



The Effect of The Dark Triad Traits on Auditing Whistleblowing

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ABSTRACT

Whistleblowing as a moral act plays an important role in preventing financial scandals. Therefore, detecting the dark triad traits is one of the factors related to whistleblowing, so that it can play a decisive role in preventing potential damages due to the wrongdoings in the organization. The results showed that Machiavellianism and psychopathy behavior had a negative effect and narcissism did not have a negative effect on whistleblowing. According to the research findings, people with the dark triad traits such as Machiavellianism and psychopathy are less likely to exhibit moral behaviors. But as narcissists do not worry too much about morality or ethics, managers are advised to develop the principles and ethical requirements in a transparent and accurate manner by providing mechanisms within the organization to provide conditions to inform everyone and officials within the organization or higher officials about the wrongdoings through their own name and reliable communication procedures (telephone, special e-mail and other special communication tools).

Keywords:

Machiavellianism, Narcissism, Psychopathy Behavior, Whistleblowing.

1. Introduction

After Enron and WorldCom scandals, the scandals of Taiko, AOL And Time Warner and Packard can be mentioned, all of which are rooted in unethical behavior. Brown and Michial relate unethical behavior to deviance in the workplace, which includes behaviors detrimental to the organization, including violence, unproductive work behavior, social degradation, and retaliation. Thus, deviance in the workplace “violates significant organizational norms and damages the organization and its members” (Brown and Michial, 2010). The Volkswagen case shows what consequences the unethical behavior of leadership can have on a company and its stakeholders. According to Near and According to Near and Miceli (1985), whistleblowing is the disclosure of illegal, unethical and illegitimate activities in an organization by the current or former members of the organization or individuals or organizations that are capable of influencing such activities. Jubb (1999) also defines whistleblowing as follows: “Whistleblowing is an act of voluntary (non-compulsory) disclosure of information about unlawful cases or other wrongdoings, whether real, suspected or predicted, by an individual who has access to authorized information of the organization and to provide them to external entities that have the potential to modify such actions. Therefore, it can be expected that whistleblowing as a moral act will play an important role in preventing financial scandals. Thus, better identification and understanding of the factors that encourage or prevent whistleblowing is an important area for research. Identification variables that increase whistleblowing can play a crucial role in preventing potential damages caused by an organization's wrongdoings. Whistleblowing about organizational wrongdoings is a part of the business ethics debate. One of the moral philosophies that has a significant effect on whistleblowing is that Machiavellian people have cold, pessimistic, pragmatic, and unethical thinking; long-term strategic planning; independent motives (e.g., power, money) and resort to deception and exploitation (Christi and Geise, 1970). They are described as cunning managers who focus only on their own interests, have few social orientations, have little intrinsic motivation in the workplace and are power-oriented. People with a high level of Machiavellianism have a strict and deviant behavior to approach personal and organizational

goals. Machiavellian people do not pay attention to ethics and are usually introduced to unethical people. Machiavellian people have less empathy than narcissistic characters and therefore show less social and moral behaviors (Watason and Morris, 1991). Psychopaths abuse others without feeling ashamed or guilty. Thus, it can be assumed that psychopaths approve unethical behavior, especially when they benefit from it. Thus, the main purpose of this research is to study the effect of the dark triad traits on auditors' whistleblowing and also to identify the path of this effect.

2. Theoretical foundations and research background

2.1. Whistleblowing

There is disagreement in the whistleblowing literature over what is known as whistleblowing. According to Near and Miceli (1985), whistleblowing is the disclosure of illegal, unethical and illegitimate activities in an organization by the current or former members of the organization or individuals or organizations that are capable of influencing such activities. Jubb (1999) also defines whistleblowing as follows: “Whistleblowing is an act of voluntary (non-compulsory) disclosure of information about unlawful cases or other wrongdoings, whether real, suspected or predicted, by an individual who has access to authorized information of the organization and to provide them to external entities that have the potential to modify such actions”. Near and Miceli's (1985) definition of whistleblowing includes internal and external reporting, but Jubb's (1999) definition of whistleblowing considers only the external reporting and he believes that internal disclosure does not affect the credibility of the organization; so it cannot be considered as whistleblowing.

Whistleblowing Types

Internal whistleblowing: It refers to the disclosure of the wrongdoing of a person in the workplace to the superior and high level authorities.

External whistleblowing: It refers to the disclosure of the wrongdoing to the external authorities and information are provided to the comprehensive public center.

Identified whistleblowing: It is an employee's reporting of wrongdoing in details using his/her real name.

Anonymous whistleblowing: It is an employee's reporting of wrongdoing anonymously, the reporter does not provide any information about himself/herself.

Formal whistleblowing: The reporter formally reports a wrongdoing anonymously and does not provide any information about himself/herself.

Informal whistleblowing: The reporter informally reports to close people or a trusted person in charge of that department who can correct the wrongdoing.

