

The Impact of Neuroticism and Extraversion on Deviant Workplace Behavior: The Mediating Role of BootleggingSidra Riaz^{a*}, Muzammel Shah^a^a AUSOM Department, AIR University Islamabad, Pakistan**Abstract**

This paper aims to understand how personality traits effect deviant behavior in organizations, with bootlegging behavior as a mediating process. Bootlegging, defined as the unauthorized, informal activities that employees engage in outside the organization's formal procedures, is a critical mechanism that explains how personality traits are related to deviant outcomes. This research investigates the role of neuroticism and extraversion in influencing the likelihood of bootlegging behavior, which in turn affects the manifestation of deviant actions. The results show that neuroticism is positively associated with deviant behavior through bootlegging, whereas the relationship between extraversion and both bootlegging and deviance is less straightforward. Implications for organizational management and potential areas for future research are presented

Keywords: *Neuroticism, Extraversion, Deviant Workplace, Bootlegging*

Correspondence: Ms Sidra Riaz (PhD Scholar)
AUSOM Department, Air University Islamabad, Pakistan**Email:** riazsidra08@gmail.com**Pages 35-41 /Received, January 20, 2025, Revision Received February 8 2025, Accepted March 3, 2025, Published March 8**

1. Introduction

Innovation is the first driving force that leads the development of any organization. Every enterprise encourages innovation and supports employees' innovative ideas as much as possible. Therefore, more employees are aware of the importance of innovative activities (Gao, 2024). However, some enterprises generally tend to be totalitarian. The cumbersome organizational norms make employees more likely to produce bootleg innovation behaviours. Therefore, bootleg innovation behavior can often train employees' innovative thinking and ability, improve their innovation performance, and then promote the innovation output of the organization. Current research has not reached a consistent conclusion (Shang, 2024). At present, most studies support the positive effect of bootleg innovation behavior on innovation performance. The process of bootleg innovation is a learning process, which is a kind of bold attempt and exploration, which can generate more novel ideas and improve employees' creativity. However, at the same time, leaders and colleagues may dislike this kind of behaviour because bootleg innovation violates organizational norms, challenges organizational authority, threatens the status of leaders, triggers inhibition by supervisors, and brings trouble to colleagues, leading to their alienation and rejection. Therefore, the effect same of time, many scholars pay attention to the formation factors of bootleg innovation, hoping to form a systematic understanding of bootleg innovation (Farooq et al., 2024).

Organizations nowadays regularly promote new technologies and continuously try to improve existing products. Also, to remain relevant and up-to-date in ever-changing global market, organizations are also improving their services and production process (Shu, 2019; Hooi & tan, 2021). Yet it is noticed that employees in the organizations work undercover on their ideas and only expose these ideas later to the organization and upper level when the idea is mature enough to win the approval of the upper level (Abetti, 1997; Masoudnia & Szejczewski, 2012). These ideas are mostly unknown to the senior authorities of the organization, but these activities are undertaken with the intention of producing innovation (Augsdorfer, 2005). They are bottom-up, spontaneous actions which are initiated by a lower level of the company, such as the employees who work in the experimental unit, for example, in the research and development of the company (Sakhdari & Bidakhavidi, 2016). Bootlegging in corporate R&D is defined as "a non-formalized and non-declared (secret) bottom-up innovation process for the benefit of the bootlegger's firm. It violates - deliberately or not - corporate norms, including explicit management orders" (Augsdorfer, 2021).

Bootlegging is related to creative deviance and creativity, normally known as proactive creativity, where motivated employees go against the work's authorized demands to add a creative component to their work, which is not in their current official responsibility. Thus, employee bootlegging is basically all about self-initiative, that is, employees taking an active part in a self-starting approach to work beyond the norms of the organization, which is not required in the job (Arasli et al., 2020; Wang et al., 2019; Yi et al., 2019). It is noticed that employee bootlegging behavior not only have valuable impact on the business but also responsible for innovations which are valuable (Augsdorfer, 2005). Researchers are also a point of view that bootlegging behavior of employees can disturb the formal processes of the organization, and it can lead to diversion of the resources and the official tasks might be slow down (Augsdorfer, 2005). Thus, it is important to recognize enablers of the bootlegging behavior of the

employees to make sure that it benefits the organization and to avoid the consequences, as bootlegging behavior of employees is a sword which is double edged which can bring a blockbuster innovation or even can damage the official innovative structure of the organization. Literature also shows that people who are high in self-identification involve in bootlegging behavior, as they are more dedicated to their work and are highly engaged in creative things and innovation also (Nanyangwe, Wang & Cui, 2021).

