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Article

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

The role of leverage as mediator the effect of male CEO masculinity face on research & development

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Abstract: This study aims to prove the support of Agency Theory and Behavioral Consistency Theory as a solution to explain the role of leverage in mediating the influence of male CEO masculinity on research and development. This study uses a quantitative approach with a population and research sample using companies on the Indonesia Stock Exchange in 2017–2021. This study collects facial images identified as male CEOs from data on the Indonesia Stock Exchange website and company websites and utilizes Google search. The data analysis method in this study uses Structural Equation Modeling which connects theories, concepts and data that can be applied to research variables. The findings explain that decreasing and increasing leverage has an impact on increasing and decreasing the masculinity value of male CEOs as well as increasing and decreasing the value of research and development. The implications of the results of this research can assist the Indonesian Institute of Accountants in developing Financial Accounting Standards No. 19 in Indonesia. The theoretical implications of the results of this study can be explained through Agency Theory, Behavioral Consistency Theory and Upper Echelon Theory. The policy implications of the results of this study can provide



Indra Prasetyo

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Indra Prasetyo is the Chairman of the Foundation and Director of Postgraduate Universitas Wijaya Putra, Surabaya Indonesia. He holds a Bachelor's degree in Agriculture from Universitas Wijaya Putra, Surabaya, Indonesia with a degree (SP), Master of Management Postgraduate Program from Universitas Gadjah Mada with a degree (M. M), Postgraduate Program in Management Science from Universitas Brawijaya with a degree (Dr.) Research interests include human resources, human behavior in policy makers.

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PUBLIC INTEREST STATEMENT

Previous research was conducted in the United States (Jia et al., 2014) with its findings explaining that the masculinity face of male CEOs has a positive effect on earnings management practices, while (Kamiya et al., 2018) with empirical findings explains that the masculinity face of male CEOs has a positive effect on leverage. While the empirical findings in Indonesia have a different direction, the masculinity of the male CEO's face has a negative effect on leverage, meaning that the higher the masculinity of the male CEO's face has an impact on the decrease in leverage, and vice versa, the lower the masculinity of the male CEO has an impact on the increase in leverage (N F Asyik et al., 2022). The findings empirically have implications for regulators and corporate governance policy makers regarding male face size as a determinant of Research & Development policies and leverage

empirical evidence that the higher the face value of masculinity for male CEOs has an impact on increasing leverage and research and development costs, conversely the lower face value of masculinity for male CEOs has an impact on increasing the value of leverage as well as research and development, and leverage mediates the effect of face male CEO masculinity on research and development costs.

Subjects: Psychological Science; Developmental Psychology; Economics; Finance; Business, Management and Accounting

Keywords: CEO Male; Masculinity; Leverage; R&D; Stata; SEM

JEL CLASSIFICATION: G32; G02; M1; G34; Z1

1. Introduction

The role of the male CEO in the company is very important to determine the success of the company he leads in the 2017 to 2021 period. The male CEO has an important role for the company's success from the performance of its leaders. The CEO in carrying out his leadership in making policies used for the company, the CEO is a company manager who carries out operational activities in the period 2017 to the period 2021. Agency theory explains the contractual relationship between shareholders and the CEO as an agent (Ignatia Martha Hendrati et al., 2022; 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 (N F Asyik et al., 2022; Mahiswari & Nugroho, 2014; Prasetyo et al., 2022). 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, 1979; Kalbuana et al., 2022; Tjaraka et al., 2022) Men have a more aggressive nature than women, the aggressive nature of men can affect leverage and research and development.

A study that was conducted (Kamiya et al., 2018; Sudaryanto et al., 2022; Utari; Utari et al., 2021a) explains that there is a relationship between the face size of male CEO masculinity and leverage policy making, which can improve company performance. The masculine face of male CEOs has an impact on reducing leverage policies. Yuppeting Jia et al. (2014; Aliyyah, Siswomihardjo et al., 2021; Januar Eko Prasetyo et al., 2021) also stated that the face size of male CEO masculinity has a positive effect on earnings management, meaning that the higher the masculinity face size of male CEOs has an impact on increasing earnings management, and vice versa the lower the masculinity face size of male CEOs has an impact on decreasing earnings. Management can encourage the performance and desire of employees to realize maximum work performance so as to help achieve the company's goals.

