-19, Demographics, Perception of Investment Performance, Personality Traits

JEL Classification: E20, E22, E29

INTRODUCTION

The purpose of behavioral finance research is to understand individual and market behavior in relevant financial management (Asparouhova & Bossaerts, 2015). This study focuses on personality and perceived investment performance. In the last few decades, extensive research has been carried out on the influence of personality traits on investment decisions (Oehler et al., 2018).

Previous studies have discussed the role of personality traits on decision making and perceptions of investment performance (Akhtar et al. (2018), but there are only a few studies that analyze the influence of personality traits on perceptions of investment performance by involving demographic factors as moderating and behavioral bias as a mediation. This study was conducted to explain the relationship between the personality traits of the Big Five with perceptions of investment performance in terms of behavioral bias, and demographics perspective. Personality is the main factor in making decisions and determining investors' perceptions of performance (Alrabadi et al., 2018 On the other hand, personality traits can also lead to certain behavioral biases, especially overconfidence bias (Oehler et al., 2018) which can act as a mediating variable. The mediating variable in this case is used not only as an intermediary for personality influences. and perceptions of investment performance, will but also form the basis for the stability of the relationship between personality and investment performance (Akhtar & Das, 2020).

Pompian (2003) in his research entitled "A New Paradigm for Practical Application of Behavioral Finance: Correlating Personality Type and Gender with Established Behavioral Biases" explains that personality type and gender are very vulnerable to various investor biases in decision making that have an impact on investment performance. In his research, Pompian explains the behavioral biases that can occur in investor decision making. His research also introduces a new paradigm of behavioral finance by linking it to personality type (Myers-Briggs Type Indicator) and demographic factors such as age and gender. Pompian (2003) explains how practitioners and investors use behavioral finance in managing their assets, then explains the view of subsequent research to further analyze the personality type and gender of investors.

Oehler et al. (2018) conducted research on investor decision-making that has an impact on investment performance by focusing on extraversion and neurotic personality types through asset market experiments. The asset market is a general financial market with assets that have the same value for all investors, consisting of one risky asset (stocks) and one safe asset (cash). Investor behavior can be studied further in the experiment. Oehler et al. (2018) found that extraversion personality traits and neuroticism significantly influence individual behavior. In particular, extroverted individuals transact (buy) more when the price is too high (expensive) than less extroverted individuals. Then the neurotic individual prefers the less risky assets in the financial portfolio than the less neurotic individual. The results of his study explain the strength of the influence driven by gender differences as a moderating variable (the significant impact of extraversion and neuroticism increases after being moderated by gender). His research explains that further research is needed on the personality traits and behavior of investors by adding other explanatory factors.

Figure 1. Systematic Literature Review of Behavioral Finance

Source: Valcanover (2020)

The picture above is the development of behavioral finance research using the Systematic Literature Review from Valcanover (2020). This research uses the Vosviewer application which can display a map of research developments in the field of behavioral finance published in the Scopus International Journal for the last six years. Keywords related to this research include investment performance, overconfidence bias and demographic factors. At the end of his research, Valcanover (2020) suggested for further research to start using variables that are rarely used such as personality traits because they can affect behavioral finance. Based on the explanation above, theoretically the personality financial model of investor behavior is very important to study.

LITERATURE REVIEW

Grand Theory of behavioral finance (behavioral finance) as the main study of concepts, development of thinking frameworks and research hypotheses. In behavioral finance, psychological factors play a very important role in making financial decisions. Investors can behave irrationally in making decisions (Hirschey & Nofsinger, 2008). Shiller (1984) explains that investors react more strongly to bad news than to good news. After the implementation of margin trading and short selling mechanisms, risk hedging mechanisms have increased, and investors in the market generally tend to react rationally to good news and bad news. This is in line with the view of Thaler (1999), who argues that such behavior is not only related to the theoretical basis of existing financial and economic laws, but tends to be influenced and/or based on psychological factors. Behavioral finance combines both, namely finance and psychology. Furthermore, in behavioral finance, financial decision making can be formed from the personality of investors (Pompian, 2012).