Organizational deviance is a widespread problem that has many implications for work output, relationships, and how people work in an organization (Robinson, 2009). Knowing the personality traits that make people tend to engage in deviant behavior can help managers ensure that such behaviours are prevented or minimized. This paper aims at two core personality dimensions, neuroticism and extraversion, and their impact on deviant behaviour, with bootlegging behaviour as a mediating process. Neuroticism, which is manifested through emotional instability, anxiety, and impulsivity, has been found to be related to increased levels of workplace deviance that includes aggression and unethical behavior (Harris et al., 2007). Extraversion and deviance have a less clear-cut relationship since extraverted individuals may participate in both helpful and unsuitable behaviours based on the context of the given situation (Blickle, 2003).

Previous research shows that paradoxical leadership and bootlegging are somehow interrelated as they both have paradoxes as paradoxical leadership uses both/or approach while dealing with different challenges present for the organization in internal environment and external environment. Scant research exists that explore the relationship of paradoxical leadership and bootlegging. Further, the negative and positive spillover is also unexplored in the existing literature (Jia et al, 2021).

Despite the present investigation concern about this area understanding about the antecedents of employee bootlegging behavior is quite narrow. Previous study shows that advance level of the self-efficacy and creativity of individual (Augsdorfer, 2012). One vaguely discussed element in this situation is the risk factor. Previous literature has highlighted that risk-taking is necessary by default from company tycoon because of the uncertain environment of the inner and outer surroundings but it also pressures that every best possibility is done by them decrease these types of risks (Pinchot, 1985; March & Shapira, 1987). Thus, deeper investigation is needed to be done about the personalities of the employees to know with which personality traits employees engage in bootlegging behavior and which employees avoid it.

It is seen in literature that studies are giving credit and value to certain deviant behaviors. For instance, stealing of the managerial property, harming the work at workplace, and use of prohibited drugs at workplace are defined as integrally "destructive" deviant actions because they result in outcomes which are negative for organization (Bennett & Robinson, 2000; Lehman & Simpson, 1992). On the contrary, whistleblowing and going against manager's instruction to pledge an unlawful or immoral corporate actions are also described as "constructive" deviant actions because, even though they disrupt organizational-level rules, they are actions of "advanced" traditionalism to the predominant standards of the bigger culture (Carlsmith, Darley, Robinson, & psychology, 2002; Near & Miceli, 1995).

Due to its underground nature and the dangers that come with it, this phenomenon remains under investigation despite growing interest in employee bootlegging behavior, something that most organizations have a policy against. While there has been extensive research on the relationship between personality traits and either creativity or innovation (Jifan, Wang & Weng, 2020), the effect of personality traits on bootlegging has not been fully investigated. There is also no empirical investigation of the relationship between paradoxical leadership—a leadership approach that incorporates apparently opposite, yet intimately related behaviors—and bootlegging behavior (Luo & Arshad, 2024). The dual outcomes of bootlegging with positive and negative spillover effects are not well developed in the current literature (Jia et al., 2021).

The phenomenon of bootlegging is quite nascent because it is totally a risk-taking phenomenon and it requires a lot of resources of the organization to be taken in account. Managers are hesitant of bootlegging behavior as it is double edge sword it can totally take the organization to gain competitive edge, or it can wound the whole organization. Moreover, the spillover effect of bootlegging is not much cleared in the literature of bootlegging (Chilombo et al, 2021). Literature shows that unique style of creative phenomenon has occurred, where people work on innovative ideas without informing the upper management (Augsdorfer, 2005). Augsdorfer (2005) proposed a new idea of bootlegging to describe this trend, suggesting to workers' special structural benefit-oriented and innovative actions which are self-initiated. Bootlegging is not considered an element of a company's research and growth plans; bootlegging is mostly not known to the leaders, and it even differs from the official work conditions. Employees use bootlegging for freedom of the limitations of various administrative environmental aspects that are not advantageous to innovation behaviors (e.g. leaders' negation of their ideas or cumbersome organizational review policies for innovation projects) and also to lower the ambiguity of activities which are innovative (Criscuolo et al., 2014). Organizational deviance is a common problem that has implications for work output, people's relationships and the way people work in an organization (Robinson, 2009). Knowing the personality traits that make people tend to engage in deviant behavior can help managers ensure that such behaviors are prevented or minimized. This paper aims at two core personality dimensions, neuroticism and extraversion, and their impact on deviant behaviour, with bootlegging behaviour as a mediating process. Neuroticism, which is manifested through emotional instability, anxiety, and impulsivity, has been found to be related to increased levels of workplace deviance that includes aggression and unethical behavior (Harris et al., 2007). Extraversion and deviance have a less clear-cut relationship since extraverted individuals may participate in both helpful and unsuitable behaviours based on the context of the given situation (Blickle, 2003).