In contrast to the research conducted (Kamiya et al., 2018; Yuppeting Jia et al., 2014) the research conducted (Almor et al., 2020; Endarto, Taufiqurrahman, Kurniawan, Indriastuty, Prasetyo, Aliyyah, Endarti, Abadi, Daim, Ismono, Rusdiyanto et al., 2021; Indrawati et al., 2021a) found that gender relations have a negative effect on research & development (R&D), meaning that higher gender values have an impact on decreasing research & development, the lower the gender value has an impact on increasing research & development (R&D). The high level of facial masculinity for male CEOs means that the performance of male CEOs will increase but the increase is not significant. This is precisely in contrast to the results of his research (Almor et al., 2020; Prasetyo, Aliyyah, Rusdiyanto, Utari et al., 2021, 2021) which explains that gender values have a negative effect on research & development, meaning that the higher the gender value has an impact on reducing the value of research & development (R&D), and vice versa the lower the gender value has an impact on increasing research & development (R&D).

The originality of this study can be seen as a difference with previous research (Abadi et al., 2021; Almor et al., 2020; Endarto, Taufiqurrahman, Indriastuty et al., 2021) explaining that the gender has a negative effect on research & development, whereas (Kamiya et al., 2018; Aliyyah, Prasetyo, Rusdiyanto, Endarti, Mardiana, Winarko, Chamariyah, Mulyani, Grahani, Rochman, Kalbuana et al., 2021; Prasetyo, 2021) explaining that the face of masculinity of male CEOs has a positive effect on leverage. However, by only examining the role of male CEO masculinity faces in terms of leverage and research and development, there is no research that explains the role of leverage to mediator the effect of male CEO masculinity faces on research and development, because higher leverage has an impact on increasing research and development practices by male CEOs. Whereas in agency theory (Jensen & Meckling, 1976; Kalbuana, Suryati et al., 2021; Rusdiyanto et al., 2021) explains that the role of leverage mediator the influence of male CEO characteristics on research and development. Meanwhile, the use of research and development variables, based on opinions (Scott, 2015; Kalbuana, Prasetyo et al., 2021; Prasetyo, Aliyyah, Rusdiyanto, Nartasari, et al., 2021) explains that research and development 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. Research & development can be seen in the opportunistic attitude characteristic of male CEOs as agents with agency theory (Jensen & Meckling, 1976; Prasetyo, Aliyyah, Rusdiyanto, Chamariah, et al., 2021; Prasetyo, Endarti et al., 2021). So to provide empirical evidence the role of leverage mediator, the influence of the masculinity of male CEOs is affecting research and development. Empirical findings can complement the literature to provide empirical evidence that the influence of the leverage role mediator the masculinity of male CEOs on research and development has never been done empirically before, thus providing evidence in the field. Previous research (Almor et al., 2020; Prasetyo et al., 2021a; Prasetyo et al., 2021b) explained that the face of male CEO masculinity had an effect on research & development, whereas (Kamiya et al., 2018; Luwihono et al., 2021; Shabbir et al., 2021) 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; Prabowo et al., 2020; Susanto et al., 2021). The face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects research and development (Jia et al., 2014; Rusdiyanto, Agustia, et al., 2020; Rusdiyanto, Hidayat, et al., 2020). The face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects leverage (Juanamasta et al., 2019; 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; Asyik et al., 2022; Wahidahwati & Asyik, 2022). 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; Dewianawati & Asyik, 2021; Wijaya et al., 2020) 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 (Maulidi et al., 2022; Nuswantara, 2023; Tanjaya & Santoso, 2020).

The characteristics of male CEOs influence the company's decision-making process (Ahmed et al., 2022; D A Nuswantara & Maulidi, 2021; Bertrand & Schoar, 2003). The masculinity face of male CEOs has a confident nature and often practices research and development. The overconfident nature of male CEOs' characterization often does research and development (Graham, Harvey & Puri, 2013; Kamiya et al., 2018; Malmendier & Tate, 2005), Acquisition (Doukas & Petmezas, 2007; Kim, 2013; Kamiya et al., 2018), innovation (Hirshleifer et al., 2012; Kamiya et al., 2018). The characteristics of male CEOs affect leverage (Kamiya et al., 2018; Gomulya et al., 2017; Jia et al., 2014; Wong et al., 2011). Research in the field of neuroendocrinology explains that a man's face affects a person's aggressive behavior (Carré & McCormick, 2008; Christiansen & Winkler, 1992).

