

# The effect of personality traits and tax morale on tax evasion intention

Godfred Matthew Yaw Owusu, Mary-Ann Bart-Plange,  
Theodora Aba Abekah Koomson and Miriam Arthur

*Department of Accounting, Business School, University of Ghana, Accra, Ghana*

## Abstract

**Purpose** – This paper aims to explore the relationship among personality traits, tax morale and tax evasion intention of students. Using the five-factor model of personality ratings, this study hypothesizes that agreeableness, openness to experience, conscientiousness, extraversion and neuroticism are good predictors of both tax morale and tax evasion intentions of individuals. Further, this paper argues that tax morale correlates negatively with tax evasion intention.

**Design/methodology/approach** – A survey method was adopted and questionnaires were developed to elicit responses for the study. The study hypotheses were tested structurally using the partial least square-structural equation modelling technique.

**Findings** – The results of the study demonstrate the existence of a positive and statistically significant relationship between three dimensions of the personality traits (agreeableness, conscientiousness and openness to experience) and tax morale. Consistent with the expectation, the study also finds tax morale to be significant and negatively associated with tax evasion intention.

**Research limitations/implications** – This study concludes from the findings that improving the tax morale of individuals could be an important way by which tax authorities can improve voluntary tax compliance and reduce the incidence of tax evasion by individuals.

**Originality/value** – The study uses all the dimensions of the five-factor model to examine the tax evasion intention of individuals. It also contributes to the theoretical literature by highlighting the mediating role of tax morale in the relationship between personality traits and tax evasion intention from an African perspective.

**Keywords** Structural equation modelling, Personality traits, Tax morale, Tax evasion intention

**Paper type** Research paper

## Introduction

For decades, countries, especially those classified as developing economies, have struggled to meet their annual tax targets which have resulted in consistent shortfalls in their total revenue (Owusu *et al.*, 2020). The attempt to finance the ever-growing public expenditure of such countries has often resulted in a large budget deficit over the years and the over-reliance on external assistance in a form of donor support to augment the revenue shortfalls (Owusu *et al.*, 2020). While donor support has been pivotal to the developmental efforts of developing economies in the past, there has been a consistent decline in development assistance from developed countries to their less developed counterparts since the 2008 financial crisis (Dang *et al.*, 2013). Borrowing from institutions such as the International Monetary Fund (IMF) and World Bank has become an inevitable option for most of these countries despite concerns over unfair conditionality mostly associated with such funding options (Owusu *et al.*, 2020).



Against the backdrop that the global economy is virtually on its knees following the outbreak of the Covid-19 pandemic (Ozili and Arun, 2020), budgetary support from developed countries to their developing counterparts are more likely to dwindle further in the coming years which could impact severely on the economic performance of developing countries. Dependence on external funding sources to finance public expenditure may, therefore, not be a sustainable option for developing countries, and hence, the need to focus on improving revenue mobilization from other sources such as domestic tax revenues. A major challenge identified by existing studies on the poor performance of the domestic tax revenue mobilization by developing countries is the unwillingness of individuals and corporations to voluntarily fulfill their tax obligations to the state.

At the individual level, empirical research has consistently shown that a multiplicity of factors influence the tax compliance behaviour of citizens (Alleyne and Harris, 2017; Owusu *et al.*, 2019, 2020). As pointed out by Owusu *et al.* (2019), an understanding of these factors and how they shape the tax behaviour of individuals is critical in developing the appropriate strategies to promote responsible tax behaviour. The current study attempts to highlight a new perspective on individual tax behaviour complexities by examining the concept of personality traits and the impact it has on tax morale and an individual's intention to evade taxes within the context of Ghana.

The objectives of this study are three-fold. Firstly, we examine the concept of personality traits using the Five-Factor Model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) and investigate whether these traits are good predictors of individuals' intrinsic motivation towards the payment of their taxes. Secondly, we investigate the intention of individuals to engage in tax evasion and explore the effects of tax morale on such intentions. The third and final objective of the study examines the indirect effect of personality traits on tax evasion intention using tax morale as a mediator.

The study contributes to the literature on individual tax behaviour complexities by focusing on the tax evasion intention of individuals and how it is influenced by their distinct personality traits and tax morale. The findings of this study provide insights into the determinants of tax morale and tax evasion intention. Contextually, the evidence provided in this study is relevant to the tax evasion discourse from an African perspective given the paucity of empirical studies on the subject matter on the continent. In addition, the study also contributes theoretically to the literature by highlighting the mediation role of tax morale in the relationship between personality traits and tax evasion intention.

The rest of the article is organized in four sections as follows: Section 2 reviews literature on tax morale, tax evasion intention, the Five-Factor Model personality traits and the key hypotheses of the study. This section is followed by a discussion on the data and methodology in Section 3. The penultimate section describes the empirical analysis and discussion of results. Conclusions and policy implications of our findings are presented in Section 5.

## Literature review and hypotheses development

### *The concept of taxes and tax morale*

Taxes are generally referred to as compulsory payments made by citizens of a country to the government either directly from their incomes or through indirect means to assist governments to make available the essentials for comfortable living. Kirchgässner (2010), therefore, describes taxes to be the prices for the goods and services provided by the government. While the provision of such goods and services by the government are meant for the greater public good, the reality is that most governments especially those in developing countries struggle to raise enough revenue through taxes to finance them. A

common reason often cited in the literature is the unwillingness of some individuals to voluntarily honour their tax obligations. This in part explains why [Elffers \(2000\)](#) posits that taxes have to be mandatory because it is uncertain that individuals earning an income would voluntarily contribute a part of their income to the public coffers.

[Kirchgässner \(2010\)](#), however, argues that, when it comes to paying taxes, the provision of public goods is not the issue, rather, it is a question of whether the value of the goods and services provided by the government corresponds to the compulsory taxes that are being paid to them by the citizens. By implication, this kind of comparison done by citizens essentially shifts the focus of tax compliance from a task of fulfilling one's legal duties to one bound by the "just-price" theory and morality. From the perspective of the just-price theory, individuals evaluate the fairness of the tax system by comparing the "tax price" to the corresponding value of public services, while the concept of morality describes the personal beliefs of what is right and wrong ([Kirchgässner, 2010](#)). This argument, thus, implies that when an individual realizes that the value of his taxes far exceeds the value of public goods provided by the government, he is more susceptible to evade his taxes because he does not see the tax price as "just" and fair. Notwithstanding the value considerations of taxpayers, certain individuals have been noted to pay their taxes irrespective of perceived unfairness. Literature attributes this characteristic to a phenomenon referred to as tax morale ([Allingham and Sandmo, 1972](#); [Torgler, 2004](#); [Daude et al., 2013](#)).

The concept of tax morale was developed to explain the reasons for which individuals pay taxes aside from the influence of external factors such as deterrence policies ([Allingham and Sandmo, 1972](#)). The issue of why people pay taxes keeps evolving in literature due to the key role tax revenue plays in the development of a country. The need to develop strategies that would facilitate the effective mobilization of taxes has featured prominently in the public finance discourse for years. In light of this, tax researchers have continued to explore factors that influence individuals to honour their tax obligations. Among these factors is an inherent determinant, tax morale, which is explained by [Torgler \(2004\)](#) as an "intrinsic motivation to pay taxes". This intrinsic motivation influences individuals to pay their taxes as a moral obligation and not necessarily out of fear of sanctions ([Torgler, 2004](#)). As [Daude et al. \(2013\)](#), point out, tax morale is the motivation of a country's citizens to pay taxes without recourse to any legal obligation. From the above definitions, tax morale is generally conceptualized as the motivation to pay taxes driven primarily by the inner self and not in any way associated with other external factors. [Torgler \(2004\)](#) further postulates that this intrinsic drive has to do with an individual's attitude and not necessarily his/her behaviour.

