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## Article

# The role of earning management as a mediator of the effect of the facial width to height ratio CEOs on leverage

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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# The role of earning management as a mediator of the effect of the facial width to height ratio CEOs on leverage

Heru Tjaraka<sup>1</sup>, Widi Hidayat<sup>1\*</sup> and Rusdiyanto Rusdiyanto<sup>1</sup>

**Abstract:** This study aims to prove the consistency of Agency Theory and Behavioral Consistency Theory as a solution to explain the role of Earnings Management in mediating the influence of male CEO masculinity on leverage. This research uses a quantitative approach with the population and research samples using companies on Indonesia's Stock Exchange in 2014–2018. This study collected facial images identified as male CEOs from data from Indonesia's Stock Exchange website and company websites and utilized Google searches. The data analysis method in this study uses Structural Equation Modeling (SEM) with Stata Software which connects theories, concepts and data that can be carried out on research variables. The findings explain that the decrease and increase in Earning Management practices has an impact on increasing and decreasing the value of the masculinity face of

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### PUBLIC INTEREST STATEMENT

The practical implications of the results of this study can help the Indonesian Institute of Accountants in developing Financial Accounting Standards related to Behavioral Accounting. The theoretical implications of the results of this study can be explained by agency theory and behavioral consistency theory. The policy implications of the results of this study can provide empirical evidence that the face of masculinity of male CEOs affects leverage, the face of masculinity of male CEOs as determinants of Earning Management practices and corporate leverage.

male CEOs also has an impact on increasing and decreasing the value of corporate leverage.

**Subjects:** Gender Studies - Soc Sci; Economics; Finance; Business, Management and Accounting; Industry & Industrial Studies

**Keywords:** CEO male; masculinity; leverage; earnings management

**Subjects:** G32; G02; M1; G34; Z1

## 1. Introduction

Agency theory explains the contractual relationship between shareholders and the CEO as an agent (Jensen & Meckling, 1976). Shareholders have a male CEO as an agent to perform tasks in the interests of shareholders, including the delegation of decision-making authority from shareholders to a male CEO as an agent. (Mahiswari & Nugroho, 2014). Companies on the Indonesia Stock Exchange whose capital consists of shares, shareholders act as principals while male CEOs act as agents. Whereas the theory of behavioral consistency (Epstein, 1979a) Men have a more aggressive nature than women, the aggressive nature of men can affect earnings management practices and leverage

The originality of this study can be seen as a difference with previous research (Jia et al., 2014) explaining that the face of masculinity of male CEOs has a positive effect on Earning Management, while (Kamiya et al., 2018) explains that the face of masculinity of male CEOs has a positive effect on leverage. However, only examining the role of male CEO masculinity faces in terms of Earnings Management and leverage, there is no research that explains the role of Earnings Management to mediate the effect of male CEO masculinity faces on leverage, because higher leverage has an impact on increasing earnings management practices by male CEOs. Whereas in agency theory (Jensen & Meckling, 1976) explains that the role of Earning Management mediates the influence of male CEO characteristics on leverage. Meanwhile, the use of Earning Management variables as mediator variables, based on opinions (Scott, 2015) explains that Earning Management is a practice in the preparation of financial statements that do not violate generally accepted accounting principles, so as to increase or degrade accounting profits as desired by the characteristics of a male CEO as an agent. The characteristics of a male CEO as a company manager know more about the company's data and the company's future prospects than shareholders. Earning Management can be seen in the opportunistic attitude characteristic of male CEOs as agents with agency theory (Jensen & Meckling, 1976). So to provide empirical evidence the role of management mediates the influence of the masculinity of male CEOs affecting leverage. Empirical findings can complement the literature to provide empirical evidence that the influence of the Earnings Management role

**Table 1. Variable description**

Information		Description
i	=	Company cross-section data
t	=	Company time series data
fWHR	=	The Face of Male CEO Masculinity
LEV	=	Leverage
Z (Meditor)	=	Earnings Management
$\alpha$	=	Constant
$\beta_1, \beta_2, \beta_3$	=	Variable regression coefficient LEV, fWHR
$\beta_1, \beta_2, \beta_3$	=	Variable regression coefficients LEV, fWHR, Z
$\epsilon$	=	Error

**Table 2. Descriptive statistics**

	N	Mean	Std. Dev.	Min	Max	1st Perc.	99th Perc.	t-value
Leverage	1925	.482	0.246	0	.99	.01	.93	86.15
fWHR	1781	2.086	6.287	.11	267	1.34	2.79	14
Manajemen Laba	1925	.003	0.007	0	.046	0	.036	16.089

mediating the masculinity of male CEOs on leverage has never been done empirically before, thus providing evidence in the field. Previous research (Jia et al., 2014) explained that the face of male CEO masculinity had an effect on earnings management, while (Kamiya et al., 2018) explained that the face of male CEO masculinity had an effect on leverage.

The face of masculinity is a concept of masculine behavior that exists in men with implications for aggressiveness, having a hard character tends to be emotional to perform actions (Jewitt, 1997). The face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects leverage and Earning Management practices (Jia et al., 2014; Kamiya et al., 2018). The face of masculinity has factors that can affect the performance of a male CEO in managing a company (Tanjaya & Santoso, 2020). The character of a male CEO with a masculine face affects good company management, the face of masculinity is a personal aspect, the masculinity of a person is carried from birth (Kamiya et al., 2018), in the neuroendocrinology literature the face of masculinity in men predicts masculine behavior habits related to aggressive behavior. The masculinity face of a tall male CEO can be predicted to be more aggressive in managing the company (Tanjaya & Santoso, 2020). The face of masculinity of male CEOs has a positive effect on leverage (Kamiya et al., 2018), financing decisions focused on leverage (Kamiya et al., 2018). The characteristics of male CEOs affect leverage (Chava & Purnanandam, 2010; Cronqvist et al., 2012; Huang & Kisgen, 2013; Malmendier et al., 2011).