Characteristics of male CEOs influence a person's aggressive behavior (Campbell, et al. 2011; IRIANI et al., 2021; Nuswantara et al., 2018) Characteristics of male CEOs tend to negotiate for personal gain (Wong et al., 2011; Dian Anita Dian Anita Nuswantara & Maulidi, 2017). Thus (Stirrat & Perrett, 2010; I M; I M Hendrati et al., 2019; I M; Hendrati & Fitrianto, 2020; I M; Hendrati & Taufiqo, 2020) 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).

Research provides clear and focused boundaries. This study is an important issue of the role of leverage mediator the masculinity face of male CEOs as the root of the problem with research and development. This research limits companies on Indonesia's Stock Exchange in 2017(Adi et al., 2022; Suroso Sudaryanto et al., 2021)-2021 period. This study limits to analyze the facial variables of male CEO masculinity, research and development and leverage mediator 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 (Adi et al., 2022; Jensen & Meckling, 1976; Suroso Sudaryanto et al., 2021). 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 (Hanim et al., 2019; MAYANGSARI, 2001; Sudaryanto et al., 2020) 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 leverage and research & development.

Agency costs in three types: monitoring, bonding, and residual costs (Jensen & Meckling, 1976; Putri & Sudaryanto, 2018; Sudaryanto et al., 2019). According to agency theory, humans are naturally selfish, restricted in their ability to anticipate the future, and always avoid taking risks (Eisenhardt, 1989a; Susilowati et al., 2022; Yuhertiana et al., 2022). 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, leverage 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 leverage and research and development seen from the theory of behavioral consistency's point of view (Epstein, 1979; Yuhertiana, Arief et al., 2020; Yuhertiana, Izaak et al., 2020), 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 leverage and research and development (Epstein, 1979; Yuhertiana, Arief et al., 2020; Yuhertiana, Izaak et al., 2020).

2.3. Upper echelon theory

Hambrick and Mason (1984) explain in the Upper Echelon Theory that the assumptions that will occur in a company by studying the characteristics of the top management team in the company. Hambrick & Mason (1984; Yuhertiana, Purwanugraha et al., 2019; Yuhertiana, Rochmoeljati et al., 2020) describe the distinguishing characteristics that are influenced by the characteristics of male CEOs on psychological aspects in terms of cognitive in managing the company. The decision-

making process was initially divided into two models, namely rational and improvement (Fredrickson, 1984; Fredrickson & Mitchell, 1984; Miller & Friesen, 1983). The rational model focuses on prudence, completeness of information, good planning and analysis, with various alternatives and choosing the best alternative (Camillus, 1981; Quinn dkk., 1988). On the other hand, the Incremental model relies more on intuition, speed, spontaneity and not in a formal environment because it realizes that there are limitations in terms of rationale or budget (Ismail & Zhao, 2017; Yuhertiana, Bastian et al., 2019; Yuhertiana, Purwanugraha et al., 2019). In the rational model approach, the role of a leader (Priono et al., 2019; Rahma et al., 2016; Selznick, 1996) environmental factor (Andrews dkk., 1971; Tatiana & Yuhertiana, 2014; Yuhertiana, 2011b) and strategic decision models developed (Quinn dkk., 1988; Yuhertiana, 2011a) impact on the quality of the company's decision-making. In the incremental model approach, the strategic formulation of the decisions taken is a dynamic that will work (Mintzberg, 1978; Sabihaini & Prasetyo, 2018; Sabihaini et al., 2020). This rational model process is then used as a starting point to develop a more comprehensive and complete model to conduct a more complete and thorough study (Fredrickson, 1984; Sabihaini & Prasetyo, 2018; Saleh et al., 2017). A comprehensive approach is considered to provide sharpness in seeing opportunities and provides stability when execution is carried out with caution, thereby reducing the risk of failure (Quinn dkk., 1988; Eisenhardt, 1989b). The holistic approach has its drawbacks when dealing with a dynamic environment, because a dynamic business environment requires speed of decision making (Eisenhardt & Bourgeois, 1988).