Bootlegging activity, which is sometimes referred to as the engagement in personal activities that are not approved by organizations (Dutton, 1996) offers a way of deviance without following the formal channels. It can be a positive kind of leeway for creativity in certain cases, however, when done in a way that is incompatible with the norms of the organization it can be detrimental to the goals of the organization. This study suggests that bootlegging is in the middle of the stream between personality traits and deviant behaviour, through which the personality tendencies are expressed as actual deviant behaviour.

Literature Review

Personality Traits and Deviant Behavior

The Big Five personality traits model is commonly referred to as the Five Factor Model (FFMs). Personality traits like neuroticism and extraversion are commonly utilized in studies alongside openness, to experiences. Additionally, agreeableness and conscientiousness play vital roles in personality assessment. It has taken years to forecast a range of actions, including deviant behavior (Cost & McCraem 1992) In a study it was found out the connection, between neuroticism experiencing negative emotions. The frequency of engaging in such behavior was discovered to have a positive correlation. Disruption and hostility have been linked to individuals with a tendency towards aggression (Blickle 2003). On the other hand having a lot of energy and being assertive can lead to outcomes, some good and some not so good. Robinson, 2009) found that extraverts might be involved in behaviors based on their research.

When people feel motivated, by the possibility of receiving benefits for their actions sometimes though they might show helpful traits, in different situations. Bootlegging involves carrying out work related tasks without seeking permission from those in higher positions. Going against the organization's guidelines (Duttons work from 1996) engaging in bootlegging can sometimes prove beneficial. The creation of concepts and the fulfilment of personal abilities are key aspects to consider. However, it is seen as abnormal because it operates beyond the boundaries set by the organization.

Employees who engage in bootlegging might seek independence in their work. Could be feeling dissatisfied. Researchers in the past have examined what individuals view as restrictions, within the institution according to Parker and colleagues (2010).

Studies have indicated that individuals with high levels of neuroticism might turn to bootlegging to deal with stress. The pressure, at work can be significant (according to Bakker et al., 2005). In contrast, outgoing individuals might view activities to cope with seeking recognition and expressing their thoughts as a path individuals take to gain fame (Robinson, 2009).

Mediating Role of Bootlegging

In the research framework, the mediation concept in psychological research means a third variable that explains the relationship between two other variables (Baron & Kenny, 1986). In this context, bootlegging behavior may be a mediator between personality traits (neuroticism and extraversion) and deviant behavior. People with high neuroticism may use bootlegging to manage their emotions and hence increase the likelihood of engaging in deviant actions, for instance, making unethical decisions or sabotaging the organization. As for extroverted people, they may decide to bootleg in order to become more visible, to improve their social status or to achieve certain personal goals, which can lead to deviant behaviours like rule-breaking or authority issues.

The study of relationship between personality traits and deviant behaviour has been going on for many years in psychological and sociological literature. Neuroticism and extraversion have been found to be important predictors of deviant behaviour in organisations. For their impact on deviant behaviours, it is crucial to define them, describe the processes that lie behind them, and review the literature.

Neuroticism and Deviant Behavior

Neuroticism is one of the Big Five model of personality that helps in the classification of personality (McCrae & Costa, 1997). A state is described by it as a tendency to experience emotional instability, anxiety and mood swings. Those with high levels of neuroticism are said to have a higher tendency of experiencing negative emotions such as fear, anger, and sadness than those with low levels of neuroticism (Wagner et al., 2016).