2.2. Relationship between the dark triad traits and Whistleblowing

Vernon believes that Machiavellianism involves cold and insincere behavior and people with this personality practice trickery and cheating to gain personal interest. Narcissistic people behave cruelly toward others (Jakobwitz and Egan, 2006). Machiavellianism is a social communication strategy that manipulates people. Machiavellian people often overlook the interests of others to achieve personal interest (Near and Miceli, 1996). Machiavellian people, like psychopaths, are less likely to be influenced by their own unethical negative behavior and this leads to the confirmation and propagation of unethical guiding behavior as an attractive and cunning character acts in an apparently emotionally effective style. In addition, these people pursue their leaders as long as they have advantages for them (Belschak, 2015) and Machiavellian people report less unethical guiding behavior as the self-centered nature of Machiavellianism prevents them from reporting the unethical behavior that benefits them.

This characteristic refers to relatively persistent individual differences in which narcissists are characterized by arrogance, selfishness, egoism, self-love, and inflated self-concept. Other traits of narcissists include fantasizing progress, needing to receive praise despite the lack of proper social and interpersonal function, exploiting others and lack of unity, self-praise, aggressive behavior with others, using bad language, emotional inconsistency, low desirability and extreme extraversion. The trait of narcissism includes three indicators of self, interpersonal communication, and self-regulatory

strategies. The narcissistic self has a positive relationship with the feeling of being special and unique, selfishness, self-righteousness and the desire for respect and power. Narcissistic people in their interpersonal communication activities have less empathy and emotional intimacy and their relationships are superficial. Such self-regulatory strategies are used to preserve inflated self-concept. For example, a narcissist is always looking for respect, attention and credibility at any cost. His social relationships are more like communication games rather than high quality human relationships. Research shows that narcissist trait is associated with inflexible expectations of self and perfectionism, borderline personality disorder, paranoid and negativity. Narcissism has both positive and negative consequences. Some of the positive consequences are reduced depression, extraversion, initial pleasure and better public performance. On the other hand, thirst for attention, extreme self-confidence and lack of empathy are some of the negative consequences of narcissism.

2.3. Domestic research background

Sepehri, Azadi et al. (2020) in a study examined the relationship between auditors' personality type and their adherence to the code of professional conduct. Their results indicate that auditors adherence to the code of professional conduct is affected by their personality type. Other attributes such as confidentiality, honesty and integrity, and professional conduct are in the next categories with equal number of repetitions, respectively.

Manteghian, Saberi et al. (2019) in a study explained the relationship between the dark triad traits and burnout based on the mediating role of perceived stress. The results showed that the perceived stress has a mediating role between burnout and the dark triad traits, so, perceived stress and the dark triad traits can play an effective role in employee productivity and reduction in burnout.

Bazrafshan et al. (2018) in a study examined the effect of managers' narcissism on the quality of financial reporting. Their findings showed that there is no significant relationship between managers' narcissism based on signature size and financial reporting quality. But there was a significant relationship between managers' narcissism based on the ratio of managers' rewards on employees' salaries and financial reporting quality (earnings management,

earnings quality). Therefore, managers' narcissism increases earnings management and decreases earnings quality.

Sarikhani et al. (2015) in a study examined the factors affecting the whistleblowing intention using the fraud triangle and the theory of planned behavior from the perspective of accountants. Their results showed that the combination of the fraud triangle and the theory of planned behavior provides a suitable theoretical framework for predicting the whistleblowing intention. Ethical and professional commitment have a positive effect on the whistleblowing intention and moral intensity moderates the effect of mental norms and professional commitment on whistleblowing intention.

Namazi and Ebrahimi (2017) examined the effect of individual and social constructs on the intensity of ethics perceived by accountants. The results of structural equation modeling indicate a negative and significant effect of gender as well as a positive and significant effect of age and religiosity on the perceived moral intensity, while the effect of education level and the field of study is not significant. The results of prioritizing these factors also indicate that religiosity and gender have the greatest impact on perceived moral intensity.

Namazi and Ebrahimi (2016) in another study modeled and prioritized the factors affecting the intention to report financial fraud by accountants. The results showed that organizational justice, attitude about reporting, active personality trait, religiosity and moral intensity have a positive and significant effect on the intention to report cases of internal fraud, while the effect of personal cost of reporting is not significant. The estimated model of their research also indicates that organizational justice, ethical intensity and then the attitude toward reporting have the greatest impact on the intention to report the cases of financial fraud.

Beigi et al. (2016) investigated the effect of Machiavellian behavior on auditors' whistleblowing. The results of their research showed that Machiavellian behavior has a negative and significant effect on auditors' whistleblowing. This effect is also exacerbated by auditors' perceptions of the consequences of their organizational wrongdoings and their individual responsibility for disclosing these wrongdoings, as well as their perception of the costs associated with disclosing these wrongdoings.

Golparvar (2015) in a case study examined the relationship between idealism, relativism, Machiavellianism, cultural values and unethical behaviors. The results showed that Machiavellianism and the cultural values of materialism and power distance have a positive and significant relationship with unethical behaviors. In contrast, idealism and relativism had a negative and significant relationship with unethical behaviors.