2.4. Face, testosterone and behavior

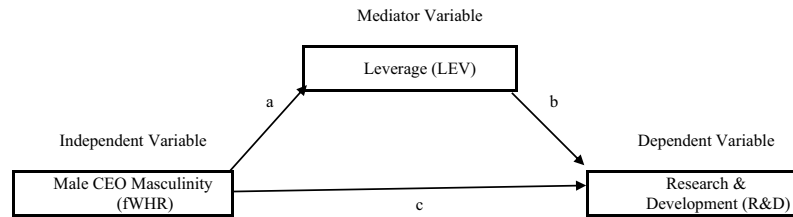
Previous studies provide empirical evidence on the relationship of male facial size with testosterone and masculine behavior. The face of the male CEO is the basis for the association of male facial size in this study. Male face size can predict masculine behavior (Yupping Jia et al., 2014). Based laboratory evidence (Carré & McCormick, 2008; Christiansen & Winkler, 1992) explains that men's faces predict having an aggressive nature. The practice of research and development with the face of a male CEO has a relationship with masculine behaviour (Yupping Jia et al., 2014). Men's faces positively affect masculine behavior, while testosterone tends to practice earnings management (Eisenegger et al., 2010; Yupping 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 (Yupping 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; Yupping Jia et al., 2014).

Testosterone regulates growth acceleration in adolescents (Johnston et al., 2001). Testosterone affects adolescent growth (Verdonck et al., 1999; Yupping Jia et al., 2014). 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 (Yupping 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; Yupping 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 and 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 (Pound et al., 2009; Yupping Jia et al., 2014).

2.5. 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. Research places the face of male CEO masculinity as an independent variables, research and development a dependent variable, and leverage as a mediator variable. Based on the explanation above, the conceptual framework of the study can be described as seen in Figure 1:

Figure 1. Research Conceptual Framework.



2.6. Research hypothesis

2.6.1. Leverage mediator the influence of a male CEO's masculinity face on research & development

An agency relationship is a contract that occurs between the characteristics of a male CEO as an agent and shareholders (Jensen & Meckling, 1976). Research & development 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 Research & development (Hillman et al., 2001).

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). The characteristic role of male CEOs has a positive influence on leverage (Kamiya et al., 2018; Kim, Kamiya, & Park, 2017). Previous research explained that the face of male CEO masculinity correlates with testosterone, aggressiveness and social status affects earning management and leverage seen from behavioral consistency theory's perspective (Epstein, 1979). 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 (Cronqvist et al., 2012; Huang et al., 2013; Malmendier et al., 2011; Chava et al., 2010)

Optimal leverage is the capital structure associated with the minimum average cost of capital and therefore with the maximum market value of outstanding equity and debt. In this paper, as in most of the literature on the subject, the focus is on leverage achieved through debt, although it is recognized that leverage can also be obtained by issuing preferred stock (Modigliani & Miller, 1963; Baxter, 1967).

To see what is involved in substituting as a valuation rule, first note that both expressions take firm value as a function of leverage and the tax rate. The difference between them is a matter of size and source of tax advantages of debt financing. Under our initial formulation, the values within a class are highly proportional to the expected after-tax income. The tax advantage of debt is therefore solely due to the fact that reduced interest payments imply a higher level of after-tax income for any given level of pre-tax income (Modigliani & Miller, 1963)

Leverage practices have a positive effect on earnings management. In particular, companies engaged in leverage practices seem to have relatively higher research & development, the impact of the country's economic conditions with changes in the nature of the cross-border institutional environment also affects research and development (Dang et al., 2018). Research that explains the relationship between the face of male CEO masculinity and the tendency to practice research and development (Yupping Jia et al., 2014). The masculinity face of male CEOs has a tendency to

engage in research and development practices. Masculine behavior positively affects research and development (Yuping Jia et al., 2014) egocentric behavior (Wright et al., 2012). Characteristics of male CEOs have a tendency to research and development (Baker, 2000; Garen, 1994). Incentives affect research and development practices (Dechow et al., 2011; Wong et al., 2011; Yuping Jia et al., 2014). The characteristic role of male CEOs with masculine faces positively affects research and development practices (Yuping Jia et al., 2014). The face of male CEO masculinity correlates with testosterone, aggressiveness, self-confidence positively affects leverage and earnings management practices, viewed from the behavioral consistency theory's perspective (Epstein, 1979).