Investment performance is the return of an investment portfolio (Akhtar et al., 2018). Alrabadi et al. (2018) explains that the investment portfolio can be calculated from one asset or several assets. Investment performance is generally measured over a certain period of time and in a specific currency. Investors can use different types of returns to measure investment performance such as the difference between total return and price return by measuring the amount of income (interest and dividends), or by accounting for capital gains. Perception is how a person sees and interprets a situation or event, most people will act based on perception and ignore the actual reality (Lubis, 2010). Perception of investment performance is the feeling you get after investing in a certain period of time (Akhtar et al., 2018). Perceived investment performance is used to further investigate investor personality and behavior (Hasib, 2020 and Nareswari, et.al., 2021). The dimensions and indicators that will be used in this study are adapted from (Alrabadi et al., 2018) and (Akhtar et al., 2018) including consideration of return, risk, information held & security, time or period.

The literature on individual personality traits in finance often focuses narrowly on specific areas such as portfolio selection (Bucciol & Zarri, 2015), risk tolerance and investment management (Mahmood, 2015) and satisfaction (Ksendzova et al., 2017; Davis and Runyan, 2016). Later, other studies focused on the relationship between personality traits and exposure to different behavioral biases among investors (Durand et al., 2008; Rzeszutek, 2015).

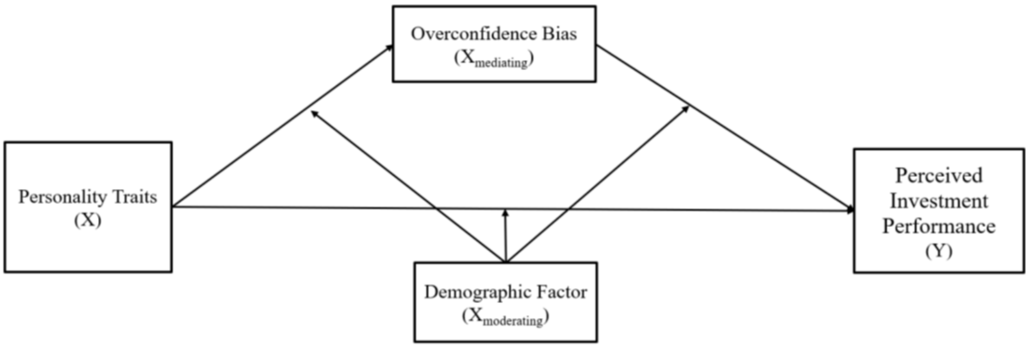
Overconfidence is not always a negative phenomenon. Some researchers have criticized that overconfidence bias in practice leads to too frequent trades and reduces market efficiency by not focusing on risk in investing. In this bias, investors overestimate expected returns and do not pay attention to market realism. If investors are overconfident, they will overestimate their skills, knowledge, and confidence in the valuation of an investment in a given situation. Overconfidence can make investors think that investment decisions are caused by emotions, perceptions, feelings and moods.

The overconfidence bias dimensions that will be used in this study are adapted from (Gill, 2018) (Metawa et al., 2019) including predictive ability, mental self, past success, knowledge. In Metawa's research (2018) with the title Impact of behavioral factors on investors' financial decisions: case of the Egyptian stock market, it is stated that Investor sentiment, overreaction and underreaction, overconfidence and herd behavior affect investment decisions significantly. In addition, age, gender and education level have a significant positive effect on investment decisions by investors. Experience does not play an important role in investment decisions, but investors get experience, they tend to ignore the emotional factor. Thus, the following hypothesis is proposed:
H1. The demographic factor moderates the influence of personality traits on (perceived) investment performance
H2. Conditional process of overconfidence bias and demographic factor on the influence of Personality trait on (perceived) investment performance.

RESEARCH METHOD

The object of this research is the perception of investment performance with the scope of behavioral bias, demographics and personality characteristics.