Dianti Deilami and Rezapour Parvareh (2014) studied the relationship between corporate ethics, social responsibility, Machiavellianism and tax evasion. Their results showed that there is a negative relationship between the level of Machiavellian tendencies of financial managers and their level of belief in corporate ethics and social responsibility and also between the level of Machiavellian tendencies of financial managers and their level of opposition to tax evasion programs.

2.4. Foreign research background

AL-Abrow et al. (2020) in their study investigated the effect of the dark triad traits and organizational citizenship behavior with the moderating role of positive emotions. The results of this study among 414 employees in four public hospitals indicate that the dark triad traits have a significant negative effect on organizational citizenship behavior. But positive and negative emotions potentially highlight the relationship between the dark triad traits and organizational outcomes.

Grego-Planer et al. (2019) in a study examined the relationship between organizational commitment and organizational citizenship behavior in the private and public sectors. The results of 232 respondents show that in public institutions the interpersonal dimension of organizational citizenship behavior is more, while in private institutions organizational dimension occurs more, indicating the correlation between organizational citizenship behavior and organizational commitment.

Wartes et al. (2019) in a study examined citizenship behavior based on Islamic work ethic, organizational satisfaction and organizational commitment among academics including 365 teachers in 14 private universities. The results showed that workplace ethics has a positive effect on job satisfaction and organizational commitment; job satisfaction does not have a positive and significant

effect on organizational commitment, and private university management can be encouraging to improve work ethic and job satisfaction.

Szabó et al. (2018) in a study investigated the dark triad traits as predictors of internal and external behaviors related to the workplace and beyond the effect of situational variables. In a sample of 256 people working in a workplace, the results showed that psychopath behaviors are a constant negative predictor of behaviors inside and outside the workplace and when psychopath behaviors are controlled, Machiavellianism will be positively correlated with organizational citizenship behaviors. But narcissism has no relationship with organizational citizenship behavior.

Ababneh and Hackett (2018) examined the direct and indirect impacts of job indicators on organizational citizenship behavior including job indicators (job independence, diversity of skills, job conflict), job attitude (job satisfaction, organizational commitment, trust) and organizational citizenship behavior (civic virtue and altruism). In their sample, they examined 249 companies and the results showed that job independence, diversity of skills and the role of conflict affect job satisfaction and organizational commitment. In addition, when job satisfaction, organizational commitment and trust were examined simultaneously as mediating variables, it was shown that the relationship between citizenship indicators and only organizational commitment is significant. Independence has also a direct and indirect effect on civic virtue, but only an indirect effect on altruism. Diversity in skills has an indirect effect on altruism. Diversity in skills has a direct and indirect effect on civic virtue and altruism; while, job conflict has only an indirect effect on the results.

Aghli et al. (2018) in a study examined the role of the dark triad traits in predicting psychological well-being in 332 nurses and showed that stress and

depression reduce job performance and threaten personal relationships. The results of this study indicate the importance, usefulness and the application of the dark triad traits in predicting individual differences in the evaluation, acceptance and employment of nurses.

In a study, Yuri Pagan et al. investigated the relationship between the dark triad traits and whistleblowing. They examined 94 respondents among Dutch employees and their findings show that employees with dark triad traits use less whistleblowing behavior and all three constructs show a negative non-significant effect and Machiavellian employees are less likely to use whistleblowing.

3. Research hypotheses

In line with the research question, theoretical foundations and stated backgrounds, research hypotheses are as follows.

Hypothesis 1: Machiavellianism has a significant negative effect on auditors' whistleblowing.

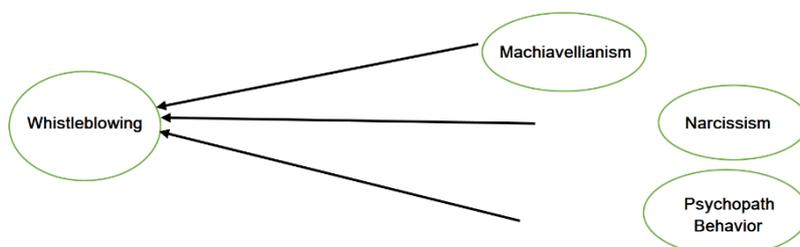
Hypothesis 2: Narcissism has a significant negative effect on auditors' whistleblowing.

Hypothesis 3: Psychopath behavior has a significant negative effect on auditors' whistleblowing.

4. Research methodology

This research based on its purpose is an applied research. It is also a descriptive-survey and cross-sectional study. Theoretical framework and the research background are based on library studies and data collection and to achieve the final results, inductive method and questionnaire were used to test the hypotheses.

5. Conceptual model and research variables



1. Conceptual Figure

5.1. Dependent variable

Whistleblowing

Whistleblowing is the voluntary disclosure of illegal and unethical activities and behaviors of the employees in an organization to any entity (internal or external) capable to correct the wrongdoings, regardless of existing standards and legal requirements (Near and Miceli, 1998; Valsien, 2013).

Questionnaire tools according to the scenario (Hyosik Park, John Balandshik et al., 2008) were examined in the Likert scale based on the concept of the questionnaire or scenario with 14 items include:

- Internal whistleblowing: 3 items
- External whistleblowing: 3 items
- Identified whistleblowing: 2 items
- Anonymous whistleblowing: 2 items
- Formal whistleblowing: 2 items
- Informal whistleblowing: 2 items.