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

H₁: Leverage Mediator the Positive Influence of a Male CEO's Masculinity Face on Research & Development

2.7. Data analysis techniques

Data analysis is a step that follows the selection and collection of study data (Sudaryanto et al., 2022; Utari; Suroso Sudaryanto et al., 2021). Data analysis in the study using Stata Software on research for several reasons: The study aims to confirm existing theories and concepts using data. Stata software was used for this study because it can Structural Equation Modelling. The research model is relatively complex, because there is a proxy for leverage to act as a mediator variable to see how the role of leverage mediator the influence of the male CEO's masculinity face on research and development. 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.

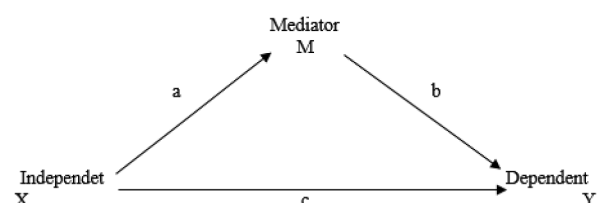
Variable mediator is an intermediate variable that acts as a mediator between dependent and independent variables. Testing mediator to prove the role of leverage as a mediator variable serves to mediator the relationship between the facial variables of male CEO masculinity on research & development.

Criteria for determining the influence of mediator in a relationship (Baron & Kenny, 1986; Zhao et al., 2010) explains as follows: The independent variables should have a significant impact on the mediator variables. The mediator variable should have a significant impact on the dependent variables. The independent variables should have a significant impact on the dependent variables.

The following Figure 2 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: Complementary mediator: the influence of the mediator (axb) and the direct influence (c)

Figure 2. Relationship between Independent, Mediator and Dependent Variables (Baron & Kenny, 1986; Zhao et al., 2010).



they are both genuine and orient themselves in the same broad direction, Competitive mediator: the influence of the mediator (axb) and the direct influence (c) both exist and point in opposite directions, Indirect-only mediator: there is an influence of the mediator (axb), however there is no direct impact, 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 leverage in mediating the effect of male CEO masculinity on research and development (Endarto, Taufiqurrahman, Kurniawan, Indriastuty et al., 2021; Indrawati et al., 2021) population and research sample using companies on the Indonesia Stock Exchange in 2017–2021. 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 (fWHR), variable Research & Development as variable dependent (R&D), variable leverage as variable mediator (LEV).

3.2.1. Independent variables (fWHR)

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).

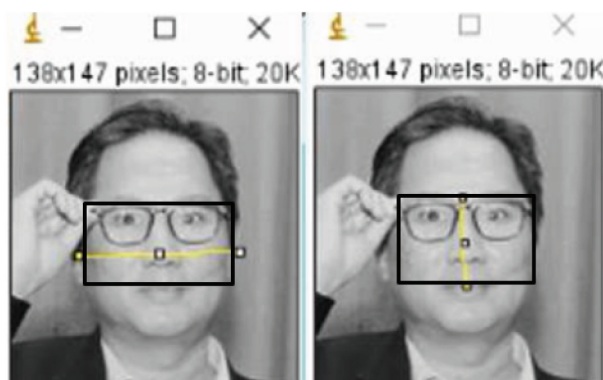
The ImageJ software measures the distance between two points on each of the study's male CEOs' faces by dragging the mouse across the image; the vertical line size represents the distance from the top of the lip to the top of the eyelid. While the horizontal line represents the maximum distance between the left cheekbone and 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 Figure 3:

3.2.2. Dependent variables research & development (R&D)

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 research and development.

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.