Having established the individualistic nature of tax morale, [Barone and Mocetti \(2009\)](#) conclude that, tax cheating is attributable to a significant degree, the tax morale of taxpayers. Thus, tax morale has been found to be one of the many influencers in tax anomalies such as evasion and non-compliance behaviour. The need to build on existing research and to explore the factors that drive tax morale cannot be overemphasized. A review of the literature suggests the scope of extant research on tax morale has not only concentrated on specific countries ([Martinez-vazquez and Torgler, 2009](#); [Torgler, 2005](#)) but has also taken into consideration a comparison of a number of countries ([Lago-Peñas and Lago-Peñas, 2008](#); [Torgler, 2004](#); [Daude et al., 2013](#); [Cummings et al., 2009](#)). In terms of measurement, tax morale has been measured predominantly in existing studies using World Value Survey (WVS) and the European Value Survey (EVS). A significant amount of attention has also been given to the determinants of tax morale by extant studies. The determinants of tax morale are varied and are usually grouped into contextual variables and socio-demographic variables such as age, gender, family, education, marital status and

income (Torgler, 2003b). Although the relevance of these determinants is not undermined, this study proposes that an individual's personality traits can influence his or her tax morale. Consequently, this study explores the concept of personality traits and examines its relationship with tax morale on the premise that the intrinsic motivation to pay taxes can also be explained by reference to certain dominant attributes of an individual.

### *Personality traits*

The distinct nature of individuals makes it possible for each individual to have varying degrees to which each feels the willingness to or not to pay taxes (Elffers, 2000). Such difference is often a result of some attitude or personality trait such as egoism and competitiveness (Elffers, 2000). An understanding of personality traits then becomes one important key, likely to be useful in combatting tax evasion globally. Notwithstanding the level of attention given to the determinants of tax attitudes and behaviour in past studies, most of these studies have focused mainly on variables such as narcissism, moral reasoning, risk preference, value orientation, egoism and competitiveness (Trivedi *et al.*, 2003; Elffers *et al.*, 1987; Olsen *et al.*, 2016), paying less attention to the personality traits of individuals.

McCrae *et al.* (1996), opine personality traits as “the basic tendencies that refer to the abstract underlying potentials of an individual”. Roberts (2009, p. 140), in unison, explained personality traits to be “the relatively enduring patterns of thoughts, feelings and behaviours that reflect the tendency to respond in certain ways under certain circumstances”. Personality, thus, consists of specific habits and basic tendencies which remain stable across one's lifetime (Allport and Odbert, 1936). Due to their enduring and compounding nature across a lifetime, they can then be labelled, a good predictor of the patterns of one's behaviour (McCrae and Costa, 2008). The personality of an individual is measured using various scales. The ego-resilience and ego-control two-dimension concept, Myers-Briggs Type Indicator (MBTI), the California Psychological Inventory (CPI) and Five-Factor Model are all scales that have been developed and used by researchers in the literature (John and Srivastava, 1999). This study, however, adopts the Five-Factor Model because it is widely acknowledged in literature by researchers and equally identified as a taxonomy, which captures all the facets of personality into one common framework without eliminating the other scales (John and Srivastava, 1999).

### *Five-factor model*

Usually referred to in existing literature as the “Big Five” personality structure, the Five-Factor Model was developed by McCrae *et al.* (1996). The model measures the relatively enduring pattern of recurrent interpersonal situations that characterize human life (John and Srivastava, 1999). Several theories posit this structure as relational and interpersonal in nature (John and Srivastava, 1999; Ozer and Benet-Martinez, 2006). Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to experience are the pillared dimensions of this widely used model (McCrae and Costa, 1997).

### *Openness to experience*

The dimension Openness to experience bundles components such as intelligence, culture, cognitive complexity, broad interests and creativity (DeNeve and Copper, 1998). Deyoung *et al.* (2012), opine Openness to experience as the tendency to seek, detect, appreciate, understand and use both sensory and abstract information. Similarly, Openness to experience is expressed as the trait that explains individuals with a wild imagination and an ability to learn new things and gain novel experiences (Olver and Mooradian, 2003; Parks-

---

Leduc *et al.*, 2015). People who are open are curious and tend to question authority leading to their higher moral development (McCrae and Costa, 1997).

#### *Conscientiousness*

Conscientiousness generally describes the tendency of an individual to comply with codes of conduct and to follow laid down policies and procedures (Costa *et al.*, 1991). Conscientious people exhibit general traits such as good organization, thoughtfulness, effective planning, efficiency, responsibility and dependability (Neill and Hastings, 2011). Individuals scoring low on Conscientiousness are less precise in applying moral principles and less directed when working towards goals (Costa and McCrae, 1992). Individuals who rank high on Conscientiousness according to Costa and McCrae (1992) tend to think carefully before they act and are also more likely to adhere to rules and perceived duties required of them.

#### *Extraversion*

The term Extraversion as a dimension of personality traits focuses mainly on the intensity and quantity of relationships nurtured among individuals (Deneve and Copper, 1998). Individuals ranking high on Extraversion tend to be talkative, assertive, energetic, outgoing, outspoken and sociable (Neill and Hastings, 2011). Introverts, the opposite of extroverts, on the other hand, have a completely different nature; they are reserved, even-paced and independent (Costa and McCrae, 1992).

#### *Agreeableness*

McCrae and Costa (1987) argue that Agreeableness as a dimension of personality traits reflects an individual's disposition to be gentle, kind, honest and unselfish. People with this trait are generally sensitive to the needs of others and unlike Extraversion, it describes the quality of an individual's interpersonal relationship with others (Deneve and Copper, 1998). Neill and Hastings (2011) describe agreeable individuals as sympathetic, kind, appreciative, trusting, soft-hearted, warm and sensitive. Such people, thus, are more often than not likely to treat others in an impartial and respectful manner so as not to offend them. Disagreeable individuals, however, are egocentric, competitive and skeptical of other's intentions (Costa and McCrae, 1992).

#### *Neuroticism*

Neuroticism is the dimension that deals with anxiety, instability, depression, stress and the impulsive nature of individuals (Kalshoven *et al.*, 2011). This trait centres on the aspects of individuals that deal with adjustment or lack of adjustment (Deneve and Copper, 1998). Neurotic individuals have traits that make them tense, nervous, moody, worrying, fearful, emotional and unstable (Neill and Hastings, 2011). On the contrary, less neurotic individuals tend to exhibit calmness, a relaxed disposition and a more emotionally stable attitude (Huels and Parboteeah, 2019).

The study predicts that the five dimensions of personality could influence the tax morale of individuals, and hence hypothesizes a relationship between each of these dimensions and tax morale.

### **Hypotheses development**

#### *Openness to experience and tax morale*

Having described the traits of open individuals, Openness to experience has been noted to predict an individual's willingness to pay taxes (Olayinka *et al.*, 2018). Results from

---

Olayinka *et al.* (2018, p. 16) show that “personality dispositions of compliant taxpayers would be those high on Openness to experience”. This is an indication that individuals who are creative, analytical, curious and open to understanding new ideas and concepts have high tax morale, thus, voluntarily pay their taxes.

Being a trait characterized by independence and non-conformance (Moran and Aharon, 2009), it is hypothesized that open individuals are susceptible to follow the tax laws. They do not conform to tax illegalities as they tend to question authorities’ actions which form a basis for their moral judgements (McCrae and Costa, 1997). Open individuals are then more likely to be motivated to pay their taxes when the governments provide public infrastructure and other services. As a result of this argument, this study hypothesizes that:

- H1. An individual’s level of Openness to experience is positively related to his/her tax morale.

#### *Conscientiousness and tax morale*

The responsible and moral behaviour of conscientious people exhibited in society makes them susceptible to do the right thing for themselves and others (Costa and McCrae, 1992). This morality factor and their tendency to obey rules without any external force can be said to be a contributory factor to their tax morale levels.