5.2. Independent variable

Machiavellianism: It is associated with flattery, emotional distancing, seduction, and inattention to others.

Narcissism: It involves ambitious thoughts and having great plans in social communication.

Psychopath Behaviors: People with such behavior are impulsive and rarely empathize with others disrupting their interpersonal relationships.

The scale used was based on a five-point Likert scale (Johnson-Webster, 2010) including 30 items.

6. Research findings

6.1. Descriptive statistics of research variables

The independent variables of Machiavellianism, narcissism, and psychopath behavior are the constructs of the dark triad traits. The mean of each variable is 2.458, 3.663, 3.072, respectively. The mean of whistleblowing as a dependent variable is 4.995. The standard deviation of the data indicates the average distance of the data from the mean. If the standard deviation of the data is close to zero, the data are close to the mean and have little dispersion; while the large standard deviation indicates significant dispersion, and all variables have little dispersion except Machiavellianism. The positive skewness of Machiavellianism, narcissism, and psychopath behavior are 0.880, 0.246, and 0.692, respectively, and

the negative skewness of whistleblowing is -0.772, indicating the distance from central tendency located on the left slope. Machiavellian kurtosis is 0.833 which indicates that the distribution curve is longer than the normal distribution. Variables with a negative kurtosis indicate that the distribution curve is shorter than the normal distribution.

Table (1) Descriptive statistics

Row	Mean	Standard Deviation	Skewness	Kurtosis
Machiavellianism	2.458	10.004	0.880	0.833
Narcissism	3.663	1.639	0.246	-1.088
Psychopath Behavior	3.072	1.415	0.692	-0.407
Whistleblowing	4.995	1.318	-0.772	-0.069
Number of Observations	343			

6.2 Structural equation modeling

Structural equation modeling is performed by three parts of Smart-PLS, including algorithm (parameter determination), resampling (parameter significance) and ignorance (prediction criterion). The following figure shows the theoretical model of the research, based on which the modeling of private and public sector accountants and the whole sample is presented separately, and the parameters of the models have been studied based on software outputs for all three models. Modeling is evaluated in three formats. In the following, the structural model evaluation and the general model evaluation will be discussed.

a. The evaluation of the measurement model

The measurement model includes a variable with items related to that variable. In this section, the relationships between the variables or the items of the questionnaire and the hidden variables are examined. According to the model analysis algorithm with PLS method, reliability and validity should be evaluated to examine the fitness of measurement models. The reliability of the measurement model includes Cronbach's alpha, one-dimensional reliability, and composite (internal) reliability. Convergent validity is measured by AVE and divergent validity by the Fornell-Locker, cross-load test and HTMT ratio.

Cronbach's alpha

It is a classical criterion to measure reliability and a suitable measure to evaluate internal consistency (compatibility). Internal consistency indicates the degree of correlation between constructs and their indicators. Cronbach's alpha is used to calculate the internal consistency of the measuring instrument, and a value higher than 0.7 indicates acceptable reliability (Cronbach, 1951). The results of Cronbach's alpha of the research variables are shown in Table (4.10), indicating that the Cronbach's alpha is desirable for the research variables.

One-dimensional reliability

In one-dimensional reliability (measurement of factor loadings), each explicit variable should be loaded with a large amount of factor loading, i.e. only with one hidden variable. Factor loading indicates the level of relationship between explicit and implicit variables (Hosseini et al., 2018). According to Hear et al. (2017), the appropriate value for the factor loading of the measures should be higher than 0.7. As seen in Table (4.11), the results show that the values of all factor loadings are higher than 0.7, indicating that the factor loadings are very appropriate.

Table (4.10) The results of Cronbach's alpha for reliability

Variables	Cronbach's alpha
Machiavellianism	0.794
Narcissism	0.828
Psychopath Behavior	0.874
Whistleblowing	0.948

Item 2	0.843	Machiavellianism (M)	Item 1	0.794
Item 3	0.746		Item 2	0.762
Item 4	0.778		Item 3	0.789
Item 5	0.755		Item 4	0.798
Item 6	0.833	Narcissism (N)	Item 1	0.772
Item 7	0.767		Item 2	0.845
Item 8	0.807		Item 3	0.824
Item 9	0.707		Item 4	0.802
Item 10	0.755	Psychopath Behavior (P)	Item 1	0.875
Item 11	0.817		Item 2	0.813
Item 12	0.715		Item 3	0.841
Item 13	0.783		Item 3	0.875
Item 14	0.741			

Composite reliability

Composite reliability or construct reliability coefficient was introduced by Werts et al. (1974) and its advantage over Cronbach's alpha is that the reliability of constructs is calculated not in absolute terms but rather according to the correlation of their constructs. Like Cronbach's alpha, if the CR value for each variable is higher than 0.7, it indicates the appropriate internal consistency for the measurement models; if the CR value for each construct is less than 0.6, it indicates the lack of reliability (Nunnally, 1978).