Research & development are an investment made by the company on a new scientific basis, to produce more efficient products based on existing resources (Tuna et al., 2015). Research & development are measured using the research and development cost intensity ratio (Arifian & Yuyetta, 2012; Padgett & Galan, 2010) with the following formula:

$$R\&D = \frac{\text{Total Research \& Development Expenditure}}{\text{Sales}}$$

Description:

Research & Development _{i,t}	= Research & Development i in year t
Total Research & Development Expenditure _{i,t}	= Total Research & Development Expenditure i in year t
Sales _{i,t}	= Sales i in year ke t

3.2.3. Variable mediator (LEV)

Variable mediator is an intermediate variable which functions to mediate the relationship between independent variables and dependent variables (Kalbuana, Prasetyo, et al., 2021; Kalbuana, Suryati, et al., 2021; Baron & Kenny, 1986; Mehmetoglu, 2018; Zhao et al., 2010). Variable mediator in the study using leverage (Kamiya et al., 2018).

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 _{i,t}	= Leverage i on year to t
Total Liabilitas _{i,t}	= Total liabilities of the company i in year to t

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, 2021), without conducting analysis from data on the face variables of male CEO masculinity, variable earnings management and variable leverage.

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, Indriastuty et al., 2021; Prasetyo, Aliyyah, Rusdiyanto, Kalbuana, Rochman 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:

r	= Correlation value
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 if the dependent variable 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 Leverage (LEV) mediator the influence of the male CEO's masculinity face (fWHR) on Earnings management (EM). 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 leverage mediator the influence of the male CEO's masculinity face on Earnings management

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

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

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

To explain from the model of variable face masculinity of male CEOs, variable earnings management, and variable mediator of leverage can be explained (See Table 1) 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

Table 1. Variable Description

Information	Description
i	= Company cross-section data (company name)
t	= Company time series data (2017–2021)
fWHR	= The Face of Male CEO Masculinity
R&D	= Research & Development
LEV	= Leverage
α	= Constant
$\beta_1, \beta_2, \beta_3$	= Variable regression coefficient R&D, fWHR
$\beta_1, \beta_2, \beta_3$	= Variable regression coefficients R&D, fWHR, LEV
ϵ	= Error

sample of companies on Indonesia's Stock Exchange in the period 2016–2021, testing this sample based on companies on Indonesia's Stock Exchange, can be seen in the table 2 below:

Based on the table independent above shows the number of observations (N) there was 170, from 170 this observation the minimum Research & Development (R&D) value was 6.234, and the maximum Research & Development (R&D) value was 21.802, the average value from 170 or mean was 15.234 with a standard deviation of 2.549. Based on the table mediator variable above, it shows the number of observations (N) there are 1925, out of 1925 observations the minimum Leverage (LEV) value is .000, and the maximum leverage (LEV) value is .990, the average value of 1925 observations or mean was .482 with a standard deviation of .246. Based on the table dependent variable above shows the number of observations (N) there were 1781, from 1781 this observation the value of Male CEO Masculinity (fWHR) (minimum) was .110, and the value of Male CEO Masculinity (fWHR) (maximum) was .267, the average value from 1781 or mean was 2.086 with a standard deviation of 6.287.

4.2. Pearson correlation test

In the Pearson correlation test to see how strong or how weak the relationship of leverage roles mediator the influence of the male CEO's masculinity face on research and development. In this test (See Table 3), if the Pearson correlation value (r) is above 0.05 (5%), then there is a strong relationship the role of leverage mediator the influence of the male CEO's masculinity face on research & development, if the Pearson correlation value is below 0.05 (5%) then the relationship of leverage role mediator the influence of the male CEO's masculinity face on research and development is declared weak.

Based on the table above, it can be interpreted that the variable leverage, the face of masculinity of male CEOs and Research & Development 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 reliability if tested.

4.3. Leverage mediator model analysis

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 mediator variables to strengthen the relationship between the independent variables to the dependent variables, so that it can be interpreted that the mediator variable affects in full as a mediator variable.