Prior studies have also proven that there is a negative relationship between Conscientiousness and workplace deviance (Shahrazad *et al.*, 2012), as well as Conscientiousness and tax non-compliance (Huels and Parboteeah, 2019). Based on these, highly conscientious individuals are more likely to pay their taxes because they are prone to obey tax laws due to their natural disposition. Therefore:

- H2. Higher Conscientiousness will be associated with high levels of tax morale.

#### *Extraversion and tax morale*

Aside from the energetic and assertive nature of extroverts, studies have revealed that individuals ranking high on Extraversion are also characterized by poor conditionability, low arousal and sensation-seeking attitudes (Eysenck, 1973; Crookes, 1979). These traits according to Eysenck (1973) are the defining factors that may influence an individual to behave in a delinquent manner. An individual who is inherently poor in conditionability is believed not to have built up a strong conscience, and hence, may not be so much bothered about committing offenses in a society (Farrington *et al.*, 2001). Also, given that extroverts have high sensation-seeking tendencies, such individuals are more susceptible to indulge in delinquent acts as they view them as pleasurable (Eysenck, 1973). For such individuals, therefore engaging in tax evasion may serve the pleasurable interest that is usually derived from indulging in lawless acts. Drawing from these arguments, the study hypothesizes:

- H3. Highly extroverted individuals have a lower motivation to pay taxes.

#### *Agreeableness and tax morale*

Impartiality and respect for others are traits, which make agreeable individuals liable to adjust their behaviour to be compliant in society. Their straightforward qualities also enable them to be sincere in all their dealings (Costa *et al.*, 1991). Such traits of honesty and fairness suggest that agreeable individuals are likely to fully disclose their income earnings to be

taxed appropriately. People on the extreme opposite of the Agreeableness scale, however, are more prone to evade taxes due to their general insincere, uncooperative and condescending behaviour. In corroborating these claims, past research has shown that Agreeableness yielded a negative and significant relationship with workplace deviance and economic crime (Alalehto, 2003; Shahrzad *et al.*, 2012).

On this basis, the study hypothesizes that:

*H4.* Higher levels of Agreeableness impact tax morale positively.

#### *Neuroticism and tax morale*

Tension, nervousness, distress and moodiness are all traits that are peculiar to individuals rating high on Neuroticism. Neurotics are emotionally unstable and this disposition is usually accompanied by feelings of guilt and frustration (Widiger, 2009). Individuals with this trait have a lower tendency to engage in acts considered socially delinquent largely for fear of being caught and punished. This inherent trait of neurotic individuals may, therefore, influence their desire to pay their taxes and not evade them. As pointed out by some prior studies (Cizek, 1999; Jackson *et al.*, 2002), highly neurotic individuals are less likely to engage in acts of cheating, but more prone to engage in moral and ethical acts such as fulfilling tax obligations. Based on these arguments, we hypothesize that:

*H5.* Neuroticism is positively related to tax morale.

#### *Tax morale and tax evasion intention*

Tax evasion has been described as an illegal act that violates the law and deviates from social norms that prescribe that citizens should pay taxes (Korndörfer *et al.*, 2014). The unfair nature and irony of such an act are that the sum total of taxes collected from taxpayers is used to provide public goods for the benefit of all citizens; both the evaders and the compliant (Elffers, 2000). Exploring ways to make citizens compliant with their tax obligations and minimizing the incidence of tax evasion has been acknowledged as a critical function of the tax structure (Wahyuni *et al.*, 2019).

From the literature, a number of factors have been associated with why people evade taxes. Wahyuni *et al.* (2019) for instance, suggest some taxpayers engage in tax evasion due to the lack of consciousness of the importance of tax and its fulfilment thereof. Baldry (1986) and Torgler (2003b), argue that the decision to evade or not to evade taxes is influenced by “moral compunctions” which explain the feeling of guilt or anxiety that prevents an individual from doing what is deemed wrong in society. Likewise, the provision of stringent punitive measures has also been associated with tax evasion. Allingham and Sandmo (1972) argue that these deterrent measures encourage the fulfilment of tax obligations, others like Cummings *et al.* (2009) on the other hand believe that penal measures that persuade taxpayers to pay their due tax rather result in bribery and corruption which may subsequently contribute to tax evasion. Thus, there appear to be divergent views in terms of the exact impact of punitive measures on an individual’s willingness to honor tax obligations to the state.

Also, the factor reciprocity is explained as the willingness to pay taxes or evade them only when there is an assurance or perception that other citizens are doing the same is said to be an influencer of tax evasion (Kirchgässner, 2010). The argument is that some individuals are only motivated to pay their taxes and not evade them when they perceive that other citizens are honoring their tax obligations. On the other hand, when such

individuals identify that citizens are evading taxes, they lose their assurance and trust in the enforcement of tax payments and subsequently engage in tax evasion. Several studies have also relied on the Theory of Planned Behaviour (TPB) by [Ajzen \(1991\)](#) and find attitude (an individual's favourable or unfavourable evaluation of tax evasion), subjective norm (the perceived social pressure from significant people to engage or not to engage in tax evasion), perceived behavioural control (the seeming ease or difficulty in engaging in tax evasion) to be associated with an individual's intention to evade taxes.

It must be emphasized that due to the difficulty in accessing the information on actual tax evasion perpetrators, researchers have often resorted to using intentions to engage in tax evasion as a proxy measure for actual tax evasion behaviour ([Alleyne and Harris, 2017](#)). Intentions give an indication of an individual's willingness and determination to behave in a certain manner ([Ajzen and Beck, 1991](#)). As such, a good way to measure one's behaviour is through one's intention as the higher the intention, the stronger the likelihood to behave in a particular manner ([Ajzen and Beck, 1991](#)). This study contributes to the determinants of the tax evasion intention discourse by investigating the effect of tax morale on tax evasion intention. Given that the tendency for one to evade taxes is not only explained by external factors, [Kirchgässner \(2010\)](#) argues that one internal factor that may predict the intention to evade tax is tax morale. Some empirical studies ([Torgler, 2003a](#); [Schaffner and Torgler, 2007](#)) on tax morale, tax evasion nexus have substantiated the claim that tax morale significantly reduces an individual's incentive to evade taxes. On this premise, we hypothesize that:

- H6.* An individual's tax morale is negatively related to his or her intention to engage in tax evasion.

## Methodology

### *Setting, data and data collection instrument*

This study focused on a sample of business students pursuing accounting and non-accounting degrees from the University of Ghana Business School. We focused on both undergraduate and post-graduate students to improve the representativeness of the sample and to account for the differences in some key demographic characteristics of the respondents. Data for this study was obtained by means of self-administered questionnaires to the target respondents. To ensure voluntary participation, encourage honest responses and minimize socially desirable responses from respondents, the purpose of the survey was explained to them and respondents were assured of the confidentiality of their responses.

The questionnaire consisted of two sections and the first section contained information on the demographic characteristics of the respondents including their sex, age and level of study of the respondents. The second section focused on the specific indicators adopted to measure the constructs of the study. The 20-item International Personality Item Pool (Mini-IPIP) which is an effective and valid measurement scale to measure the personality traits of respondents was adopted ([Donnellan et al., 2006](#)). Tax morale was measured using the World Values Survey, [Inglehart and Baker \(2002\)](#) and the 2014 Survey of Household Income and Wealth while the respondents' intention to evade taxes was analysed using an adopted scale developed by [Alleyne and Harris \(2017\)](#). A seven-point Likert scale was used for the study to allow for greater variability in the responses.

A total of 520 questionnaires were administered to the sampled group of undergraduate and postgraduate students out of which 418 were returned. In total, 11 of the questionnaires were excluded from the final analysis because respondents failed to answer some of the questions. The

questionnaires were administered during a class session after seeking permission from the instructor and explaining to the respondents that participation was purely voluntary.