In Table (3), the results related to the composite reliability of the constructs are shown, indicating that all dimensions of the model are acceptable in terms of composite reliability.

Table (3) The results of the composite reliability

Variables	Composite reliability value
Machiavellianism	0.866
Narcissism	0.885
Psychopath Behavior	0.914
Whistleblowing	0.954

Evaluating the validity of the measurement model

Convergent validity

Convergent validity is used to fit the measurement models used in PLS methods. Average Variance Extracted (AVE) shows the degree of correlation of a construct with its indicators that the higher is the correlation, the greater is the fitness (Barclay et al., 1995). Fornell and Larcker (1981) introduced the AVE for measuring convergent validity and stated that in the case of AVE, the critical value is 0.5; i.e., AVE values higher than 0.5 indicate acceptable convergence validity. As seen in Table (4.13), the results of the convergent validity test show that the convergent validity of all variables is acceptable.

Table (4.13) The results of convergent validity

Variables	Mean variance extracted
Machiavellianism	0.618
Narcissism	0.658
Psychopath Behavior	0.726
Whistleblowing	0.599

Source: Research Findings

Divergent validity

Fornell and Locker (1981) state that divergent validity is at an acceptable level when the value of AVE for each construct is higher than the common variance between that construct and other constructs (squared value of correlation coefficients between constructs) in the model. In PLS, this is investigated by a matrix in which the cells contain the values of the correlation coefficients between the constructs and the square root of the AVE values for each construct. According to the results, if the value of the AVE root of the latent variables in the cells in the original diameter of the matrix is greater than the correlation between the lower and left cells of the matrix, the constructs (latent variables) interact more with their own indicators than other constructs or items (Hosseini et al., 2018).

The results of Fornell Larcker

Variables	Machiavellianism	Narcissism	Psychopath Behavior	Whistleblowing
Machiavellianism	0.786			
Narcissism	0.209	0.811		
Psychopath Behavior	0.265	0.547	0.852	
Whistleblowing	-0.451	-0.261	-0.357	0.774

Heterotrait-Monotrait Ratio (HTMT)

Another new criterion is the evaluation of divergent validity that measures the multi-attribute of the observed variables on their single-attribute. The acceptable value of this ratio is less than 0.9 that if it is more than this value, the measurement model will not have suitable validity conditions (Hosseini et al., 2018). The results of Table (8) show the study of this ratio in this research. The results show that the validity of the measurement model is good in the present study.

Table (7) Heterotrait-Monotrait Ratio (HTMT)

variables	Machiavellianism	Narcissism	Psychopath Behavior	Whistleblowing
Machiavellianism				
Narcissism		0.261		
Psychopath Behavior	0.318	0.640		
Whistleblowing	0.477	0.281	0.390	

6.3. Model fit evaluation criteria

To fit the model by structural equation modeling using PLS method, measurement model, structural part and general part of the model were examined, each of which includes several criteria reviewed for analysis. In the following, each of these sections is reviewed.

1. Testing the quality of the measurement model

The quality of measurement models in PLS method is evaluated by Cross Validated Communality (CV-Com). This criterion shows how much of the variability of the indicators (items) is explained by the related construct. The common index related to each index is obtained through the average of the second-order values of the relationship between that index and its own construct, which are the factor loadings.

Positive values of this criterion indicate the appropriate and acceptable quality of the measurement model (Hosseini et al., 2018). Table (3) shows the output of this indicator by Smart PLS. As seen, the resulting values are positive, indicating good model quality.

Table (3) Common index results

Variables	Common index values
Machiavellianism	0.361
Narcissism	0.420
Psychopath Behavior	0.514
Whistleblowing	0.507

2. Structural model evaluation

The reliability and validity of the measurement model of the present study were confirmed in the previous sections; therefore, the structural model can be evaluated. To evaluate the structural model, three criteria were considered, including:

- Structural model quality index or redundancy index (Q^2),
- Determination coefficient R-Squared or R^2 , and
- Significant numbers t (T-values).

(A) Structural Model Predictive Power Index (Q^2)

This criterion, introduced by Stone and Geisser (1975), determines the predictive power of the model and is also called the redundancy index (Q^2). If in a model, the relationships between constructs are properly defined, the constructs will be able to have a sufficient impact on each other's indicators and thus the hypotheses can be properly confirmed. The value of Q^2 is calculated for the endogenous variables of the model (Hosseini et al., 2018). If the value of Q^2 in the case of an endogenous construct is zero or less, it indicates that the relationship between the other constructs in the model and that endogenous construct is not well explained. Hensler et al. (2009) set three values of 0.02, 0.15, and 0.35 for weak, medium, and strong, respectively, for the intensity of the model predictive power of endogenous constructs. Table (4) shows the results of this index extracted by Smart PLS, indicating that the predictive power of the model is above average. In addition, it is observed that despite the interactive variable, the predictive power of the conceptual model is stronger.