Miller et al. (2012) established a positive correlation between neuroticism and delinquent behaviours in adolescents, arguing that neuroticism, which is characterized by emotional dysregulation, predisposes individuals to deviant behaviours. Those with high levels of neuroticism may have problems in stress management and thus may likely to engage in antisocial behaviours such as rule breaking, aggression and workplace sabotage (Harris et al., 2007). In addition, neurotic people may participate in deviant behaviors to improve their emotional state and relieve negative feelings, including the use of substances and other illegal activities.

Here, the concept of emotional deregulation is particularly relevant. Clumsiness in emotion regulation is something that neurotic individuals struggle with quite often, which manifests in impulsivity and a tendency to engage in risky behaviors. This emotional volatility being the main precipitant of deviant actions as people try to find quick solution for their negative feelings through socially unacceptable ways (Wagner et al., 2016). Therefore, it is possible to conclude that neuroticism is closely linked to the propensity to engage in deviant behaviour since those high on neuroticism may turn to maladaptive ways of coping with emotions.

Neuroticism and Deviant Behavior: Neuroticism is positively associated with deviant behavior. Individuals high in neuroticism tend to be emotionally unstable and highly sensitive to stress. This emotional instability can lead to impulsive and reactive behaviors, which may increase the likelihood of engaging in deviant actions. However, neurotic individuals are typically characterized by low self-esteem and a fear of negative consequences. As a result, they may avoid risky behaviors or activities that could result in social judgment, which could inhibit their likelihood of engaging in deviant actions in organizational settings. Despite this, the emotional volatility linked to neuroticism may still lead to rule-breaking behavior under certain circumstances.

Extraversion and Deviant Behavior: Extraversion is positively associated with deviant behavior. Extraverts are sociable, energetic, and assertive, often seeking external stimulation and rewards. While extraversion is typically linked with strong social bonds, which can act as protective factors against deviant behavior, extraverts may also engage in deviant actions for personal gain. Their energetic nature and desire for social approval can lead them to take risks, even if those risks involve potential future penalties. This tendency to seek excitement and recognition can make extraverts more prone to deviant behavior, especially when their actions are motivated by a desire for visibility or social dominance.

Bootlegging as a Mediator between Personality Traits and Deviant Behavior: Bootlegging mediates the relationship between personality traits and deviant behavior. Bootlegging refers to engaging in unauthorized activities, often clandestinely, and is typically seen as a form of deviance due to its violation of organizational rules and procedures. Although bootlegging can sometimes lead to positive outcomes like creativity or new ideas, it is generally viewed as deviant behavior. Research suggests that bootlegging acts as a mediator, particularly in the case of extraverts, who may view it as a way to gain recognition or assert social dominance. Extraverts are more likely to engage in bootlegging because of their assertiveness, risk-taking tendencies, and desire to be noticed, which increases the likelihood of deviant actions.

Bootlegging and Extraversion: Extraverts are more likely to engage in bootlegging due to their risk-taking behavior and desire for visibility. Their sociable and bold nature leads them to act on urges to

achieve and interact with others. Bootlegging, in this context, becomes an avenue for extraverts to display creativity or seek social endorsement. In organizational settings, extraverts may participate in bootlegging to build their reputation or to gain recognition from peers. This behavior can undermine organizational processes and rules, making it a deviant action. Additionally, the desire for group conformity and social influence in peer settings can encourage rule-breaking, further linking extraversion with deviant behavior through bootlegging.

Bootlegging and Neuroticism: Neuroticism may reduce the likelihood of engaging in bootlegging behavior. Individuals high in neuroticism tend to have low self-esteem and are more sensitive to stress, which can prevent them from taking risks or engaging in unauthorized actions like bootlegging. Unlike extraverts, who may view bootlegging as a means of gaining visibility or asserting dominance, neurotic individuals are often driven by fear of failure and concern about social judgment. Consequently, their emotional instability and heightened sensitivity to stress may discourage them from attempting deviant behaviors, including bootlegging, in organizational settings.

Bootlegging Behavior as a General Form of Deviance: Bootlegging, while sometimes associated with innovation, remains a form of deviant behavior because it involves violating organizational rules and bypassing formal procedures. It is typically self-driven, with individuals engaging in bootlegging to achieve personal or professional goals that are not aligned with the organization's objectives. While bootlegging can occasionally lead to positive outcomes, such as creativity or new ideas, it carries the risk of undermining organizational processes or causing disruption. In this sense, bootlegging is a general form of deviance, as it involves intentional rule-breaking and the potential for organizational chaos.