*Profile of respondents*

Table 1 contains the descriptive statistics of the respondents. The sample of 407 students was dominated by women constituting 53.3% of the students who participated in the survey. The majority of the respondents were below age 30, representing 87.7% of the respondents. In addition, undergraduate students (74.4%) that participated in the survey constituted approximately three times the number of postgraduate students. In total, 41.8% of the respondents were studying Accounting as a course major with the remaining 58.2% representing the response rates of the Non-Accounting students.

*Data analysis procedures*

Structural equation modelling (SEM) was used in estimating the model of the study because it is known to increase efficiency and effectiveness in the evaluation of measurement models and structural paths among study constructs (Hair et al., 2013). The partial least square structural equation modelling (PLS-SEM) approach, developed by Wold (1982) was used in the study to analyse the data. PLS-SEM minimizes the amount of unexplained variance in a study and additionally maximizes the exogenous construct’s explained variance by reducing the error terms in a particular model (Hair et al., 2014).

**Empirical findings**

*Descriptive statistics of constructs*

The mean scores and standard deviations of the respondents’ view on the various indicators for the respective constructs are presented in Table 2. With an overall mean of 3.78 on Neuroticism, most of the respondents appear to rank high on this trait. The statement, “I seldomly feel sad”, however, reports the lowest mean of 2.40. This suggests that respondents do not see themselves as individuals who often get melancholic in their interaction with others. The respondents, however, were in stronger agreement with indicators 1 and 3 with means of 4.61 and 4.74, respectively, signifying the tendency for them to easily change their moods and be distressed. The overall average mean score for the trait Extraversion was 4.22 with all indicators being above the 3.5 median threshold. This is an indication that the respondents generally agreed with the statements used in measuring this construct, and thus, ranked high on Extraversion. The indicator “I am a very lively and

**Table 1.**  
Demographic characteristics of respondents

Variables	Sub-group	Frequency (407)	(100%)
Gender	Male	190	46.7
	Female	217	53.3
Age range	20 and below	180	44.2
	21–30	177	43.5
	31–40	39	9.6
	41 and above	11	2.7
Course level	Undergraduate	303	74.4
	Postgraduate	104	25.6
Course major	Accounting	170	41.8
	Non-accounting	237	58.2

Constructs	Mean	SD	Effect of personality traits
<i>Neuroticism</i>			<b>281</b>
I have frequent mood swings	4.61	1.873	
I am relaxed most of the time	3.36	1.87	
I get upset easily	4.74	1.927	
I seldomly feel sad	2.40	1.111	
<i>Overall</i>	3.78	1.7	
<i>Extraversion</i>			
I am a very lively and amusing person	5.09	1.886	
I do not talk a lot	3.96	1.985	
I talk to a lot of different people at social gatherings	3.75	1.957	
I usually keep in the background at meetings	4.1	1.93	
<i>Overall</i>	4.22	1.94	
<i>Agreeableness</i>			
I sympathize with others' feelings	5.37	1.815	
I am not interested in other people's problems	5.19	1.85	
I feel the emotions of others	5.08	1.793	
I am not really interested in others	5.32	1.794	
<i>Overall</i>	5.24	1.81	
<i>Conscientiousness</i>			
I get chores done right away	4.73	1.883	
I often forget to put things back in their proper place	3.15	1.936	
I like order	5.34	1.863	
I sometimes make a mess of things	3.48	1.927	
<i>Overall</i>	4.18	1.9	
<i>Openness to experience</i>			
I have a vivid imagination	4.93	1.804	
I am not interested in abstract ideas	4.52	1.807	
I have difficulty in understanding abstract ideas	3.48	1.781	
I do not have a vivid imagination	5.26	1.815	
<i>Overall</i>	4.55	1.8	
<i>Tax morale</i>			
I think it is justifiable to cheat on taxes if I get the chance to do so without getting caught	2.42	2.135	
Paying taxes is one of the basic duties of citizenship	6	1.748	
Not paying taxes is one of the worst crimes a person can commit because it harms the whole community	4.54	2.221	
It is not right to evade taxes even if you think they are unfair	5.23	1.974	
Even if someone thinks a tax is unfair, he/she should pay it first and then complain later if necessary	4.73	2.111	
It is right to pay tax because it helps the weak	5.14	1.991	
<i>Overall</i>	4.68	2.03	
<i>Tax evasion intention</i>			
I would cheat on taxes if I had the opportunity	6.25	1.026	
I would never cheat on taxes	3.17	2.16	
I may not cheat on taxes in the future	3.04	2.051	
<i>Overall</i>	4.15	1.75	

**Table 2.**  
Descriptive summary  
of constructs

amusing person” recorded the highest mean of 5.9, suggesting that most of the respondents consider themselves to be very active and entertaining in nature.

Agreeableness recorded the highest overall (mean= 5.24) suggesting that the respondents ranked high on the key indicators of this construct. Conscientiousness, on the other hand, recorded the lowest average mean (4.18) among all the constructs. Using the

mean scores recorded for each indicator, students ranked high on statements 1 and 3 (4.73, 5.34) and low on 2 and 4 (3.15, 3.48), predicting their preference for orderliness and meticulousness. Results of the respondents' views on the trait "Openness to experience" showed an overall mean of 4.55 which presupposes that students ranked high on Openness to experience and typically see themselves as open to learning and understanding novel concepts.

Tax morale recorded an overall mean score of 4.68, signifying that the intrinsic motivation to pay tax by the respondents is fairly high. Most of the respondents generally believe paying taxes is their civic duty and evading them is unlawful and a means to deprive the poor of basic amenities in society. The descriptive statistics clearly demonstrate that most respondents view tax evasion as wrong and would not condone it even though they may not be caught.

Finally, tax evasion intention recorded a mean value of 4.15 suggesting the intention to evade tax by the respondents is high. Most respondents appear not to be certain on their evasion intention in future, a mean score of 6.25 for the indicator "I would cheat on taxes if I had the opportunity" clearly demonstrate that given the chance most of the respondent will evade the payment of taxes.

*Reliability and validity*

The reliability and validity of the constructs were tested using internal consistency, convergent validity and discriminant validity. The Composite Reliability (CR) scores are used in this study to measure the reliability of the constructs. Unlike the Cronbach Alpha (CA) measure which assumes an equal weight for all the indicators, the CR measure uses the loadings obtained from the model itself to weight the indicators making it a better measure than the CA (Hair *et al.*, 2012). The constructs demonstrate adequate CR exceeding the recommended minimum threshold (Henseler *et al.*, 2009; Hulland, 1999).

The convergent validity was assessed by examining the Average Variance Extracted (AVE) to ascertain if the minimum threshold of 0.5 was obtained for the constructs. The AVE scores as presented in Table 4 demonstrate that convergent validity is assured. The uniqueness of each construct was assessed with discriminant validity, its calculation being the square roots of AVE. Discriminant validity was assured as all AVE's were greater than the correlation between the constructs (Hair *et al.*, 2017). The overall results presented in Table 4 depict that each construct exhibits reasonable reliability and validity.