Table 2. Descriptive Statistics

Independent Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
R&D	170	15.234	2.549	6.234	21.802	6.491	21.797	-.190	4.575
Mediator Variables									
LEV	1925	.482	.246	.000	.990	.010	.930	-.041	2.107
Dependent Variables									
fWHR	1781	2.086	6.287	.110	267	1.340	2.790	42.038	1771.784

Table 3. Pearson Correlation Test

Variables	(1)	(2)	(3)
(1) Research & Development (R &D)	1.000		
(2) Leverage (LEV)	0.151 (0.049)	1.000	
(3) Male CEO masculinity (fWHR)	-0.086 (0.278)	0.006 (0.809)	1.000
(1) Research & Development (R &D)	1.000		
(2) Leverage (LEV)	0.151	1.000	
(3) Male CEO masculinity (fWHR)	-0.086	0.006	1.000

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

The second approach is based on an approach (Zhao et al., 2010) to test mediator with multiple tests. In the first test, an estimate of indirect impact was carried out divided by the overall impact or called the Ratio Indirect to Total Effect (RIT) which had an independent variable impact on the dependent variable mediator by the mediator variable. In the next test, an estimate of the indirect effect was carried out divided by a direct impact 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 mediator by the mediator variable (See Table 4). 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 leverage with the results of the p-value significance level of $0.81 \geq 0.05$ (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 leverage with a p-value significance level of $0.81 \geq 0.05$ (5%), meaning that the masculinity face of male CEOs has a positive no effect on leverage. The findings are not consistent with his findings (Kamiya et al., 2018) explaining that the face of masculinity of male CEOs has a positive effect on leverage, meaning that the decrease and increase in the value of the masculinity face of male CEOs has an impact on increasing and decreasing leverage.

In the Second Phase, testing the effect of leverage on Research & Development with the results of the p-value significance level of $0.008 \geq 0.05$ (5%) the results of this empirical analysis were declared passed in the second regression test to test the effect of leverage on earnings management with a p-value significance level of $0.008 \geq 0.05$ (5%), the findings were no consistent with their findings (Dang et al., 2018) which explains that the decrease and increase in the value of leverage has an impact on increasing and decreasing the value of Research & Development.

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 $0.81 \geq 0.05$ (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 0.81, 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 significant level of $0.81 \geq 0.05$ (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 $0.81 \geq 0.05$ (5%). This means that the role of leverage mediates the positive influence of the male CEO's masculinity face on Research & Development, meaning that the decrease and increase in the value of leverage 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 earnings management. The third hypothesis no accepted because the p-value of $0.81 \geq 0.05$ (5%). The third

Table 4. Leverage Mediator Model Analysis

VARIABLES	(1) R&D	(2) R&D	(3) R&D	(4) R&D
Output SEM R&D				
Leverage (LEV)		2.26***		
		(0.87)		
Male CEO masculinity (fWHR)	0.02	−1.23		
	(0.10)	(1.05)		
Constant	0.35*	16.56***	0.05***	6.06***
	(0.18)	(2.03)	(0.01)	(0.68)
Observations	170	170	170	170
Output SEM Indirect Leverage				
Leverage (LEV)		2.26***		
		(0.87)		
Male CEO masculinity (fWHR)	0.02	−1.23		
	(0.10)	(1.05)		
Constant	0.35*	16.56***	0.05***	6.06***
	(0.18)	(2.03)	(0.01)	(0.68)
Observations	170	170	170	170
Output SEM Direct R&D				
Leverage (LEV)		2.26***		
		(0.87)		
Male CEO masculinity (fWHR)	0.02	−1.23		
	(0.10)	(1.05)		
Constant	0.35*	16.56***	0.05***	6.06***
	(0.18)	(2.03)	(0.01)	(0.68)
Observations	170	170	170	170
Output SEM Total Effect R&D				
Leverage (LEV)		2.26***		
		(0.87)		
Male CEO masculinity (fWHR)	0.02	−1.23		
	(0.10)	(1.05)		
Constant	0.35*	16.56***	0.05***	6.06***
	(0.18)	(2.03)	(0.01)	(0.68)
Observations	160	170	170	170

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

finding is supported by the hypothesis proposed by Leverage Mediator a Positive Influence on the face of Male CEO Masculinity towards earnings management. The findings include the complementary mediator type.

On Monte Carlo Testing tested the influence of the male CEO's masculinity face on Research & Development with a p-value significantly rate of $0.24 \geq 0.05$ (5%), meaning that the decrease and increase in the value of the male CEO's masculinity face did have an impact on increasing and decreasing the company's Research & Development. The findings are no consistent with their findings (Almor et al., 2020) explaining that the decrease and increase in the gender has an impact on increasing and decreasing Research & Development.