Figure 2. Research Framework



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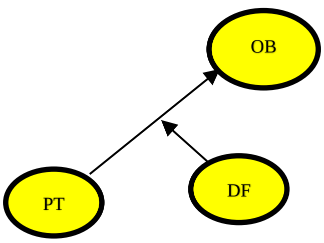
The population in this study are investors who actively invest in the Indonesia Stock Exchange. The sampling method used is in accordance with Sugiyono (2015) using Isaac and Michael's table. In general, there are no specific rules for determining sample size in behavioral studies (Osborne and Costello, 2004). The number of samples in this study amounted to 360 according to Isaac and Michael's table.

The sampling technique in this study used a simple random sampling technique. The research instrument was distributed to 360 investors from the Indonesia Stock Exchange. The source of data used in this study is primary data.

RESULTS

The Moderation Effect model on the influence of personality traits and demographic factors on the overconfidence bias is presented in conceptual diagrams and statistical diagrams as follows:

Figure 3. Conceptual Diagram of Demographic Factors Moderates the Effect of Personality Traits on Overconfidence Bias



Based on the conceptual diagram compiled in the image above, it can be described in a statistical diagram as shown in the following figure:

Figure 4. Statistical Diagram of Demographic Factors Moderates the Effect of Personality Traits on Overconfidence Bias

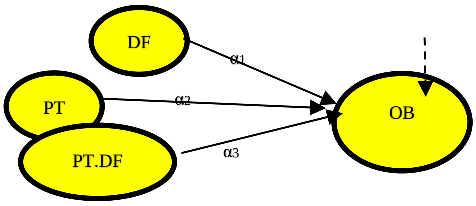


Table 1. Results Demographic Factors Moderates the Effect of Personality Traits on Overconfidence Bias

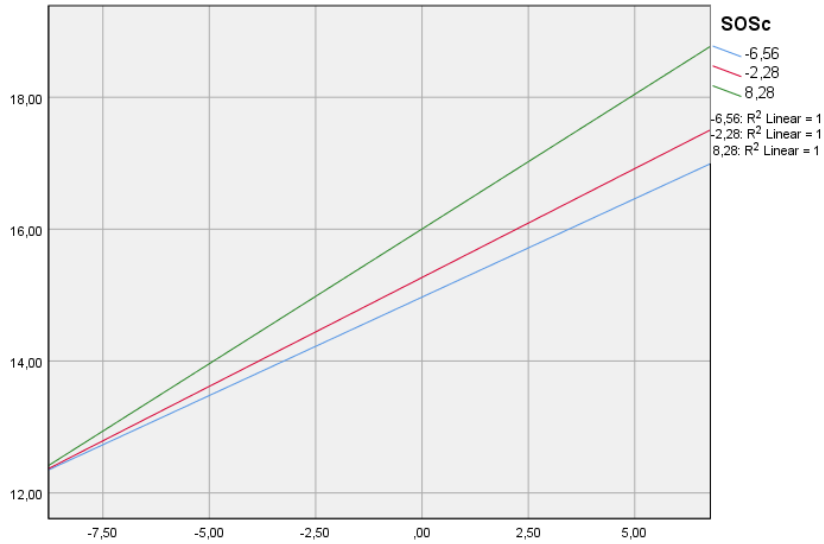
	Endogen			
Exogen	**M1 (BO)**			
	Coeff	se	t	p
constant	15,5378	0,1466	114,9292	0,0000
PT (X)	0,35632	0,0230	15,2139	0,0000
FD (W)	0,0707	0,0289	3,9227	0,0003
Int_1 (PT. FD)	0,5185	0,0041	2,0121	0,0466
R squared	= 0,6953			
F	= 80,9084			P = 0,0000

The regression equation obtained based on the table above is:
OB = 15,5378 + 0,3563 PT + 0,0707 DF + 0,5185 PT.DF