**Table 3.**  
Construct reliability  
and Convergent  
Validity

Constructs	CR	AVE
Agreeableness	0.796	0.500
Conscientiousness	0.816	0.689
Extraversion	0.612	0.500
Neuroticism	0.700	0.514
Openness to experience	0.818	0.691
Tax evasion intention	0.880	0.787
Tax morale	0.814	0.529
Age	1.000	1.000
Gender	1.000	1.000
Course level	1.000	1.000
Course major	1.000	1.000

*Structural model analysis*

Having attained satisfactory results from the reliability and validity assessment of the constructs, we proceeded with the structural model analysis using the bootstrapping procedure. The structural model indicating the relationships among the study constructs is presented in [Figure 1](#). As shown in [Figure 1](#), the five dimensions of personality traits are predicted to have a direct influence on tax morale, while tax morale is hypothesized to impact directly on tax evasion intention. Finally, the model also depicts an indirect relationship between the dimensions of personality traits and tax evasion intention mediated by tax morale. Prior to examining the results from the bootstrapping analysis, we assessed whether our estimated results were free from multicollinearity issues using the results of the variance inflation factor (VIF). With VIF values ranging between a lower bound of 1.08 and a higher bound of 1.34 for the study constructs as shown in [Table 5](#), we conclude that our estimated results are free from multicollinearity problems based on the recommendations by [Hair et al. \(2011\)](#). Results of the structural model analysis are presented in [Table 6](#)

Prior to testing the hypotheses of the study, the coefficient of determination ( $R^2$ ) was assessed. The two exogenous variables of the study, tax evasion intention and tax morale, recorded  $R^2$  values of 0.08 and 0.17, respectively. Thus, 8% of the variations in tax evasion intention is explained by tax morale and 17% of the variations in tax morale are explained by the endogenous variables: the personality traits. An assessment of the predictive relevance of the model was carried out using the blindfolding rules ([Hair et al., 2014](#)). Recording  $Q^2$  estimations of 0.054 and 0.076 for the exogenous variables, tax morale and tax evasion, suggests that the model has predictive relevance as the values are above the recommended threshold of zero.

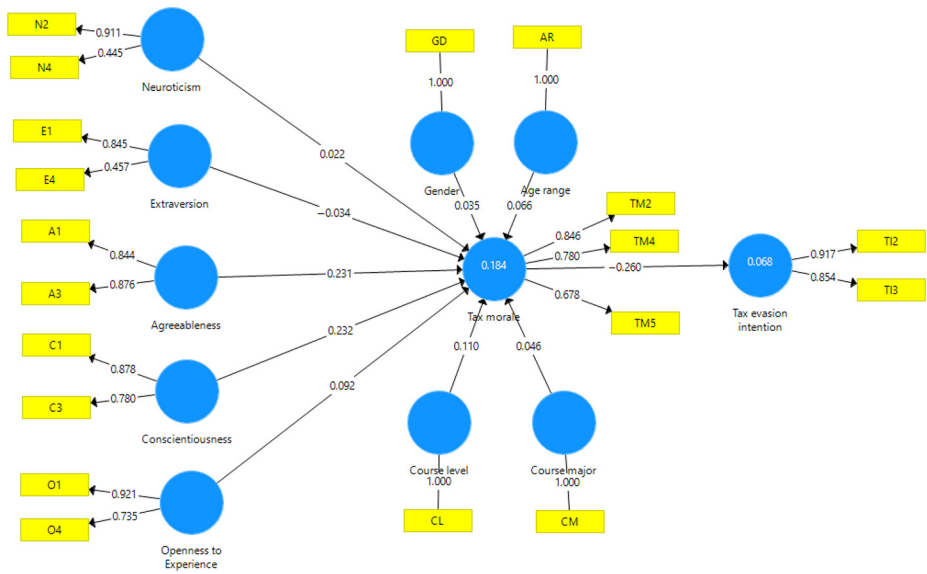
*Checks for common method bias*

Given the subjective nature of the measurement scale and the fact that both endogenous and exogenous variables were collected from the same group of students, there is a risk that the responses provided were socially desirable. In correcting the occurrence of such partiality, the common method bias of the study's model was assessed using the Herman One-Factor Model. The result showed a percentage variance of 11.89% which is a value less than the tolerable threshold of 50%. This low percentage, thus, suggests that the measurement model is free from common method bias ([Podsakoff and Organ, 1986](#)). Details of this result are shown in [Appendix](#).

Constructs	AR	A	C	CL	CM	E	G	N	O	TEI	TM
AR	1.000										
A	0.145	0.707									
C	0.124	0.321	0.830								
CL	0.673	0.137	0.080	1.000							
CM	-0.398	-0.028	-0.141	-0.193	1.000						
E	0.047	0.337	0.268	0.093	-0.060	1.000					
G	-0.161	0.122	0.005	-0.062	0.132	0.030	1.000				
N	0.135	0.195	0.180	0.051	-0.077	0.197	-0.011	1.000			
O	0.079	0.386	0.277	0.058	-0.059	0.186	-0.020	0.179	1.000		
TEI	-0.043	-0.103	-0.132	0.005	0.050	0.018	-0.073	-0.070	-0.114	0.887	
TM	0.056	0.324	0.327	-0.030	0.031	0.113	0.085	0.125	0.235	-0.281	0.726

**Table 4.**

Discriminant validity



**Figure 1.**  
Structural model of  
personality traits, tax  
morale and tax  
evasion intention

**Table 5.**  
VIF

Factor	VIF
Agreeableness	1.395
Conscientiousness	1.213
Extraversion	1.196
Neuroticism	1.099
Openness to experience	1.230
Age	2.211
Gender	1.063
Course level	1.879
Course major	1.228
Tax morale	1.000

*Effect of personality traits on tax morale*

The results as shown in Table 6, indicate that the trait Agreeableness has a positive and statistically significant relationship with tax morale. This is an indication that individuals classified as agreeable generally have the inner motivation to pay their taxes. Agreeable individuals according to McCrae *et al.* (1996) exhibit traits such as kindness, gentleness, honesty, accommodating and are very co-operative in their engagement with others. The honesty and co-operative nature of agreeable individuals coupled with the fact that they are usually careful not to offend or flout established rules and regulations are enough motivation for such individuals to fulfill their tax payment responsibilities intrinsically. The implication is that individuals with this dominant trait or high scorers on Agreeableness have the inner will to do the right thing by their very nature without recourse to any form of an external influence such as deterrent policies. Thus, the motivation to pay taxes by agreeable individuals is internally driven and not induced by external factors. People

**Table 6.**  
Bootstrapping  
results (direct effects)

Relationship	Coefficient	95% conf. interval		p-values	Remark
		Lower limit	Upper limit		
Agreeableness → tax morale	0.231	0.119	0.311	0.000	Accepted
Conscientiousness → tax morale	0.232	0.153	0.325	0.000	Accepted
Extraversion → tax morale	-0.034	-0.091	0.094	0.441	Rejected
Neuroticism → tax morale	0.022	-0.032	0.120	0.571	Rejected
Openness to experience → tax morale	0.092	0.000	0.171	0.082	Accepted
Age → tax morale	0.066	0.025	0.233	0.040	Accepted
Course level → tax morale	0.110	-0.252	-0.045	0.074	Accepted
Course major → tax morale	0.046	0.006	0.172	0.069	Accepted
Gender → tax morale	0.035	-0.017	0.134	0.182	Rejected
Tax morale → tax evasion intention	-0.260	-0.370	-0.199	0.000	Accepted
$R^2$ (0.079,0.190)					
$Q^2$ (0.054,0.083)					

**Table 7.**  
Bootstrapping  
results (indirect  
effects)

Relationship	Coefficient	95% conf. interval		p-values	Remark
		Lower limit	Upper limit		
Agreeableness → tax evasion intention	-0.060	-0.097	-0.031	0.001	Accepted
Conscientiousness → tax evasion intention	-0.060	-0.104	-0.038	0.000	Accepted
Extraversion → tax evasion intention	0.009	-0.026	0.028	0.466	Rejected
Neuroticism → tax evasion intention	-0.006	-0.035	0.010	0.583	Rejected
Openness to experience → tax evasion intention	-0.024	-0.051	-0.001	0.113	Rejected
Age → tax evasion intention	-0.017	-0.071	-0.006	0.065	Accepted
Course level → tax evasion intention	-0.029	0.012	0.078	0.031	Accepted
Course major → tax evasion intention	-0.012	-0.053	-0.001	0.096	Accepted
Gender → tax evasion intention	-0.009	-0.040	0.005	0.225	Rejected

ranking high on Agreeableness are not only truthful, trustworthy and altruistic but also are overly compliant, and hence, have a greater motivation to honour their tax obligations (Graziano and Eisenberg, 1997).