Table (4) Redundancy index results

Variables	Redundancy index values without interaction variables	Redundancy index values with interaction variables
Machiavellianism	-	-
Narcissism	-	-
Psychopath Behavior	-	-
Whistleblowing	0.206	0.206

(B) Determination coefficient

Determination coefficient is a criterion used to connect the measurement part and the structural part of structural equation modeling, indicating the effect of an exogenous variable on an endogenous variable. The value of R^2 is calculated only for the endogenous constructs of the model. The higher is the determination coefficient related to the endogenous constructs of a model, the better is the fitness of the model (Hosseini et al., 2018). Chin (1998) introduced three values of 0.19, 0.33 and 0.67 as the criterion values for weak, medium and strong values of R^2 , respectively; therefore, the weak, medium and strong fitness of the structural part of the model is evaluated by the determination coefficient. In addition, when one or at most two effects are applied to the dependent variable, the value of 0.33 can be considered as the strongest limit of the determination coefficient (Hosseini et al., 2018). Table (5) shows the output of R^2 by Smart PLS. As seen, the values of the determination coefficient are desirable, showing the good fitness of the structural part of the model.

Table (5) The results of determination coefficients

Variables	determination coefficients values without interaction variables	determination coefficients values with interaction variables
Machiavellianism	-	-
Narcissism	-	-
Psychopath Behavior	-	-
Whistleblowing	0.373	0.373

6.4. Correlation coefficients of the research variables

Spearman rank correlation coefficient was used for two-way analysis of variables. This correlation coefficient is a non-parametric method and is also used

for data with abnormal distribution or a large number of data (Momeni and Ghayyumi, 2012). As observed, all two-way relationships of the variables are significant at 99 or 95 percent confidence level.

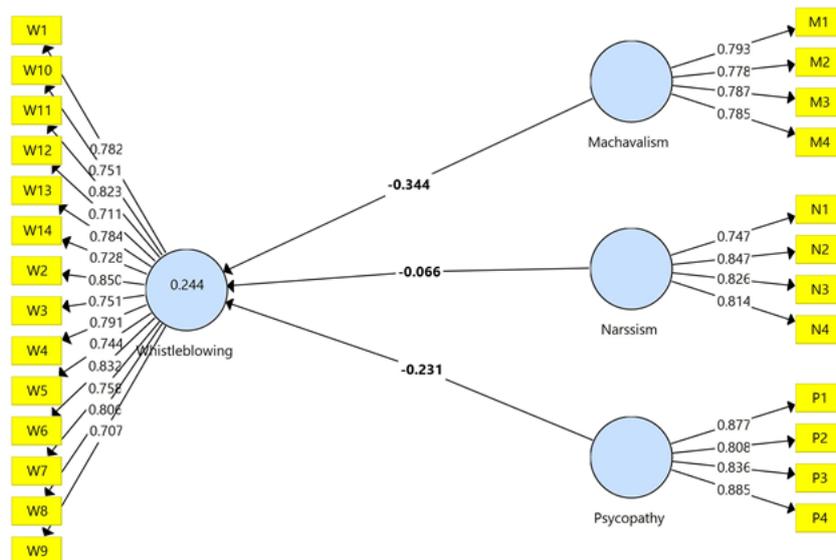
Table (6) Spearman correlation coefficients of variables

Raw	Machiavellianism	Narcissism	Psychopath Behavior	Whistleblowing
Machiavellianism	1.000			
Narcissism	**0.172	1.000		
Psychopath Behavior	**0.328	**0.460	1.000	
Whistleblowing	**-.0478	**-.0241	**-.0396	1.000

6.5 Research Findings

Table (7) The Results of Hypotheses

Hypotheses	Path coefficient	Coefficient t	Significance	Results at the level	
				0.01	0.05
1. Machiavellianism → Whistleblowing	-0.150	2.866	0.004	confirmed	confirmed
2. Narcissism → Whistleblowing	-0.001	0.027	0.978	Not-confirmed	Not-confirmed
3. Psychopath Behavior → Whistleblowing	-0.160	2.480	0.013	Not-confirmed	confirmed



6.5.1 Hypothesis test results

In the first hypothesis, Machiavellianism has a negative effect on whistleblowing. According to the software results, the path coefficient of -0.150 and the value of t equal to 2.866, indicates that Machiavellianism has a negative and significant effect on whistleblowing at 99 percent confidence level; thus, the null hypothesis, which emphasizes the lack of negative effect between these two variables, is not confirmed and the claim is accepted. The second hypothesis states that narcissism has a negative effect on whistleblowing. According to the Smart PLS results, with a path coefficient of -0.001 and the value of t equal to 0.027, narcissism has no effect on whistleblowing at any level of confidence; thus, the null hypothesis, which emphasizes the lack of negative effect between these two variables, is confirmed and the claim is not accepted. In the third hypothesis, psychopath behavior has a negative effect on whistleblowing. According to the software results, the path coefficient of -0.160 and the value of t equal to 2.480 indicate that psychopath behavior has a significant negative effect on whistleblowing at the 95 percent confidence level; thus, the null hypothesis, which emphasizes the lack of a positive effect between these two variables, is not confirmed and the claim is accepted.