Table 2. Hypothesis 1 Test Results

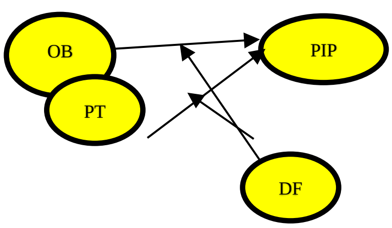
Hypothesis	Relation	Coeff	P - Value	Conclusion
H1.1	PT OB	0,35632	0,0000	H0: rejected Ha: accepted
H1.2	DF OB	0,0707	0,0003	H0: rejected Ha: accepted
H1.3	Int_1 OB	0,5185	0,0466	H0: rejected Ha: accepted

Figure 5. Visualization of Demographic Factor Interaction Moderate the Influence of Personality Traits on Overconfidence Bias



The slope of the relationship between the predictor variable (PT) and the outcome variable (OB) is getting higher in line with the higher value of the effective and significant moderator variable (DF) in the high, medium, and low conduciveness groups. Then, the conditional process model on the influence of personality traits, overconfidence bias, risk tolerance and demographic factors on investment performance, is presented in the conceptual diagram and statistical diagram as follows:

Figure 6. Conceptual Diagram of Demographic Factors Moderates the Effect of Personality Traits and Overconfidence Bias on Perceived Investment Performance



Based on the conceptual diagram compiled in the image above, it can be described in a statistical diagram as shown in the following figure:

Figure 7. Statistical Diagram of Demographic Factors Moderates the Effect of Personality Traits and Overconfidence Bias on Perceived Investment Performance

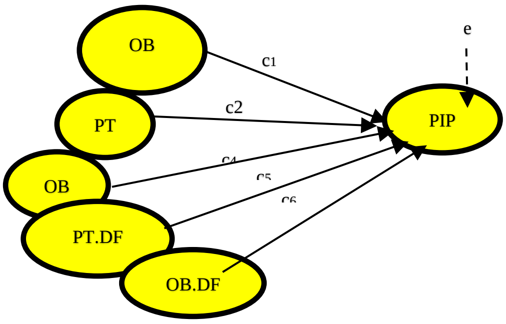


Table 3. Results Conditional Process Demographic Factors Moderates the Effect of Personality Traits and Overconfidence Bias on Perceived Investment Performance

	Endogen			
Exogen	**M2 (PIP)**			
	Coeff	se	t	p
constant	48,0683	0,4196	114,5353	0,0000
PT (X)	0,3414	0,1181	2,8058	0,0061
OB (M1)	0,6351	0,2832	2,2105	0,0302
DF (W)	0,1743	0,0565	2,8945	0,0043
Int_1 (PT.DF)	0,0334	0,0156	2,0630	0,0422
Int_2 (OB.DF)	0,6901	0,0334	2,0392	0,0443
R squared	= 0,5131			
F	= 22,1952		P = 0,0000	

The regression equation obtained based on the table above is:
PIP = 48,0683 + 0,3414 PT + 0,6351 OB + 0,1743 DF + 0,0334 PT.DF + 0,6901 OB.DF

Table 4. Hypothesis 2 Test Results

Hypothesis	**Relation**	**Coeff**	**P - Value**	**Conclusion**
H2.1	PT PIP	0,3414	0,0061	*H0*: rejected *Ha*: accepted
H2.2	OB PIP	0,6351	0,0302	*H0*: rejected *Ha*: accepted
H2.3	DF PIP	0,1743	0,0043	*H0*: rejected *Ha*: accepted
H2.4	Int_1 PIP	0,0334	0,0422	*H0*: rejected *Ha*: accepted
H2.5	Int_1 PIP	0,6901	0,0443	*H0*: rejected *Ha*: accepted