Results also suggest the trait Conscientiousness correlates significantly and positively with tax morale (at 1% significant value). The positive and highly significant relationship between the two constructs is an indication that individuals who exhibit higher levels of Conscientiousness have greater motivation to willingly pay their taxes compared with a lower-level conscientious person. From a theoretical point of view individuals who score high on Conscientiousness are believed to be responsible, careful, orderly purposeful, reliable, self-disciplined, etc (Costa and McCrae, 1992; Rothmann and Coetzer, 2003; Kmicinska *et al.*, 2016). Individuals with these traits are not deviant but would usually follow through with instructions and perform their responsibilities required of them without being forced to do so. Our finding, therefore, supports the evidence that conscientious individuals tend to be morally upright and prone to do the right things in society (Costa and McCrae, 1992; Huels and Parboteeah, 2019; Shahrazad *et al.*, 2012).

We find the trait of Openness to experience to be also positive and significantly associated with tax morale. By implication, the intrinsic motivation to pay tax tends to be high for individuals with higher levels of Openness to experience. While extant literature suggests high-scoring individuals on Openness to experience tend to be unconventional, curious and quick to question authority, such individuals are also willing to welcome novel

ideas be it social, political or ethical (Rothmann and Coetzer, 2003). An individual with a questioning mind is likely to appreciate and understand things better and given that tax compliance behaviour of people is positively shaped by knowledge on tax issues, people ranking high on Openness to experience are more likely to fulfil their tax obligations because they tend to be more knowledgeable on tax issues. Moreover, because it is in their nature to question authority and demand accountability, open individuals are internally driven to pay their taxes to satisfy their own moral conscience.

The relationship between Extraversion and tax morale was negative as expected though statistically insignificant. This finding demonstrates that individuals who score high on Extraversion tend to have lower intrinsic motivation to pay taxes. Extraverts according to Giluk and Postlethwaite (2015) are generally characterized by warmth, positive affect, high energy, assertiveness and outgoing in nature. Despite these positive feelings, they also have stronger sensation-seeking tendencies which may be satisfied strangely by the excitement and thrill of some deviant conduct (Eysenck, 1996; Hai and See, 2011). Thus, extroverts may engage in deviant behaviours such as deliberately not honouring their tax responsibilities to draw some attention to themselves.

Finally, we find a positive but insignificant relationship between Neuroticism and Tax morale which suggests the intrinsic motivation to pay tax is high among individuals ranking high on this trait. It has been established that Neurotic individuals do not only experience negative emotional states such as anxiety, insecurity and guilt, often but also cope poorly with stressful situations (Giluk and Postlethwaite, 2015). Because they are weak in coping with stress, Neurotic individuals are more alert to the consequences of their actions for fear of being sanctioned. It is these heightened levels of sensitivity to sanctions that may induce fear in neurotic individuals motivating them to fulfill their tax obligations voluntarily (Bratton and Strittmatter, 2013).

In terms of the impact of demographics on the estimated results, we find age, course level and course major to be significant predictors of tax morale as well. The positive coefficient for age suggests that older individuals tend to have a higher intrinsic motivation to pay taxes than the younger ones, thus as individuals grow older, they have an increased sense of motivation to pay their taxes voluntarily (Daude *et al.*, 2013). Similarly, the positive correlation between the course level and tax morale suggests postgraduate students have a higher internal motivation to pay their taxes than undergraduate students which also affirms the age and tax morale argument. The positive coefficient for the student's course major indicates that accounting students have high levels of tax morale compared with the non-accounting students.

#### *The relationship between tax morale and tax evasion intention*

An important objective of this study was to ascertain whether the tax evasion intention of individuals could be explained by tax morale. Findings of the study show that tax morale is significantly and negatively associated with tax evasion intention. By implication, individuals with greater intrinsic motivation to pay taxes tend to have lower intentions to evade tax. This result in effect supports the argument of existing empirical studies (Brink and Porcano, 2016; Riahi-Belkaoui, 2004; Stark and Kirchler, 2017) that tax morale has a strong negative correlation with tax non-compliant behaviours. Brink and Porcano (2016) for instance, a document that lower tax morale leads to increased tax evasion and conclude that tax morale is an important predictor of taxpayers' tax evasion decisions. According to Riahi-Belkaoui (2004), the tax compliance rate of citizens is enhanced significantly if the intrinsic motivation to pay taxes is high. Thus, an important way of promoting the honest and responsible tax compliance behaviour of citizens is to consider policies and programmes that can boost their morale to pay tax (OECD, 2001).

---

Finally, our findings also indicate that indirectly, the traits Agreeableness and conscientiousness have a negative and significant association with tax evasion intention.

### **Conclusion, policy implications and suggestions for further studies**

We explored the influence of personality traits on tax morale and tax evasion intention of individuals. Using the Five-Factor Model, we examined the influence of, Agreeableness, Conscientiousness, Neuroticism, Openness to experience and Extraversion on tax morale and tax evasion intention while controlling for the influence of some demographic variables of the respondents on our results. Based on our structural model analysis, we find individuals ranking high on Agreeableness, Conscientiousness and Openness to experience to have greater motivation to pay tax intrinsically and also document that individuals with greater intrinsic motivation to pay tax tend to have lower intentions to evade payment of taxes. The study also finds Extraversion and Neuroticism to be positively and negatively associated with tax morale, respectively, though statistically these relationships were observed to be insignificant. The findings also provide evidence of some dimensions of personality traits to be significant predictors of tax evasion intention.

The study's results contribute to knowledge on taxpaying behaviour of individuals by specifically highlighting the factors that motivate people to willingly honour their tax obligations. The focus on the factors that promote voluntary compliance with tax is particularly relevant in our time given that measures aimed at ensuring compulsory compliance have been found not only to be costly in its application but difficult in implementation (OECD, 2001). As surmised by Riahi-Belkaoui (2004) people who cheat on taxes in practice are difficult to identify to be sanctioned which presupposes that focusing on enforced compliance measures may not be enough to effect any meaningful change in the tax-paying behaviour of individuals. The findings of our empirical analysis suggest that improving tax morale of people may be useful in reducing the incidence of tax evasion. In view of this, an understanding of the dominant factors that influence the tax morale of people should feature prominently in initiatives by tax authorities meant to reduce tax evasion.

Despite the contribution of this paper, there exist some limitations in the research findings. The findings reflect the indirect relationship between personality traits and tax evasion intention with no analysis of the possible direct correlation of the two study variables. We recommend that further research be conducted to ascertain the direct correlation between individuals' personality traits and tax evasion intentions. The study also relied on the students' intention to evade taxes and not their actual tax evasion behaviour as such, though the present views of the students are relevant to academic, tax and state institutions, their actual tax evasion behaviour may differ in future. The interpretation of the findings of this research should, therefore, be viewed within the context of these limitations.

### **References**

- Ajzen, I. (1991), "The theory of planned behaviour", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Ajzen, I. and Beck, L. (1991), "Predicting dishonest actions using the theory of planned behavior", *Journal of Research in Personality*, Vol. 25 No. 3, pp. 285-301.
- Alalehto, T. (2003), "Economic crime: does personality matter?", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 47 No. 3, pp. 335-355.