7. Discussion and conclusion

In the first hypothesis, because Machiavellian people have cold and insincere behavior, they often ignore others to gain personal interest. It is suggested that by creating an intimate atmosphere, encouraging and supportive behaviors by developing a sense of independence in employees they try to whistleblow to the right people in their workplace or their managers within the organization. As Machiavellian people are cunning and self-interested they are less motivated in the workplace (Barker et al., 1994), so, it is suggested that by providing mechanisms within the organization the employees be encouraged to report violations to the authorities within the organization or at a higher level through their own name and using secure communication procedures (telephone, special email and other specific communication tools).

In the second hypothesis, narcissism has a significant effect on auditors' whistleblowing. Managers and leaders of organizations are advised to

consider the development of ethical principles and requirements in a transparent and accurate way as narcissists are not too concerned about ethics or adherence to ethical principles. When auditing firms, Stock Exchange and Securities Organization and generally those interested in financial statements evaluate and monitor financial irregularities, they notice to the remuneration gap between the Board of Directors and employee salaries to make appropriate decisions and the higher is the remuneration gap, the more is the likelihood to report the violations. When people are hired, they should be reviewed and their personality traits should be considered, for example, in the auditing profession, if there is no sense of remorse and affection for teamwork, it will damage the profession. People should have opportunities to express their individual tendencies and orientations. The most important results in considering the preferences of people will be the sense of psychological security and ultimately the emergence of creativity and abilities of people.

In the third hypothesis, psychopath behaviors have a negative effect on auditors' whistleblowing. Therefore, the following cases should be considered: the development of a moral code that seeks to develop a right-oriented moral culture to improve the social health of the organization by creating a positive image, developing educational systems and self-esteem promotion courses, appropriate to individuals' moral character in institutions and organizations, trying to find appropriate mechanisms for job promotion, meritocracy and payment system reform to prevent these people from special attention-seeking, eliminate discrimination in the payment of salaries and bonuses at different levels of organizations.

8. Practical suggestions

Practical results of hypothesis 1:

Machiavellianism has a negative effect on auditors' whistleblowing.

- (1) As Machiavellian people often have cold and insincere behavior, they often ignore others to gain personal interest. It is suggested that by creating an intimate atmosphere, encouraging and supportive behaviors by developing a sense of independence in employees they try to whistleblow to the right people in their workplace or their managers within the organization.

- (2) As Machiavellian people are cunning and self-interested they are less motivated in the workplace (Barker et al., 1994), so, it is suggested that by providing mechanisms within the organization the employees be encouraged to report violations to the authorities within the organization or at a higher level through their own name and using secure communication procedures (telephone, special email and other specific communication tools).

Practical results of hypothesis (2):

Narcissism has a significant effect on auditors' whistleblowing.

- (1) Managers and leaders of organizations are advised to consider the development of ethical principles and requirements in a transparent and accurate way as narcissists are not too concerned about ethics or adherence to ethical principles.
- (2) When auditing firms, Stock Exchange and Securities Organization and generally those interested in financial statements evaluate and monitor financial irregularities, they notice to the remuneration gap between the Board of Directors and employee salaries to make appropriate decisions and the higher is the remuneration gap, the more is the likelihood to report the violations.
- (3) When people are hired, they should be reviewed and their personality traits should be considered, for example, in the auditing profession, if there is no sense of remorse and affection for teamwork, it will damage the profession.
- (4) People should have opportunities to express their individual tendencies and orientations. The most important results in considering the preferences of people will be the sense of psychological security and ultimately the emergence of creativity and abilities of people.

Practical results of hypothesis (3)

Psychopath behaviors have a negative effect on auditors' whistleblowing.

- (1) The development of a moral code that seeks to develop a right-oriented moral culture to improve the social health of the organization by creating a positive image.

- (2) The development of educational systems and self-esteem promotion courses, appropriate to individuals' moral character in institutions and organizations.
- (3) Attempt to find appropriate mechanisms for job promotion, meritocracy and payment system reform to prevent these people from special attention-seeking.
- (4) Eliminate discrimination in the payment of salaries and bonuses at different levels of organizations.

Resources

- 1) Beigi, Ebrahim and Banimahd, Bahman, (2016). The Effect of Auditors' Feature Machiavellian Behavior on Their Whistle Blowing, Value and Behavioral Accounting, Volume 1, Number 2, pp. 65-95.
- 2) Bazrafshan, Vajihah; Bazrafshan, Ameneh; Salehi, Mahdi (2018). Investigating the Effect of Managers' Narcissism on the Quality of Financial Reporting. Quarterly Journal of Accounting and Auditing Reviews, No. 4, pp. 457-487
- 3) Sarikhani, Mohammadi, Izadinia, Nasser and Daei Karimizadeh, Saeed. (2019). Using theory of Planned Behavior and Moderating Role of Moral Intensity, Financial Accounting Knowledge Quarterly, Number 20, pp. 75-105.
- 4) Sepehri, Petro, Azadi, Kayhan, Vatanparast, Mohammad Reza, Akbari, Bahman. (2020). Auditor's Personality Types and Their Adherence to Code of Professional Ethics, management accounting, Year 13, No. 44.
- 5) Dianti Deilami, Zahra, Rezapour, Roya. (2014). The Relationship between Corporate Ethics, Social Responsibility, Machiavellianism and Tax Evasion, Year 9, No. 4, pp. 94-83
- 6) Kashanipour, Mohammad, Karami Gholamreza, Khanifar, Hossein, Shabani Keyvan, (2019), Study of Whistleblowing Intention of Independent Auditors for Wrongdoing: An Application of Theory of Planned Behavior, Quarterly Journal of Value and Behavioral Accounting, Series 4, No. 8, 63-91
- 7) Hajipour, Fatemeh, Barzegar, Elahe, (2019). The Importance of Ethics and Ethical Leadership in Public Sector Accountants, Journal of Health Accounting, Ninth Year, No. 1, pp. 1-20