The characteristics of male CEOs influence the company's decision-making process (Bertrand and Schoar (2003). The masculinity face of male CEOs has a confident nature and often practices Earning Management. The overconfidence nature of male CEOs' characterization often does Earning Management (Graham et al., 2013; Kamiya et al., 2018), Acquisition (Doukas & Petmezas, 2007; Kamiya et al., 2018; Kim, 2013), innovation (Hirshleifer et al., 2012; Kamiya et al., 2018). The characteristics of male CEOs affect leverage (Jia et al., 2014; Kamiya et al., 2018; Wong et al., 2011). Research in the field of neuroendocrinology explains that a man's face affects a

**Table 3. Pearson correlation test**

Variables	(1)	(2)	(3)
(1) Leverage	1.000		
(2) fWHR	0.006 (0.809)	1.000	
(3) Earnings Management	0.111 (0.000)	0.059 (0.013)	1.000
(1) Leverage	1.000		
(2) fWHR	0.006	1.000	
(3) Earnings Management	0.111*	0.059	1.000

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 4. Leverage mediator model analysis**

<b>Output SEM Leverage</b>				
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
<b>VARIABLES</b>	<b>Leverage</b>	<b>Leverage</b>	<b>Leverage</b>	<b>Leverage</b>
Earnings Management (Z)		3.99***		
		(0.79)		
fWHR (X)	0.00**	−0.00**		
	(0.00)	(0.00)		
Constant	0.00***	0.48***	0.00***	0.06***
	(0.00)	(0.01)	(0.00)	(0.00)
Observations	1,781	1,781	1,781	1,781
<b>Output SEM Indirect Leverage</b>				
Earnings Management (Z)		3.99***		
		(0.79)		
fWHR (X)	0.00**	−0.00**		
	(0.00)	(0.00)		
Constant	0.00***	0.48***	0.00***	0.06***
	(0.00)	(0.01)	(0.00)	(0.00)
Observations	1,781	1,781	1,781	1,781
<b>Output SEM Direct Leverage</b>				
Earnings Management (Z)		3.99***		
		(0.79)		
fWHR (X)	0.00**	−0.00**		
	(0.00)	(0.00)		
Constant	0.00***	0.48***	0.00***	0.06***
	(0.00)	(0.01)	(0.00)	(0.00)
Observations	1,781	1,781	1,781	1,781
<b>Output SEM Total EffectLeverage</b>				
Earnings Management (Z)		3.99***		
		(0.79)		
fWHR (X)	0.00**	−0.00**		
	(0.00)	(0.00)		
Constant	0.00***	0.48***	0.00***	0.06***
	(0.00)	(0.01)	(0.00)	(0.00)
Observations	1,781	1,781	1,781	1,781

Stand. err. in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

person's aggressive behavior (Carré & McCormick, 2008; Christiansen & Winkler, 1992). Characteristics of male CEOs influence a person's aggressive behavior (Campbell et al., 2011). Characteristics of male CEOs tend to negotiate for personal gain (Wong et al., 2011). Thus (Stirrat & Perrett, 2010) explains that men who have a high masculinity face are considered trustworthy. Characteristics of male CEOs who have a higher masculinity face have better performance compared to the characteristics of male CEOs who have a lower masculinity face (Kamiya et al., 2018; Kamiya, & Park, 2017; Wong et al., 2011). The masculinity of masculine male CEOs has a positive effect on leverage (Kamiya et al., 2018).

Research provides clear and focused boundaries. This study is an important issue of the role of Earnings Management mediating the masculinity face of male CEOs as the root of the problem with leverage. This research limits companies on Indonesia's Stock Exchange in the 2014–2018 period. This study limits to analyze the facial variables of male CEO masculinity, leverage and Earnings Management as mediation variables. Male CEO masculinity face variables are measured using ImageJ software.

## **2. Literature review and hypothesis development**

### **2.1. Agency theory**

Agency theory is a consequence of the separation of control over agents represented by male CEOs who have direct access to company information data compared to shareholders. relationship between agents represented by male CEOs and shareholders to delegate authority as company managers (Jensen and Meckling (1976). The agent represented by the male CEO with the shareholders must be the same to increase the company through share ownership. However, it is possible that the Agent represented by the male CEO has different thoughts from the shareholders (MAYANGSARI, 2001) so it is hoped that the role of agency theory provides an important solution in decision making for agents represented by male CEOs in carrying out the practice of Earnings Management and research & development costs.

Agency costs in three types: monitoring, bonding, and residual costs (Jensen and Meckling (1976). According to agency theory, humans are naturally selfish, restricted in their ability to anticipate the future, and always avoid taking risks (Eisenhardt (1989). From the assumption of human nature, it can be seen that the role of male CEO characteristics affects policymaking and the implementation of Earnings Management practices and research & development cost policies.