2. Methods

2.1 Research Design

The research design employed in this study aimed to investigate the relationship between personality traits (neuroticism and extraversion) and deviant behavior in the workplace, using structural equation modeling (SEM) to analyze the data. SEM allows for the exploration of complex relationships among variables and is suitable for testing the hypothesized relationships. Confidence intervals were calculated using bootstrapping methods to ensure the robustness of the results. The study focuses on examining how individual personality traits influence employees' likelihood of engaging in deviant behaviors, such as workplace sabotage, aggression, and unethical actions

2.2 Participants

The sample for this study consisted of employees working in various organizational settings. Participants were selected through a non-random convenience sampling method, ensuring a mix of demographic backgrounds and job types. The total sample size was sufficient to provide statistical power for the SEM analysis, and the participants provided self-reported data on their personality traits and behavioral tendencies

2.3 Procedure

The study followed a systematic procedure to collect and analyze data. Participants were first asked to complete a set of personality inventories, including measures of neuroticism and extraversion. These inventories were designed to assess the participants' traits based on established psychological scales, such as the Big Five Inventory. Additionally, participants were asked to report their engagement in deviant behaviors, including workplace sabotage, unethical conduct,

and other counterproductive work behaviors. Descriptive statistics were initially calculated to summarize demographic information and key variables. Following this, reliability analyses were conducted using Cronbach’s alpha to ensure the internal consistency of the scales used. For the main analysis, structural equation modeling (SEM) was employed to test the hypothesized relationships between the personality traits (neuroticism and extraversion) and deviant behavior. Bootstrapping methods were applied to compute confidence intervals, providing a more accurate estimate of the model’s reliability. The results of the SEM analysis were interpreted based on the coefficients, standard errors, z-values, and p-values, with a focus on understanding the direction and significance of the relationships between the variables.

3. Results

Table 1
Structural Equation Modeling Results for the Relationships Between Personality Traits and Deviant Behavior

Relationship/Hypothesis	Estimate	S.E.	C.R.	P	Decision
Neu <--- Dev Beh	.206	.040	5.196	***	Supported
Extra <--- Dev Beh	-.502	.068	-7.395	***	Supported

Note: Neu=Neuroticism, Extra= Extraversion Dev Beh,= Deviant Behavior

Table 2
Structural Equation Modeling Results for the Relationships between Personality Traits and Bootlegging Behavior

Relationship/Hypothesis	Estimate	S.E.	C.R.	p	Decision
Neu <--- BLeg	-.232	.046	-5.049	***	Supported
Extra <--- BLeg	.592	.073	8.069	***	Supported

Table 3
Mediation analysis

Parameter/ Relationship /Hypothesis	Estimate	Lower	Upper	p	Decision
med_n_bl_db	.032	-.009	.121	.111	Not Supported
med_ext_bl_db	-.082	-.181	-.020	.019	Supported

The first relationship discussed in the study was between neuroticism and deviant behaviour. Neuroticism has a coefficient of 0.206, with a standard error of 0.040, a z-value of 5.196, and a p-value, all indicating statistical significance (p < 0.001). that is, a tendency to experience negative emotions a high degree of stress reactivity (Costa & McCrae, 1992). Workplace sabotage, aggression towards colleagues, or even unethical behaviour such as lying, cheating or stealing (Bakker et al., 2005). The positive coefficient of 0.206 has been informed by these tendencies; hence, it can be argued that employees who score high on neuroticism are likely to engage in behaviours that are detrimental to the organization or go against the organization’s culture. The result of

this relationship is robust and reliable as indicated by the z-value of 5.196 and the p-value of less than 0.001.

Harris et al. (2007) established that neuroticism is a precursor to counterproductive work behaviours such as aggression and workplace deviance. Number of studies supports the findings of the current study.

On the other hand, the second relationship of interest is the one between extraversion and deviant behaviour and the study found a negative relationship. The coefficient for extraversion is -0.502, with a standard error of 0.068, a z-value of -7.395, and a p-value for statistical significance (p < 0.001).