- 8) Namazi, Mohammadi and Ebrahimi, Fahimeh, (2017), Investigating the Effect of Personal and Social Factors on the Perceived Moral Intensity by Accountants. *Two Quarterly Journal of Value and Behavioral Accounting*, Second Year, No. 4, pp. 97-121.
- 9) Salavati, Azam, Golparvar, Mohsen. (2015). The effect of psychological capital on job performance due to the mediating role of emotional burnout, No. 47, pp. 127-148
- 10) Manteghian, Elham; Saberi, Hayedeh; Bashardoost, Simin. (2019), Explaining the Relationship Between Dark Traits of Personality (Narcissism-Psychopath-Machiavellianism) and Job Burnout Based on the Intermediary Role of Perceived Stress, *Journal of Psychological Sciences*, Year 18, No. 78.
- 11) AL-Abrrow, H., Thajil, K. M., Abdullah, H. O., and Abbas, S. (2020). The dark triad and organizational citizenship behavior. in health care: The moderating role of positive emotions. *Global Business and Organizational Excellence*
- 12) Ababneh, K. I., and Hackett, R. D. (2019). The direct and indirect impacts of job indicators on faculty organizational citizenship behavior in the United Arab Emirates (UAE). *Higher Education*, 77(1), 19-36
- 13) Aghli, E., Ahi, G., and Mansouri, A. (2018). The Role of Dark Triad of Personality in Predicting Psychological Well-being and Humor Styles in Nurses. *Iranian Journal of Psychiatric Nursing*, 6(2), 41-49.
- 14) Brown, M. E., and Mitchell, M. S. (2010). Ethical and unethical leadership: Exploring new avenues for future research. *Business Ethics Quarterly*, 20(04), 583-616.
- 15) Belschak, F. D., Den Hartog, D. N., and Kalshoven, K. (2015). Leading machiavellians how to translate machiavellians' selfishness into pro-organizational behavior. *Journal of Management*, 41(7), 1934-1956
- 16) Cardy, R. and T. Slevarjan (2006). "Assessing Ethical Behavior: The Impact of Outcomes on Judgments Bias", *Journal of Managerial Psychology*, Vol. 1, No. 2, pp. 52-72.
- 17) Christie, R., and Geis, F. (1970). *Studies in Machiavellianism*. New York, NY: Academic Press.
- 18) Jubb, P. (1999). Whistle-blowing: a restrictive definition and interpretation. *Journal of Business Ethics* 12(1): 77-94.
- 19) Grego-Planer, D. (2019). The relationship between organizational commitment and organizational citizenship behaviors in the public and private sectors. *Sustainability*, 11(22), 6395
- 20) Jakobwitz, S., and Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual Differences*, 40(2), 331-339.
- 21) Paulhus, D. L., and Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of research in personality*, 36(6), 556-563.
- 22) Rauthmann, J. F., and Kolar, G. P. (2012). How "dark" are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences*, 53(7), 884-889.
- 23) Smith M. K. and H. H. Lee (2009). "Aspects of Accounting Code of Ethics in Canada, Egypt and Japan", *Internal Auditing*, Vol. 24, No. 6, pp. 26-34
- 24) Svensson, G. and G. Wood (2003). "The Dynamics of Business Ethics: A Function of Time and Culture-Cases and Modeld", *Management Decision*, Vol. 41, No. 4, pp. 350-361.
- 25) Szabó, Z. P., Czibor, A., Restás, P., and Bereczkei, T. (2018). "The Darkest of all" The relationship between the Dark Triad traits and organizational citizenship behavior. *Personality and Individual Differences*, 134, 352-356.
- 26) Watson, P. J., and Morris, R. J. (1991). Narcissism, empathy and social desirability. *Personality and Individual Differences*, 12(6), 575-579.
- 27) Romi, M. V., and Ahman, E. (2020). Islamic Work Ethics-Based Organizational Citizenship Behavior to Improve the Job Satisfaction and Organizational Commitment of Higher Education Lecturers in Indonesia. *International Journal of Higher Education*, 9(2), 78-84
- 28) Near, J. P., and Miceli, M. P. (1985). Organizational dissidence: The case of whistle-blowing. *Journal of business ethics*, 4(1), 1-16.