### **2.2. Behavioral consistency theory**

The face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects the practice of Earnings Management and investment research & development seen from the theory of behavioral consistency's point of view (Epstein (1979a), behavioural consistency can be shown as behavior as a prelude to predicting most people in a given time. The theory of behavioural consistency assumes the opinion of a person who can influence events that give rise to emotions, behavioral consistency theory explains that male CEO masculinity is correlated with testosterone, aggressiveness and social status affect earnings management and investment research & development (Epstein (1979a).

### **2.3. Face, testosterone and behavior**

Previous studies provide empirical evidence on the relationship of male facial size with testosterone and masculine behavior. The face of the male CEO is the basis for the association of male facial size in this study. Male face size can predict masculine behavior (Jia et al., 2014). Based laboratory evidence (Carré & McCormick, 2008; Christiansen & Winkler, 1992) explains that men's faces predict having an aggressive nature. The practice of Earnings Management with the face of a male CEO has a relationship with masculine behaviour (Jia et al., 2014). Men's faces positively affect masculine behavior, while testosterone tends to practice Earnings Management (Eisenegger et al., 2010; Jia et al., 2014). The relationship between testosterone and the behaviour of male CEOs affects the brain both before birth and during the growth period (Jia et al., 2014). A group of nerve cells plays a role in-memory processing and emotional reactions as mediators between testosterone in brain regions to evaluate social interactions (Bos et al., 2012; Jia et al., 2014).

Testosterone regulates growth acceleration in adolescents (Johnston et al., 2001). Testosterone affects adolescent growth (Jia et al., 2014; Verdonck et al., 1999). Previous studies provided evidence empirically that male and female development differs in the bizygomatic (between the left cheekbone to the right cheekbone), but for the height of the upper face, there is no difference in the growth



period (Jia et al., 2014). The findings empirically prove that testosterone affects male facial development (Folstad & Karter, 1992). A man's face affects masculine behaviour during infancy (Alrajih & Ward, 2014; Jia et al., 2014). There is a relationship between testosterone and the ratio of the width of the male face (Lefevre et al., 2013). Several studies have proven the existence of a positive relationship between the percentage of male face width to testosterone. Previous research explained that testosterone has a positive relationship with facial development (Lefevre et al., 2013). Higher or lower testosterone in men affects the masculine face (Jia et al., 2014; Pound et al., 2009).

#### **2.4. The face of male CEO masculinity and earning management**

The face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects the practice of Earnings Management and investment research & development seen from the theory of behavioral consistency's point of view (Epstein (1979a), Previous research explained that the masculinity of male CEOs has a positive impact on earnings management practices, meaning that the higher the masculinity of male CEOs has an impact on improving earnings management, these findings are supported by Behavioral Consistency Theory (Jia et al., 2014). Development of research that links accounting practices with the characteristics of top management (Fee et al., 2013; Jia et al., 2014). The development of research in accounting, finance, and economics extends to the characteristics of male CEOs in the company's policy-making process (Fee et al., 2013; Jia et al., 2014).

The characteristic role of male CEOs affects the process of presenting the company's financial statements (Bertrand & Schoar, 2003). The characteristic function of male CEOs positively affects Earnings Management practices (Bamber et al., 2010; Brochet et al., 2011; Dyreng et al., 2010; Feng et al., 2011; Ge et al., 2011; Jia et al., 2014). The characteristics of male CEOs affect the resulting incentive results (Chava & Purnanandam, 2010; Jia et al., 2014). The characteristics of a certain male CEO who is overly confident in his ability to implement Earnings Management techniques (Jia et al., 2014). The face of masculinity of male CEOs positively affects Earnings Management practices (Jia et al. (2014).

#### **2.5. The face of male CEO masculinity and leverage**

The characteristic role of male CEOs affects leverage (Bertrand & Schoar, 2003; Cain & McKeon, 2016; Kamiya et al., 2018). The characteristic experience of male CEOs affects leverage (Bernile et al., 2015; Kamiya et al., 2018; Malmendier et al., 2011). The face of masculinity of male CEOs has a positive effect on leverage (Kamiya et al., 2018; Kim et al., 2017). The characteristic role of male CEOs has a positive influence on leverage (Kamiya et al., 2018; Kim et al., 2017).

Previous research explained that the face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects Earnings Management and leverage seen from behavioral consistency theory's perspective (Epstein, 1979a). The face of masculinity of male CEOs has a positive effect on leverage. Financing decisions focused on leverage policy, high leverage can increase a company's liabilities, (Kamiya et al., 2018) the masculinity of male CEOs has a positive effect on leverage. The Characteristic Role of male CEOs positively affects leverage (Chava & Purnanandam, 2010; Cronqvist et al., 2012; Huang & Kisgen, 2013; Malmendier et al., 2011).

#### **2.6. Research conceptual framework**

The mediator factors in this study are explained in terms of the conceptual framework by the interaction between independent and dependent variables (Table 1). Research places the face of male CEO masculinity as an independent variables, research & development costs as a dependent variables, and Earnings Management as a mediator variable. Based on the explanation above, the conceptual framework of the study (Figure 1) can be described as follows:



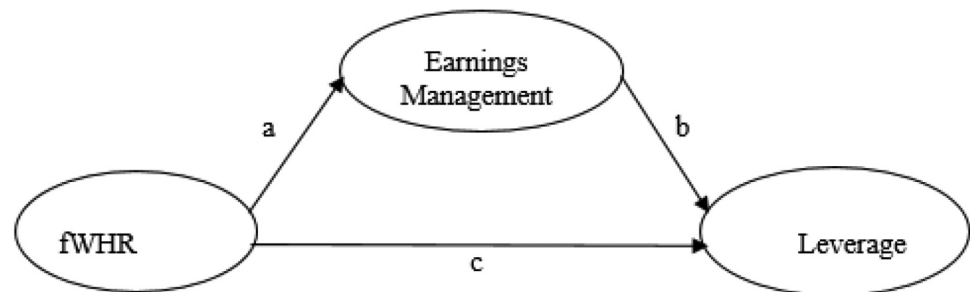
## 2.7. Research hypothesis

### 2.7.1. Earning management mediates the influence of a male CEO's masculinity face on leverage

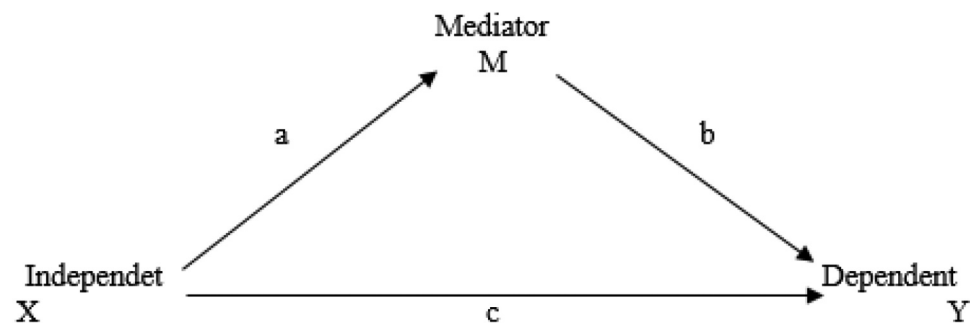
An agency relationship is a contract that occurs between the characteristics of a male CEO as an agent and shareholders (Jensen & Meckling, 1976). Earning Management practices are influenced by conflicts of interest between shareholders and the characteristics of male CEOs as agents, where they put each other's interests first in order to maximize their utility. With this strategy, the characteristics of a male CEO as an agent can reduce the possibility of getting pressure due to the dissatisfaction of shareholders who have an interest in carrying out Earning Management practices (Hillman et al., 2001).

Earning Management practices have a positive effect on leverage. In particular, companies engaged in Earning Management practices seem to have relatively higher leverage, the impact

**Figure 1. Research conceptual framework.**

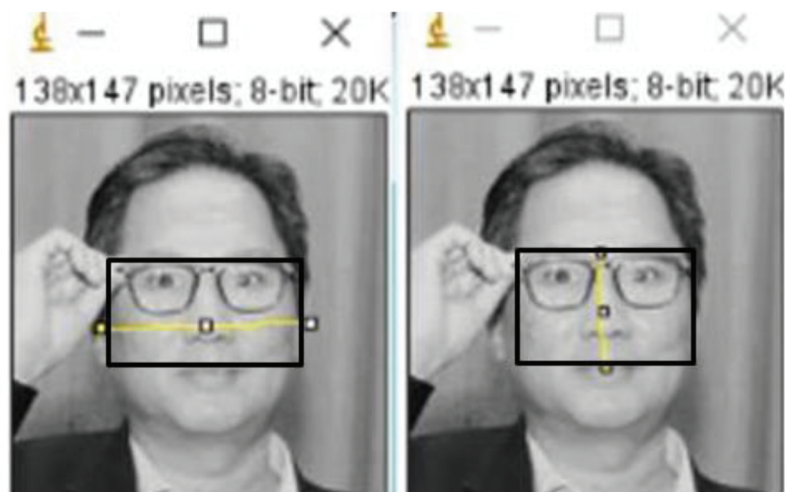


**Figure 2. Relationship between independent, mediator and dependent variables (Baron & Kenny, 1986; Zhao et al., 2010).**



**Figure 3. Male CEO masculinity face measurement (fWHR).**

Information: Horizontal line, Represents the maximum distance between the left cheekbone to the right cheekbone. Vertical Line, Represents the distance from the top of the lip to the top of the eyelid.



of the country's economic conditions with changes in the nature of the cross-border institutional environment also affects leverage (Dang et al., 2018). Research that explains the relationship between the face of male CEO masculinity and the tendency to practice Earning Management (Jia et al., 2014). The masculinity face of male CEOs has a tendency to engage in Earning Management practices. Masculine behavior positively affects Earning Management practices (Jia et al., 2014), egocentric behavior (Wright et al., 2012). Characteristics of male CEOs have a tendency to practice Earning Management (Baker, 2000; Garen, 1994). Incentives affect Earning Management practices (Jia et al., 2014; P. M. Dechow et al., 2011; Wong et al., 2011). The characteristic role of male CEOs with masculine faces positively affects Earning Management practices (Jia et al., 2014). The face of male CEO masculinity correlates with testosterone, aggressiveness, self-confidence positively affects profit and leverage management practices, viewed from the behavioral consistency theory's perspective (Epstein, 1979a). The face of masculinity of male CEOs has a positive effect on leverage (Kamiya et al., 2018).