The negative correlation between extraversion and deviant behaviour observed in this study is in concordance with theory, that as extraversion increases, deviant behaviours decrease. The significance of this relationship is seen in the z-value of -7.395 and the p-value less than 0.001, thus making the result reliable.

The negative correlation between extraversion and deviant behaviour observed in this study is in concordance with the theoretical assumptions, The significance of this relationship is well established, with a z-value of -7.395 and a p-value < 0.001, thus validating the result.

This result was also previous researched. Blickle (2003) established that extroverts are less likely to participate in deviant behaviour than introverts because they are more likely to want to fulfil the expectations of the organization and have good relations with others. In the same manner, Robinson and Judge (2017) pointed out that individuals with high levels of extraversion prefer to follow workplace rules and norms and participate in activities that enhance teamwork and group cohesion, which makes them less likely to act outside the prescribed norms. On the other hand, the negative relationship between extraversion and deviant behaviour indicates that sociable, assertive employees who have a desire to maintain good working relationships are less likely to engage in behaviours that are frowned upon by the organization.

In conclusion these findings therefore contribute to our knowledge on how personality traits affect deviant behaviour in the workplace. On the other hand, employees who are extravert in nature are likely to follow the organizational rules and regulations and hence less likely to indulge in deviant behaviour. This knowledge can therefore be used by organizations to come up with better ways of handling employee behaviour in the workplace and thus, promote a good working environment.

4. Discussion

The findings of this study support the direct relationships between neuroticism (Neu) and extraversion (Extra) with bootlegging behaviour (BLeg). These findings are in line with the existing literature on personality traits and counterproductive work behaviours, more specifically, the study of how neuroticism and extraversion affect such behaviours.

In the first relationship, Neuroticism (Neu) was negative correlated with bootlegging behaviour (BLeg) has coefficient -0.232, standard error 0.046, z-value -5.049 and p-value for statistical significance (p < 0.001). The result is consistent with the hypothesis that neurotic individuals are risk-avoidant and strive to ensure order and harmony in their work relationships. Hence, they may not participate in activities such as bootlegging that may compromise their employment or result in other penalties (Bakker et al., 2005).

This difference of findings with previous research could be attributed to the fact that some other studies have found a positive

relationship between neuroticism and deviance (Harris et al., 2007). The level of extraversion (Extra) is positively related to bootlegging behaviour (BLeg) with coefficient 0.592, standard error 0.073, z-value 8.069 and the level of significance ($p < 0.001$). Extraverts are described as sociable, assertive and have a high level of activity and energy. Extraverted people are more certain of their ability to comprehend and manage their surroundings, to take risks and to venture outside of work-related contexts (Costa & McCrae, 1992). Deviant behavior exhibits a tendency (BLeg) with a coefficient of .139 indicating its nature. On the contrary to being favourable towards bootlegging behavior is the case, in reality is quite the opposite of that assertion. The fact that the two behaviors examined in this study have distinct natures is noteworthy, in terms of deviant behavior.

Blickle (2003) states that there could be employees who openly defy the norms. Their counterparts are more inclined to participate in activities rather than engaging in bootlegging, motivated by career aspirations instead of clear defiance of the norm. Aggressive expressions of individualism, like bootlegging (Bakker et al., 2005) are also prevalent. It's believed that both actions can be considered as forms of work. Behavior differs from behavior in meaning and timing.

This is because the analysis of the specific aspects of conduct helps to reveal the nuances of behaviour that cannot be captured by a general assessment of deviance. Thus, this precise knowledge can be useful for informing practice aimed at reducing various types of counterproductive behaviours in the workplace (Robinson & Judge, 2017).

The pathway mediation Med_n_bl_db: analyses the relationship between Neuroticism (n), Bootlegging (bl) and Deviant Behaviour (db), whereby Bootlegging is postulated to be a mediator between Neuroticism and Deviant Behaviour. (Costa & McCrae, 1992) has been found to be related to negative behaviours in organisations. The path coefficient from Neuroticism to Bootlegging is .032, a small positive correlation. This weak correlation means that neurotic people are not very likely to engage in bootlegging. A possible reason for this result is that neurotic people, because of their emotional labile and conformity orientation, may not engage in unauthorized activities that may lead to negative evaluations or penalties from the organization (Furnham, 2008). The coefficient of the relationship between Bootlegging and Deviant Behaviour is -.009, a negative correlation. The same is also aligned with literature (Vardi & Weitz, 2004). The direct effect of Neuroticism on Deviant Behaviour is .121, meaning a small positive correlation, therefore showing that neuroticism has a limited effect on deviant behaviour in the organisational context of this study.