- Alleyne, P. and Harris, T. (2017), "Antecedents of taxpayers' intentions to engage in tax evasion: evidence from Barbados", *Journal of Financial Reporting and Accounting*, Vol. 15 No. 1, pp. 2-21.
- Allingham, M. and Sandmo, A. (1972), "Income tax evasion: a theoretical analysis", *Journal of Public Economics*, Vol. 1 Nos 3/4, pp. 323-338.
- Allport, G.W. and Odbert, H.S. (1936), "Traitnames. A psycho-lexical study", *Psychological Monographs*, Vol. 47 No. 1.
- Baldry, J.C. (1986), "Tax evasion is not a gamble: a report on two experiments", *Economics Letters*, Vol. 22 No. 4, pp. 333-335.
- Barone, G. and Mocetti, S. (2009), "Tax morale and public spending inefficiency", Bank of Italy Working Paper (No. 732).
- Bratton, V.K. and Strittmatter, C. (2013), "To cheat or not to cheat? The role of personality in academic and business ethics", *Ethics and Behavior*, Vol. 23 No. 6, pp. 427-444.
- Brink, W.D. and Porcano, T.M. (2016), "The impact of culture and economic structure on tax morale and tax evasion: a country-level analysis using SEM", *Advances in Taxation*, Vol. 23, pp. 87-123.
- Cizek, G.J. (1999), *Cheating on Tests: How to Do It, Detect It, and Prevent It*, Routledge.
- Costa, P.T.J. and McCrae, R.R. (1992), "Four ways five factors are basic", *Personality and Individual Differences*, Vol. 13 No. 6, pp. 653-665.
- Costa, P.T.J., McCrae, R.R. and Piedmont, R.L. (1991), "Adjective check list scales and the five-factor model", *Journal of Personality and Social Psychology*, Vol. 60 No. 4, pp. 630-637.
- Crookes, T.G. (1979), "Sociability and behaviour disturbance", *The British Journal of Criminology*, Vol. 19 No. 1, pp. 60-66.
- Cummings, R.G., Martinez-Vazquez, J., McKee, M. and Torgler, B. (2009), "Tax morale affects tax compliance: evidence from surveys and an artefactual field experiment", *Journal of Economic Behavior and Organization*, Vol. 70 No. 3, pp. 447-457.
- Dang, H.A., Knack, S. and Rogers, H. (2013), "International aid and financial crises in donor countries", *European Journal of Political Economy*, Vol. 32, pp. 232-250.
- Daude, C., Gutiérrez, H. and Melguizo, Á. (2013), "What drives tax morale? A focus on emerging economies", *Revista Hacienda Pública Española*, Vol. 207 No. 4, pp. 9-40.
- Deneve, K.M. and Copper, H. (1998), "The happy personality: a meta-analysis of 137 personality traits and subjective well-being", *Psychological Bulletin*, Vol. 124 No. 2, pp. 197-229.
- Deyoung, C.G., Grazioplene, R.G. and Peterson, J.B. (2012), "From madness to genius: the openness/intellect trait domain as a paradoxical simplex", *Journal of Research in Personality*, Vol. 46 No. 1, pp. 63-78.
- Donnellan, M.B., Oswald, F.L., Baird, B.M. and Lucas, R.E. (2006), "The Mini-IPIP scales: tiny-yet-effective measures of the big five factors of personality", *Psychological Assessment*, Vol. 18 No. 2, pp. 192-203.
- Elffers, H. (2000), "But taxpayers do cooperate", *Cooperation in Modern Society. Promoting the Welfare of Communities, States and Organizations*, Routledge, London, pp. 184-194.
- Elffers, H., Weigel, R. and Hessing, D.J. (1987), "The consequences of different strategies for measuring tax evasion behaviour", *Journal of Economic Psychology*, Vol. 8 No. 3, pp. 311-337.
- Eysenck, H.J. (1973), *Psychology, Crime and Law*, Halsted Press.
- Eysenck, H.I. (1996), "Personality and crime: where do we stand", *Psychology, Crime and Law*, Vol. 2 No. 3, pp. 143-152.
- Eysenck, S.B.G. and Eysenck, H.J. (1970), "Crime and personality: an empirical study of the three-factor theory", *The British Journal of Criminology*, Vol. 10 No. 3, pp. 225-239.
- Farrington, D.P., Jolliffe, D., Loeber, R., Stouthamer-Loeber, M. and Kalb, L.M. (2001), "The concentration of offenders in families, and family criminality in the prediction of boys' delinquency", *Journal of Adolescence*, Vol. 24 No. 5, pp. 579-596.

- 
- Giluk, T.L. and Postlethwaite, B.E. (2015), "Big five personality and academic dishonesty: a meta-analytic review", *Personality and Individual Differences*, Vol. 72, pp. 59-67.
- Graziano, W.G. and Eisenberg, N. (1997), "Agreeableness: a dimension of personality", *Handbook of Personality Psychology*, Academic Press, pp. 795-824.
- Hai, O.T. and See, L.M. (2011), "Intention of tax non-compliance-examine the gaps", *International Journal of Business and Social Science*, Vol. 2 No. 7, pp. 79-83.
- Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011), "PLS-SEM: indeed a silver bullet", *Journal of Marketing Theory and Practice*, Vol. 19 No. 2, pp. 139-152.
- Hair, J.F., Sarstedt, M., Ringle, C.M. and Mena, J.A. (2012), "An assessment of the use of partial least squares structural equation modeling in marketing research", *Journal of the Academy of Marketing Science*, Vol. 40 No. 3, pp. 414-433.
- Hair, J.F., Ringle, C.M. and Sarstedt, M. (2013), "Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance", *Long Range Planning*, Vol. 46 Nos 1/2, pp. 1-12.
- Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2014), *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, Sage, Los Angeles.
- Hair, J.F., Sarstedt, M., Ringle, C.M. and Gugergan, S. (2017), *Advanced Issues in Partial Least Squares Structural Equation Modeling*, Sage.
- Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", *Advances in International Marketing*, Vol. 20, pp. 277-319.
- Huels, B. and Parboteeah, K.P. (2019), "Neuroticism, agreeableness, and conscientiousness and the relationship with individual taxpayer compliance behavior", *Journal of Accounting and Finance*, Vol. 19 No. 4, pp. 181-193.
- Hulland, J. (1999), "Use of partial least squares (PLS) in strategic management research: a review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195-204.
- Inglehart, R. and Baker, W.E. (2002), "Modernization, cultural change, and the persistence of traditional values", *American Sociological Review*, Vol. 65 No. 1, pp. 19-51.
- Jackson, C.J., Levine, S.Z., Furnham, A. and Burr, N. (2002), "Predictors of cheating behavior at a university: a lesson from the psychology of work", *Journal of Applied Social Psychology*, Vol. 32 No. 5, pp. 1031-1046.
- John, O.P. and Srivastava, S. (1999), "The Big-Five trait taxonomy: history, measurement, and theoretical perspectives", University of California, Berkeley, Vol. 2, pp. 102-138.
- Kalshoven, K., Den Hartog, D.N. and Hoogh, A.H.B. (2011), "Ethical leader behavior and big five factors of personality", *Journal of Business Ethics*, Vol. 100 No. 2, pp. 349-366.
- Kirchgässner, G. (2010), Tax Morale, Tax Evasion, and the Shadow Economy (No. 17).
- Kmicinska, M., Zaniboni, S., Truxillo, D.M., Fraccaroli, F. and Wang, M. (2016), "Effects of rater conscientiousness on evaluations of task and contextual performance of older and younger co-workers", *European Journal of Work and Organizational Psychology*, Vol. 25 No. 5, pp. 707-721.
- Korndörfer, M., Krumpal, I. and Schmukle, S.C. (2014), "Measuring and explaining tax evasion: improving self-reports using the crosswise model", *Journal of Economic Psychology*, Vol. 45, pp. 18-32.
- Lago-Peñas, I. and Lago-Peñas, S. (2008), "The determinants of tax morale in comparative perspective: evidence from a multilevel analysis", Instituto de Estudios Fiscales, Working Paper, No. 2.
- McCrae, R.R. and Costa, P.T. (1987), "Validation of the five-factor model of personality across instruments and observers", *Journal of Personality and Social Psychology*, Vol. 52 No. 1, pp. 81-90.
- McCrae, R.R. and Costa Jr, P.T. (1997), "Conceptions and correlates of openness to experience", in Hogan, R., Johnson, J.A. and Briggs, S.R. (Eds), *Handbook of Personality Psychology*, Academic Press, Orlando, FL, pp. 269-290.