Based on the description above, Earning Management is a very safe manipulation, because Earning Management activities are legitimate and do not violate generally accepted accounting principles (Scott, 2015). Earning Management practices are expected to mediate the influence of male CEOs' masculinity faces on leverage. The hypothesis proposed is as follows:

*H<sub>1</sub>: Earning Management Mediates the Positive Influence of a Male CEO's Masculinity Face On Leverage*

## **2.8. Data analysis techniques**

Data analysis is a step that follows the selection and collection of study data (Sudaryanto et al., 2022; Utari, Sudaryanto et al., 2021). Data analysis in the study using Stata Software version 14.2. Use of Stata Software version 14.2 on research for several reasons:

- (1) The study aims to confirm existing theories and concepts using data. Stata software version 14.2 was used for this study because it can regression ordinary least square (OLS).
- (2) The research model is relatively complex, because there is a proxy for Earnings Management to act as a mediator variable to see how the role of Earnings Management mediates the influence of the male CEO's masculinity face on research & development costs.
- (3) The model that is built there is a tiered causality relationship, which has a distinctive feature, so it is expected that the mediator variable to see how the independent and dependent variables are linked.

Variable mediator is an intermediate variable that acts as a mediator between dependent and independent variables. Testing mediators to prove the role of Earnings Management as a mediation variable serves to mediate the relationship between the facial variables of male CEO masculinity to research & development costs.

Criteria for determining the influence of mediation in a relationship (Baron & Kenny, 1986; Zhao et al., 2010) explains as follows:

- a. The independent variables should have a significant impact on the mediator variables.
- b. The mediator variable should have a significant impact on the dependent variables
- c. The independent variables should have a significant impact on the dependent variables.

The following is a picture (Figure 2) that is the process of determining the type of mediator variable (Baron & Kenny, 1986; Zhao et al., 2010):

Zhao et al. (2010) conduct research by developing the types of mediator research that have been carried out previously by (Baron & Kenny, 1986) by identifying three patterns consistent with the mediator and two consistent patterns without a mediator as follows:

- a. Complementary mediator: the influence of the mediator (axb) and the direct influence (c) they are both genuine and orient themselves in the same broad direction.
- b. Competitive mediator: the influence of the mediator (axb) and the direct influence (c) both exist and point in opposite directions.
- c. Indirect-only mediator: there is an influence of the mediator (axb), however there is no direct impact
- d. Direct-only nonmediation: there is a direct influence (c), but there is no indirect influence.

No-effect nonmediation: no influence either directly or indirectly.

### 3. Research methods

#### 3.1. Research methodologies and approaches

This study uses a quantitative approach, to provide meaning by interpreting statistical figures (Aliyyah, Siswomihardjo et al., 2021; Prasetyo et al., 2021). This study aims to provide empirical evidence of the role of Earnings Management in mediating the effect of male CEO masculinity on leverage (Endarto, Taufiqurrahman, Kurniawan et al., 2021; Indrawati et al., 2021) population and research sample using companies on the Indonesia Stock Exchange in 2014–2018. This study collects face images of male CEOs from the Indonesia Stock Exchange website and utilizes Google searches. The data analysis method in this study uses Regression Structural Equation Modeling (SEM), with Stata Software which connects theories, concepts and data that can be carried out on the variables of this study.

#### 3.2. Operational definitions and measurements

The face of masculinity of male CEOs is variable independent (X), variable leverage as variable dependent (Y), variable earnings management as variable mediator (Z).

##### 3.2.1. Independent variables (X)

Independent variables can affect other variables (Abadi et al., 2021; Aliyyah, Prasetyo et al., 2021). The study used the male CEO's masculinity face variable as an independent variable. The face of masculinity is a concept of masculine behaviour that exists in men with implications for aggressiveness, has a complex character tends to be emotional in carrying out actions (Jewitt, 1997). Measurement of male CEO masculinity face variables using ImageJ software, research converts images of male CEOs' faces into grayscale images with a height of 8 bits (Kamiya et al., 2018).

The ImageJ software measures the distance between two points on each of the study's male CEOs' faces by dragging the mouse across the image; the vertical line size Represents the distance from the top of the lip to the top of the eyelid. While the horizontal line represents the maximum distance between the left cheekbone to the right cheekbone (Kamiya et al., 2018). Accordingly, the study independently assigned a photo quality score between zero and three following criteria:

0: As a result of this poor posture, either one or both ears are obscured, or the photographer captures a picture of the face that causes difficulty in measuring the face's height.

1: It appears like only half of the ear is visible since the person is leaning slightly to one side.

2: Both ears can be seen on the face, with their roots visible.

3: Proper standing or sitting posture is characterised by a straight back and ears that can be seen all the way up to the crown of the head.

The study used quality scores number two and three based on guidelines (Kamiya et al., 2018). The measurement scale of this study using the percentage ratio scale can be seen in the following image (Figure 3):

### 3.2.2. Dependent variables leverage

Dependent variables are variables whose values cannot be influenced by other variables (Kalbuana, Prasetyo et al., 2021; Kalbuana, Suryati et al., 2021). Variable dependent in the study uses leverage. Leverage describes the division of total liabilities with total assets. This financial ratio explains the amount of assets owned by the company that are financed by liabilities. The greater the value of liabilities, so that the impact felt by investors becomes large to receive the profits they receive (Kamiya et al., 2018). Leverage measurement is the result of the division of total liabilities with total assets (Kamiya et al., 2018). The measurement scale of this study uses a percentage ratio scale with the following formula:

$$\text{Leverage} = \frac{\text{Total Liabilitas}}{\text{Total asset}}$$

Information:		
Leverage <sub>i,t</sub>	=	Leverage i on year to t
Total Liabilitas <sub>i,t</sub>	=	Total liabilities of the company i in year to t
Total Aset <sub>i,t</sub>	=	Total assets of company i in year to t

### 3.2.3. Variable mediator

Variable mediator is an intermediate variable which functions to mediate the relationship between independent variables and dependent variables (Baron & Kenny, 1986; Kalbuana, Prasetyo et al., 2021; Kalbuana, Suryati et al., 2021; Mehmetoglu, 2018; Zhao et al., 2010). Variable mediator in the study using Earnings Management (Jia et al., 2014). Earnings Management is a practice in the process of preparing financial statements, so that it can increase or decrease accounting profits as desired by management. The characteristics of a male CEO as a company manager know more data about the state of the company and the company's future prospects than shareholders (Scott, 2015).