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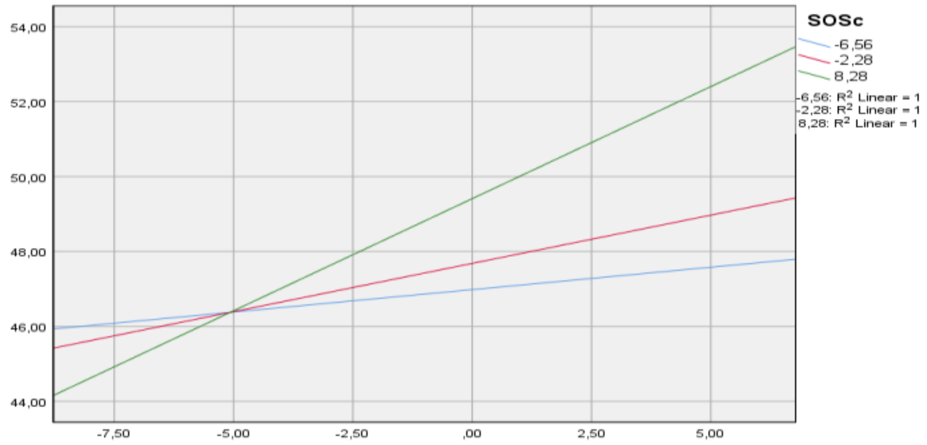
Figure 8. Visualization of Demographic Factor Interaction Moderate the Influence of Personality Traits on Perceived Investment Performance



The slope of the relationship between the predictor variable (PT) and the outcome variable (PIP) is getting higher in line with the higher value of the moderator variable (DF), effective and significant in the high and medium conducive groups.

DISCUSSION

The results of the study strengthen the understanding of the Big Five personalities in determining the perception of investment performance and reveal the greater the personality traits, the perceived investment performance can increase, and vice versa. Therefore, regardless of whatever strategy is used, the ultimate goal of increasing returns through making investments must be reinforced by personality traits and, in turn, be able to improve perceived investment performance. Current evidence also shows that personality traits need to be controlled according to investment needs.

In addition, the findings of this study also add to our knowledge of behavior finance, by showing the positive effects of personality traits, in behavioral finance this is still a topic that needs to be developed. The results of this study were corroborated by Pak & Mahmood (2015) with the title Impact of personality on risk tolerance and investment decisions: A study on potential investors of Kazakhstan. The results of this study determined that the predictor variables had a strong positive relationship between variables. The results of the study reveal that individual investors' decisions are influenced by Personality & risk tolerance. Research entitled Investors' Personality Influences Investment Decisions: Experimental Evidence on Extraversion and Neuroticism by Oehler & Wendt (2017) shows that there is a significant impact of personality traits extraversion and neuroticism on investment decisions (after controlling for gender effects). The same thing was also conveyed by Akhtar et. al. (2020) and Jayawickreme, et.al. (2019) which explains the importance of personality traits in investment performance perceived by investors.

The findings of the study strengthen the understanding of overconfidence bias in affecting investment performance perception, revealing that the stronger the prejudice, the worse the perceived investment performance, and vice versa. As a result, regardless of the approach used, the ultimate objective of enhancing returns via investing should be to eliminate bias and, as a result, individual investor confidence self-control. Current information also suggests that when it comes to investing, confidence must be managed. In addition, the findings of this study also add to our knowledge of behavior finance, by showing the negative effects of psychological bias, in behavioral finance this is still a topic that needs to be developed. The results of this study were corroborated by Oehler et al. (2018), implying that when making investment decisions, psychological factors such as the bias capacity of overconfidence behavior play a very important role (Charness and Gneezy, 2010). The same thing was also conveyed by Akhtar et. al. (2020) and Durand et. al. (2013) which explains the importance of overconfidence bias in investment performance perceived by investors.

CONCLUSION

Based on the results of hypothesis testing and discussion, the following conclusions are obtained:

1. Demographic factors are proven to be effective in moderating the influence of personality traits on overconfidence bias.
2. Demographic factors are proven to be effective in moderating the influence of personality traits on perceived investment performance.

LIMITATION

This study attempts to confirm the different results in previous studies regarding perceived investment performance from the perspective of personality traits; however, there are still limitations that can act as antecedents for future studies. These limitations are related to pre-testing questionnaires that can still be developed and sampling techniques that are too narrow

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DECLARATION OF CONFLICTING INTERESTS

We declare that the information above is true and for any deviation or untruth from the information above, we will accept all decisions from the publisher.

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