This results are in concordance with the previous research which shows that while neuroticism can lead to maladaptive behaviours, for example, stress and withdrawal (Eysenck 1997), it does not necessarily lead to deviant behaviour when engaged in creative or informal ways such as Bootlegging.

The mediation model Med7_ext_bl_db proposes the relationship between the Extraversion (ext), Bootlegging (bl) and Deviant Behaviour (db) and the model claims that Bootlegging is a mediator between the two constructs. Extraversion as one of the Big Five personality traits is described as friendliness, assertiveness and a preference for stimulation and excitement (Costa & McCrae, 1992). People with high scores on Extraversion are more outgoing, sociable, and likely to engage in social or non-conventional activities. Bootlegging, meaning unofficial and unauthorized activity within organizations, including side projects or innovations outside of the

regular workflow, can be considered as borderline behaviour that is often linked to creativity and initiative Parker et al., (2006), Khattak & Irshad, (2024), Azeem et al., (2024). Deviant behaviour can be defined as purposeful actions that go against the norms or the rules of an organization and may be motivated by personal gain at the expense of organizational goals (Robinson & Judge, 2009). The relationship between Extraversion and Bootlegging is negative and statistically significant at the .019 level, meaning that those with higher scores on Extraversion are less likely to engage in Bootlegging.

The correlation between Bootlegging and Deviant Behaviour is -.181 indicating a moderate level of negative correlation between the two variables the same is also discussed (Vardi & Weitz, 2004). The overall mediation effect is significant, indicating that Bootlegging acts as a partial mediator between Extraversion and Deviant Behaviour. The analysis is consistent with Hayes (2013), Irshad and Naqvi (2023), who have contributed to the understanding of mediation and moderation, particularly in the context of personality traits and behaviour in organizations. The results of the study show that while Extraversion is normally related to positive social behaviours, it can also lead to subversive and regulatory activities if channelled through informal actions like Bootlegging.

These findings have important implications for organizational management. As extroverted people are usually considered leaders or large group contributors, the tendency of Extraversion to lead to Bootlegging and, finally, Deviant Behaviour emphasizes the need to balance creativity and innovation with respect to organizational rules.

In conclusion, the mediation pathway Med_ext_bl_db provides important insights into the relationship between Extraversion, Bootlegging, and Deviant Behaviour. The results show that Extraversion has a weak negative correlation with Bootlegging, while Bootlegging has a moderate positive correlation with Deviant Behaviour.

Conclusion

This paper offers significant contributions to the understanding of the simultaneous effects of personality traits on deviant behaviour and bootlegging behaviour in organizations. The results of the study revealed that neuroticism is positively correlated with deviant behaviour, while extraversion is negatively correlated with deviant behaviour. These results are significant in extending the counterproductive work behaviour literature by illustrating how certain personality traits and behavioural propensities determine employees' uptake of different forms of deviance. These findings are important for organizations to understand to identify and manage their employees who may have such tendencies and, therefore, help improve the organization's efforts in addressing such possibilities to minimize their adverse effects.

Limitations

However, like any research, the current study has certain limitations. First, the cross-sectional design prevents making causal inferences as it only observes relationships at one specific time. Second, the use of self-reported data may suffer from response biases, such as social desirability or lack of self-awareness. Employees may not report deviant or bootlegging behaviours because they may fear being judged or facing the consequences. Furthermore, the present study sample may not be entirely representative of all the organizational contexts. The results are specific to the industry or cultural context of the sample and further investigation is required to determine the extent to which these findings apply to other settings, cultures, and organizations.

Future Recommendations

Future work should further develop these findings by longitudinal research to determine the cause-and-effect relationships. Studying organizational factors like the organization's leadership, culture and stress would also be helpful in understanding how these contextual factors combine with individual personality to influence deviant and bootlegging behaviours. Lastly, using a multi-source method, which includes supervisors, peers, and organizational information, would increase the credibility of the results and give a better picture of the causes and outcomes of deviant and bootlegging behaviour in the workplace.

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