- McCrae, R.R. and Costa Jr, P.T. (2008), "Empirical and theoretical status of the five-factor model of personality traits", in *Sage Handbook of Personality Theory and Assessment*, Boyle, G., Matthews, G. and Saklofske, D. (Eds), Vol. 1, Sage, pp. 273-294.
- McCrae, R.R., Zonderman, A., Costa, P.T.J., Bond, M. and Paunonen, S. (1996), "Evaluating replicability of factors in the revised NEO personality inventory: confirmatory factor analysis versus procrustes rotation", *Journal of Personality and Social Psychology*, Vol. 70 No. 3, pp. 552-566.
- Martinez-Vazquez, J. and Torgler, B. (2009), "The evolution of tax morale in modern Spain", *Journal of Economic Issues*, Vol. 43 No. 1, pp. 1-28.
- Moran, B. and Aharon, T. (2009), "Constructive deviance, destructive deviance and personality: how do they interrelate?", *Amfiteatru Economic Journal*, Vol. 11 No. 26, pp. 549-564.
- Neill, T.A.O. and Hastings, S.E. (2011), "Explaining workplace deviance behavior with more than just the 'big five'", *Personality and Individual Differences*, Vol. 50 No. 2, pp. 268-273.
- Organisation for Economic Co-operation and Development, Centre for Tax Policy and Administration (2001), "Principles of good tax administration", Practice Note GAP001.
- Olayinka, A., Opara, C.K. and Ndom, B.A. (2018), "Personality attributes and tax morale as predictors of willingness to pay tax: a study of tax payers, Ogun state Nigeria", *African Journal for the Psychological Study of Social Issues*, Vol. 21 No. 2, pp. 7-20.
- Olsen, K.J., Stekelberg, J. and Brown, J. (2016), "CEO narcissism and corporate tax sheltering", *Journal of the American Taxation Association*, Vol. 38 No. 1, pp. 1-23.
- Olver, J.M. and Mooradian, T.A. (2003), "Personality traits and personal values: a conceptual and empirical integration", *Personality and Individual Differences*, Vol. 35 No. 1, pp. 109-125.
- Owusu, G.M.Y., Bekoe, R.A., Otchere, S.O. and Effah, N.A.A. (2019), "Determinants of tax compliance attitude", *Global Encyclopedia of Public Administration, Public Policy, and Governance*, pp. 1-8.
- Owusu, G.M.Y., Bekoe, R.A., Anokye, F.K. and Anyetei, L. (2020), "What factors influence the intentions of individuals to engage in tax evasion? Evidence from Ghana", *International Journal of Public Administration*, Vol. 43 No. 13, pp. 1143-1155.
- Ozer, D.J. and Benet-Martinez, V. (2006), "Personality and the prediction of consequential outcomes", *Annual Review of Psychology*, Vol. 57 No. 1, pp. 401-421.
- Ozili, P.K. and Arun, T. (2020), "Spillover of COVID-19: impact on the global economy", Available at SSRN 3562570.
- Parks-Leduc, L., Feldman, G. and Bardi, A. (2015), "Personality traits and personal values: a meta-analysis", *Personality and Social Psychology Review*, Vol. 19 No. 1, pp. 3-29.
- Podsakoff, P.M. and Organ, D.W. (1986), "Self-reports in organizational research: problems and prospects", *Journal of Management*, Vol. 12 No. 4, pp. 531-544.
- Qasemi, L. and Behroozi, M. (2015), "Survey of personality traits (based on big five) in professional ethics's growth in medical sciences university of Bushehr. Iran's aspect", *Procedia - Social and Behavioral Sciences*, Vol. 190, pp. 334-338.
- Riahi-Belkaoui, A. (2004), "Relationship between tax compliance internationally and selected determinants of tax morale", *Journal of International Accounting, Auditing and Taxation*, Vol. 13 No. 2, pp. 135-143.
- Roberts, B.W. (2009), "Back to the future: personality and assessment and personality development", *Journal of Research in Personality*, Vol. 43 No. 2, pp. 137-145.
- Rothmann, S. and Coetzer, E.P. (2003), "The big five personality dimensions and job performance", *SA Journal of Industrial Psychology*, Vol. 29 No. 1, pp. 68-74.
- Salgado, J.F. (2002), "The big five personality dimensions and counterproductive behaviors", *International Journal of Selection and Assessment*, Vol. 10 Nos 1/2, pp. 117-125.
- Schaffner, M. and Torgler, B. (2007), *Causes and Consequences of Tax Morale: An Empirical Investigation (No. 11)*, Basel.

- 
- Shahrazad, W., Nasir, R., Fatimah, O. and Farhadi, H. (2012), "Agreeableness and conscientiousness as antecedents of deviant behavior in workplace", *Asian Social Science*, Vol. 8 No. 9, pp. 2-7.
- Stark, J.A. and Kirchler, E. (2017), "Inheritance tax compliance – earmarking with normative value principles", *International Journal of Sociology and Social Policy*, Vol. 37 Nos 7/8.
- Torgler, B. (2003a), *Tax Morale and Institutions (No. 9)*, Basel.
- Torgler, B. (2003b), "To evade taxes or not evade: that is the question", *The Journal of Socio-Economics*, Vol. 32 No. 3, pp. 283-302.
- Torgler, B. (2004), "Tax morale in Asian countries", *Journal of Asian Economics*, Vol. 15 No. 2, pp. 237-266.
- Torgler, B. (2005), "Tax morale in Latin America", *Public Choice*, Vol. 122 Nos 1/2, pp. 133-157.
- Trivedi, U.V., Shehata, M. and Lynn, B. (2003), "Impact of personal and situational factors on taxpayer compliance: an experimental analysis", *Journal of Business Ethics*, Vol. 47 No. 3, pp. 175-197.
- Wahyuni, M.A., Julianto, I.P. and Dewi, N.W.Y. (2019), "The examination of tax evasion behavior of tax payers from the perspective of planned behavior theory", *Advances in Economics, Business and Management Research*, Vol. 69, pp. 45-51.
- Widiger, T.A. (2009), "Neuroticism", in Leary, M.R. and Hoyle, R.H. (Eds), *Handbook of Individual Differences in Social Behavior*, The Guilford Press, pp. 129-146.
- Wold, H. (1982), "Soft modelling: the basic design and some extensions", in Jloreskog, K.G. and Wold, H. (Eds), *Systems under Indirect Observation*, 2nd ed., Amsterdam, pp. 1-54.

Factor	Total	Initial eigenvalues		Total variance explained		
		% of variance	Cumulative (%)	Total	% of variance	Cumulative (%)
1	4.250	14.656	14.656	3.449	11.894	11.894
2	2.363	8.147	22.803			
3	1.856	6.401	29.204			
4	1.563	5.390	34.594			
5	1.482	5.112	39.706			
6	1.390	4.794	44.500			
7	1.298	4.475	48.975			
8	1.180	4.068	53.043			
9	1.069	3.685	56.728			
10	0.983	3.388	60.116			
11	0.942	3.250	63.366			
12	0.903	3.115	66.481			
13	0.827	2.852	69.332			
14	0.806	2.778	72.111			
15	0.781	2.693	74.803			
16	0.728	2.509	77.313			
17	0.701	2.416	79.729			
18	0.637	2.196	81.925			
19	0.610	2.102	84.027			
20	0.593	2.044	86.070			
21	0.545	1.878	87.948			
22	0.528	1.821	89.769			
23	0.516	1.778	91.547			
24	0.475	1.638	93.185			
25	0.451	1.556	94.741			
26	0.432	1.489	96.230			
27	0.391	1.350	97.580			
28	0.378	1.305	98.885			
29	0.323	1.115	100.000			

**Table A1.**  
Common method  
bias

**Corresponding author**

Mary-Ann Bart-Plange can be contacted at: [meryah1998@gmail.com](mailto:meryah1998@gmail.com)

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)