Earnings Management on research using model measurement (Kothari et al., 2005) refinement of the model by including return on assets, this model adds return on assets in the calculation of discretionary accruals, so as to be able to measure Earnings Management more accurately. The measurement scale of this study uses a percentage ratio scale. Here's the model equation (Kothari et al., 2005) with the following formula:

(1) Calculating TA (total accrual) i.e. net profit for year t less operating cash flow for year t with the following formula:

$$\text{TAC} = \text{NI}_{it} - \text{CFO}_{it}$$

The following is an estimate of total accrual (TA) using the Ordinary Least Square method:

$$\frac{\text{TA}_{it}}{\text{A}_{it} - 1} = \beta_1 \left( \frac{1}{\text{A}_{it} - 1} \right) + \beta_2 \left( \frac{\Delta \text{REV}_{it}}{\text{A}_{it} - 1} \right) + \beta_3 \left( \frac{\text{PPE}}{\text{A}_{it} - 1} \right) + \varepsilon$$

(2) The NDA (non-discretionary accruals) are calculated using the formula above, which includes the regression coefficient.:

$$NDA_{it} = \beta_1 \left( \frac{1}{A_{it} - 1} \right) + \beta_2 \left( -\frac{\Delta REV_{it}}{A_{it} - 1} - \frac{\Delta REC_{it}}{A_{it} - 1} \right) + \beta_3 \left( \frac{PPE}{A_{it} - 1} \right) + \beta_4 \left( \frac{ROA_{it}}{A_{it} - 1} \right) + \varepsilon$$

(3) Finally, the formula for determining DA (discretionary accruals) as a metric of Earnings Management is as follows:

$$DA_{it} = \frac{TA_{it}}{A_{it} - 1} - NDA_{it}$$

Information:		
$NDA_{it}$	=	Non Discretionary Accruals of the corporation i in the period of years t
$TAC_{it}$	=	Total accruals of the corporation i in the time/period t
$NI_{it}$	=	Net profit of the corporation i in the time/period of years t
$CFO_{it}$	=	Corporation's operating cash flow in year t
$A_{it-1}$	=	Total assets of corporation i in the time/period t-1
$\Delta Rev_{it}$	=	The revenue of the corporation i in year t is reduced by the revenue company I in year t-1
$PPE_{it}$	=	Fixed assets of the corporation i in the time/period t
$DA_{it}$	=	Discretionary accruals of the corporation i in the time/period to t
$\Delta Rec_{it}$	=	Accounts receivable of the corporation i in year t minus the income of the corporation i in year t-1
$ROA_{it}$	=	Return on assets of the corporation i in the time/period d to t
$\varepsilon$	=	Error

### 3.2.4. Statistik deskriptif

Descriptive statistics are statistics that can describe the picture of the research object through analytical data (Prasetyo, Aliyyah, Rusdiyanto, Utari et al., 2021; Utari, Iswoyo et al., 2021), without conducting analysis from data on the face variables of male CEO masculinity, variable average, and variable earnings management.

### 3.2.5. Uji korelasi Pearson

Pearson correlation testing is used to see how the independent and dependent variables are linked by assuming Pearson correlations are normally distributed data (Prasetyo, Aliyyah, Rusdiyanto, Nartasari et al., 2021; Rusdiyanto et al., 2021). If there is any correlation between two variables, the results will be either positive (+) or negative (-). Having a positive correlation value indicates that the link is one-way. When the independent variable grows, the dependent variable also grows. This is known as unidirectional growth Correlation values that are negative signify a lack of

directionality in the relationship. In other words, if the value of the independent variable is great, then the dependent variable decreases between 0 and 1, there is a correlation (Endarto, Taufiqurrahman, Suhartono et al., 2021; Prasetyo, Aliyyah, Rusdiyanto, Kalbuana et al., 2021). With Pearson correlation formulations as follows:

$$r_{xy} = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{\{n\sum X^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}}}$$

Information:

<b>r</b>	<b>=</b>	<b>Correlation value</b>
X	=	Variable X
Y	=	Variable Y

### 3.2.6. Research regression model

Regression analysis to find out how close the relationship that occurs between one variable and another. Regression analysis has the function of predicting or predicting the magnitude of the value of an independent variable (Y) if the dependent variable (X) is changed (Prasetyo, Aliyyah, Rusdiyanto, Nartasari et al., 2021; Rusdiyanto et al., 2021). A regression analysis of panel data was used to test the role of Earnings Management mediating the influence of the male CEO's masculinity face (fWHR) on research & development (Y) costs. Based on the independent variables and dependent variables that have been described, an equation model is obtained which will be used as follows:

The role of Earnings Management mediates the influence of the male CEO's masculinity face on research & development costs

$$Z_{i,t} = \beta_0 + \beta_1 fWHR_{i,t} + \varepsilon \quad (1)$$

$$LEV_{i,t} = \beta_0 + \beta_1 Z_{i,t} + \varepsilon \quad (2)$$

$$LEV_{i,t} = \beta_0 + \beta_1 fWHR_{i,t} + \varepsilon \quad (3)$$

To explain from the model of variable face masculinity of male CEOs, variable research & development costs, and variable mediators of Earnings Management can be explained as follows:

## 4. Results of research and discussion

### 4.1. Variable descriptive statistics

The results of descriptive statistics can be presented with a minimum, maximum, mean, standard deviation of the studied variable from a sample of enterprises. In addition to presenting based on a sample of companies on Indonesia's Stock Exchange in the period 2014–2018, testing this sample based on companies on Indonesia's Stock Exchange, can be seen in the [table 2](#) below:

Based on the figure above shows the number of observations (N) there was 1925, from 1925 this observation the minimum leverage value was .0, and the maximum leverage value was 0.99. The average value from 1925 or mean was 0.4823844 with a standard deviation of 0.2456704.

Based on the picture above, it shows the number of observations (N) there are 1781, out of 1781 observations the minimum male CEO masculinity face value is 0.11, and the maximum male CEO masculinity face value is 267. The average value of 1781 observations or mean was 2.08575 with a standard deviation of 6.287219.

Based on the figure above shows the number of observations (N) there were 1925, from 1925 this observation the value of Earning Management (minimum) was .0, and the value of Earning Management (maximum) was 0.0456759. The average value from 1925 or mean was 0.0026846 with a standard deviation of 0.0073209.

#### 4.2. Pearson correlation test

In the Pearson correlation test to see how strong or how weak the relationship of Earnings Management roles mediates the influence of the male CEO's masculinity face on leverage. In this test, if the Pearson correlation value ( $r$ ) is above 0.05 (5%), then there is a strong relationship the role of management mediating the influence of the male CEO's masculinity face on leverage, if the Pearson correlation value is below 0.05 (5%) then the relationship of Earnings Management role mediates the influence of the male CEO's masculinity face on leverage is declared weak.

Based on the [table 3](#) above, it can be interpreted that the variable leverage, the face of masculinity of male CEOs and Earnings Management have a value above 0.05 (5%). Thus, it can be explained that all of these variables are declared valid to be used in model testing. The reliability test results above explain the value above 0.05 (5%). This proves that all variables used are the same reliable if tested.

#### 4.3. Leverage mediation analysis mediation model

The process for analyzing mediation on an estimation model requires two approaches. The first approach based on (Baron & Kenny, 1986) is carried out several stages in analyzing the significance between the specifications of the mediation variables to strengthen the relationship between the independent variables to the dependent variables, so that it can be interpreted that the mediation variable affects in full as a mediator variable ([Table 4](#)).

The second approach is based on an approach (Zhao et al., 2010) to test mediation with multiple Tests. In the first test, an estimate of indirect impact (indirect effect) was carried out divided by the overall impact (total effect) or called the Ratio Indirect to Total Effect (RIT) which had an independent variable impact on the dependent variable mediated by the mediation variable. In the next test, an estimate of the indirect effect was carried out divided by a direct impact (direct effect) or called the Ratio Indirect Effect to Direct Effect (RID) which indicates the magnitude of the impact of the independent variable on the dependent variable mediated by the mediation variable. The last is the Sobel test, which compares p-value with z-value as the basis for the hypothesis of mediation between variables.

**In the First Stage** testing the influence of the male CEO's masculinity face on Earning Management practices with the results of the p-value significance level of  $0.012 \leq 0.05$  (5%) the results of this empirical analysis were declared to have passed the first stage regression test the influence of the male CEO masculinity face positively affecting Earning Management practices with a p-value significance level of  $0.012 \leq 0.05$  (5%), meaning that the masculinity face of male CEOs has a positive effect on Earning Management practices. The findings are consistent with his findings (Jia et al., 2014) explaining that the face of masculinity of male CEOs has a positive effect on Earning Management practices, meaning that the decrease and increase in the value of the masculinity face of male CEOs has an impact on increasing and decreasing Earning Management practices.

**In the Second Phase**, testing the effect of Earning Management practices on leverage with the results of the p-value significance level of  $0.000 \leq 0.05$  (5%) the results of this empirical analysis were declared passed in the second regression test to test the effect of Earning Management practices on leverage with a p-value significance level of  $0.000 \leq 0.05$  (5%), the findings were consistent with their findings (Dang et al., 2018) which explains that the decrease and increase in the value of Earning Management practices has an impact on increasing and decreasing the value of leverage.



**In the Third Stage** testing the influence of the male CEO's masculinity face on leverage, with the result of a p-value significance level of  $0.957 \geq 0.05$  (5%) this result was declared not to pass the third regression test the influence of the male CEO's masculinity face on leverage with a p-value significance level of 0.957, meaning that the decrease and increase in the face value of the male CEO masculinity had no impact on increasing and decreasing leverage, while in the Sobel test, a p-value signification level of  $0.025 \leq 0.05$  (5%) was obtained. The conclusion of the approach (Baron & Kenny, 1986), the first stage of testing, the second stage of testing is significant and in the third stage of testing it is not significant, while in the Sobel test, the p-value significance level value is obtained  $0.025 \leq 0.05$  (5%). This means that the role of Earning Management mediates the positive influence of the male CEO's masculinity face on leverage, meaning that the decrease and increase in the value of Earning Management practices has an impact on increasing and decreasing the value of the male CEO's masculinity face also has an impact on increasing and decreasing the value of leverage. The third hypothesis accepted because the p-value of  $0.012 \leq 0.05$  (5%). The third finding is supported by the hypothesis proposed by Earning Management Mediating a Positive Influence On The Face Of Male CEO Masculinity Towards Leverage. The findings include the complementary mediator type. Approach (Zhao et al., 2010)

**On Monte Carlo Testing** tested the influence of the male CEO's masculinity face on leverage with a p-value signficity rate of  $0.957 \geq 0.05$  (5%), meaning that the decrease and increase in the value of the male CEO's masculinity face did not have an impact on increasing and decreasing the company's leverage. The findings are inconsistent with their findings (Kamiya et al., 2018) explaining that the decrease and increase in the face of CEO masculinity has an impact on increasing and decreasing leverage.