Second Test of Ratio Indirect to Total Effect (RIT) formula (Indirect effect/Total effect)/ (0.004/0.086) = 0.046, Meaning that about 5% of the effect of the role of leverage mediator the influence of the CEO's masculinity face on Research & Development.

Third Test of Ratio Indirect Effect to Direct Effect (RID) formula (Indirect effect/Direct effect)/ (0.004/0.090) = 0.044, That is, the mediation effect is about 0.0 times the direct effect of the influence of the male CEO's masculinity face on Research & Development mediated by leverage. Based on the description above, it can be concluded that the practice of leverage mediator the positive influence of the CEO's masculinity face on Research & Development. **The proposed hypothesis is accepted. The findings are supported by the hypothesis proposed by Leverage Mediator the Positive Influence of the Male CEO's Masculinity Face on Research & Development** 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 leverage and Research & Development, seen from the behavioral consistency theory's perspective (Epstein, 1979). This theory explains that the face size of male CEO masculinity has a positive effect on leverage and research and development, meaning that the higher the masculinity face size of male CEOs has an impact on increasing leverage and research and development, and vice versa the lower the face size of CEO masculinity has an impact on decreasing the value of leverage and research and development. 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 leverage and Research & Development practices. While the Upper Echelon Theory (Hambrick & Mason, 1984) explains the assumptions that occur in the company by studying the characteristics of the company's top management team. Hambrick and Mason (1984) explain the distinguishing characteristics of male CEOs on psychological and cognitive aspects of corporate management. The decision-making process is divided into two rational models and improvements (Fredrickson, 1984; Fredrickson & Mitchell, 1984; Miller & Friesen, 1983). The rational model focuses on caution, completeness of information, planning and analysis with various alternatives and choosing the best alternative (Camillus, 1981; Quinn dkk., 1988).

The empirical findings have implications for company management as policy-making regarding the face of male masculinity has an impact on Research & Development policies, Research &

Development policies and leverage 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 Research & Development and leverage. Furthermore, it enriches empirical findings in the field of behavioral accounting and becomes a reference for conducting future research

Yuping Jia et al. (2014) explain that a man's face can predict masculine behavior. Whereas (Carré & McCormick, 2008; Christiansen & Winkler, 1992) explain 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. Yuping Jia et al. (2014) provide empirical evidence of the relationship of male CEOs' faces to masculine behavior. Whereas (Dikolli et al., 2012; Yuping Jia et al., 2014) empirically proved that the characteristics of male CEOs having excessive trust affect Research & Development. In particular, companies that leverage seem to have relatively higher leverage funding. Kamiya et al., (2018) provide empirical evidence that a decrease and increase in the face value of male CEOs' masculinity has an impact on increasing and decreasing the value of a company's investment, financing decisions are focused on investment policy, high investment can increase a company's profit.

Jia et al, (2014) provide empirical evidence that the higher the masculinity of the male CEO has an impact on increasing Research & Development, and vice versa, the lower the masculinity of the CEO has an impact on the decline in Research & Development, financing decisions are focused on Research & Development policies, high Research & Development can increase company profitability. The higher the value of male CEO characteristics has an impact on increasing learning management, and vice versa, the lower the value of male CEO characteristics has an impact on decreasing Research & Development (Cronqvist et al., 2012; Huang et al., 2013; Malmendier et al., 2011; Chava et al., (2010).

5. Conclusion

The practice of leverage mediator the influence of the masculinity face of male CEOs on Research & Development. The findings provide empirical evidence that leverage has an impact on increasing and decreasing the masculinity of male CEOs as well as having an impact on increasing and decreasing Research & Development. The findings are supported by agency theory, behavioral consistency theory and Upper Echelon Theory which explains that the face of CEO masculinity affects Research & Development and leverage practices. Meanwhile, agency theory explains the characteristic role of male CEOs in making leverage and Research & Development policies. The findings are empirically supported by ImageJ software that the face of male CEO masculinity affects the company's leverage and Research & Development practices.

The empirical findings have implications for company management as policy-making regarding the face of male masculinity has an impact on leverage policies, Research & Development policies and leverage 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 Research & Development and leverage. Furthermore, it enriches empirical findings in the field of behavioral accounting and becomes a reference for conducting future research.

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