**Second Test of Ratio Indirect to Total Effect (RIT)** formula (Indirect effect/Total effect)/ (0.007/0.006) = 1.223, Meaning that about 122 % of the effect of the role of Earning Management mediates the influence of the ceo's masculinity face on leverage.

**Third Test of Ratio Indirect Effect to Direct Effect (RID)** formula (Indirect effect/Direct effect)/ (0.007/0.001) = 5.492, That is, the mediation effect is about 5.5 times the direct effect of the influence of the male CEO's masculinity face on leverage mediated by Earning Management. Based on the description above, it can be concluded that the practice of Earning Management mediates the positive influence of the CEO's masculinity face on leverage. **The proposed hypothesis is accepted. The findings are supported by the hypothesis proposed by Earning Management Mediating the Positive Influence of the Male CEO's Masculinity Face on Leverage** using two approaches (Baron & Kenny, 1986; Zhao et al., 2010) with its analysis procedure using the procedure (Mehmetoglu, 2018). The findings empirically belong to the complementary mediator type.

#### 4.4. Discussion of research result

The findings empirically reveal that the face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects the practice of Earning Management and leverage, seen from the behavioral consistency theory's perspective (Epstein, 1979a). Meanwhile, agency theory explains the consequences of separating control of male CEOs as agents having direct access to company information data compared to shareholders. Jensen and Meckling (1976) explained that the contract between shareholders and the characteristics of a male CEO as an agent to delegate the authority and operational activities of the company. The characteristic purpose of a male CEO as an agent with shareholders should be the same, to improve the company through shareholder prosperity but sometimes the characteristics of a male CEO as an agent have thoughts that are contrary to those of shareholders (MAYANGSARI, 2001). So agency theory provides an important solution in the decision-making process of male CEO characteristics related to the policy-making process of the company's profit and leverage management practices.

The empirical findings have implications for company management as policy-making regarding the face of male masculinity has an impact on earnings management policies, leverage policies and research & development cost policies, so that the empirical findings can be used by company management and the government. The findings empirically provide evidence in the field of behavioral accounting by looking at the face of masculinity as a determinant of earnings management, leverage and research & development costs. Furthermore, it enriches empirical findings in the field of behavioral accounting and becomes a reference for conducting future research

Jia et al. (2014) explain that a man's face can predict masculine behavior. Whereas (Carré & McCormick, 2008; Christiansen & Winkler, 1992) explains that a man's face predicts the nature of a person's aggressiveness. The face of the male CEO is connected with the process of presenting the company's financial statements. Jia et al. (2014) provide empirical evidence of the relationship of male CEOs' faces to masculine behavior. Whereas (Dikolli et al., ; Jia et al., 2014) empirically proved that the characteristics of male CEOs having excessive trust affect Earning Management practices. Dang et al. (2018) explained that the decrease and increase in Earning Management practices has an impact on increasing and decreasing the company's leverage. In particular, companies that practice Earning Management seem to have relatively higher leverage funding. Kamiya et al. (2018) provide empirical evidence that an decrease and increase in the face value of male CEOs' masculinity has an impact on increasing and decreasing the value of a company's leverage, financing decisions are focused on leverage policy, high leverage can increase a company's liabilities. The decrease and increase in the characteristic value of male CEOs has an impact on increasing and decreasing the value of corporate leverage (Cronqvist et al., 2012; Huang & Kisgen, 2013; Malmendier et al., 2011; Chava & Purnanandam, 2010).

## 5. Conclusion

The practice of Earning Management mediates the influence of the masculinity face of male CEOs on leverage. The findings provide empirical evidence that Earning Management practices have an impact on increasing and decreasing the masculinity of male CEOs as well as having an impact on increasing and decreasing leverage. The findings are supported by agency theory and behavioral consistency theory which explains that the face of CEO masculinity affects Earning Management and leverage practices. Meanwhile, agency theory explains the characteristic role of male CEOs in making Earning Management practices and corporate leverage policies. The findings are empirically supported by ImageJ software that the face of male CEO masculinity affects the company's Earning Management and leverage management practices.

The empirical findings have implications for company management as policy-making regarding the face of male masculinity has an impact on earnings management policies, leverage policies and research & development cost policies, so that the empirical findings can be used by company management and the government. The findings empirically provide evidence in the field of behavioral accounting by looking at the face of masculinity as a determinant of earnings management, leverage and research & development costs. Furthermore, it enriches empirical findings in the field of behavioral accounting and becomes a reference for conducting future research

### Author's contribution

Rusdiyanto carried out the research, wrote and revised the article. Heru Tjaraka conceptualised the central research idea and provided the theoretical framework. Heru Tjaraka and Widi Hidayat designed the research, supervised research progress; Heru Tjaraka and Widi Hidayat anchored the review, revisions and approved the article submission.

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