

Mach Mechanics: How Self-Efficacy Drives Machiavelli's Job Performance

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Abstract- Previous literature lacks to understand the mechanism through which Machiavellianism positive relationship exists with performance. Using the tenets of social cognitive theory, we found good support for proposed hypotheses using multi-wave, multi-method (survey and experiment), and multi-sourced (self, peer, and manager-rated) data collected from 506 employees and 81 managers (rated employees' narcissism) of 29 service-oriented companies in Pakistan. The study 1 (survey) results aligned with expectations, indicating a strong positive connection among Machiavellianism, self-efficacy, and job performance. Study 2 (experiment) reveals the strong causal effect of high Machiavellian tendencies on self-efficacy in self-efficacy-manipulated conditions. However, the results of the control condition challenge the expectations of Machiavelli's self-efficacy. Experimental findings demonstrate that self-efficacy manipulation results in better performance for Machiavellians.

Index Terms- Machiavellianism, self-efficacy, performance, social cognitive theory

I. INTRODUCTION

Machiavellianism, commonly called "Mach," underscores self-interest, manipulation, and deceit, particularly evident in professional settings (Christie & Geis, 1970; LeBreton et al., 2018). This study pioneers the application of social cognitive theory to dark personalities to explain any possible effects of Machiavellianism. A theory offers methodological rigor and novel insight into multifaceted constructs of personality (Egan et al., 2015; Sijtsma et al., 2019; Smith et al., 2018). Therefore, applying all its postulates, this theory contributes to upsetting the dark side of Machiavellianism. Jackson et al (2021) recently used social learning theory in the context of psychopaths to boost lying behaviors and predict negative psychosocial outcomes by observing and learning others. This study uses the same assumptions of social cognitive and learning theory for improving the positive work outcomes of Machiavellianism. Finally, this research examines the prevalence of Machiavellianism in Pakistan and its anticipated effect on Pakistani culture. It brings to the attention the potential positive impacts of Machiavellianism's on job performance, specifically in the collectivist setting of Pakistani culture, where dark personality may align with cultural values and

significantly influence individual work dynamics (Schyns, 2019; Welsh et al., 2024).

Overall, this study ventures the positive side of Machiavellianism in organizational settings. This research encounters the conventional wisdom and alters the understanding of dark personality beyond negative outcomes, adding the potential to support employees' positive work performance and organizational success. Moreover, this research identifies the grave need for cross-cultural investigation in dark personality studies. Also, it offers valuable insights regarding how the manifestation and impact of dark personality influence diversified cultural dynamics. Nevertheless, this research adds depth to the literature on organizational behavior and offers managerial implications for managing and harnessing dark traits in diverse work situations.

II. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

1) MACHIAVELLIANISM AND PERFORMANCE

Previous research offers three perspectives on Machiavellianism and performance. One emphasizes manipulation leading to distrust and reduced organizational effectiveness (Zettler & Solga, 2013), supported by studies showing a negative correlation (O'Boyle et al., 2012; Smith & Webster, 2017). Another view suggests that Machiavellians strategically use social tactics for better performance (O'Boyle et al., 2012; Zettler & Solga, 2013). Contradictory findings on Machiavellianism and task performance expected a curvilinear link. However, they discovered a significant negative association, aligning with social exchange theory (Zettler & Solga, 2013) and via stress-induced phenomenon (Arrulo et al., 2023). This suggests Machiavellian traits could harm task performance, therefore

H1: Machiavellianism negatively relates to individual performance.

2) Machiavellianism and self-efficacy

Recent studies have significantly improved our understanding, unveiling a robust link between the dark dyad and self-efficacy. Notably, these investigations have delved into the intricate dynamics among effectuation, health beliefs, and mistrust, acknowledging self-efficacy as a fundamental and intrinsic factor within this framework (Porfirio et al., 2023; Rundle et al., 2023; Shirokova et al., 2023).

Individuals with Machiavellian traits are strongly inclined toward strategic planning (Christie & Geis, 1970). This planning characteristic is likened to Machiavelli's writings in 1532, where he emphasized the careful planning of immoral deeds before execution (Muris et al., 2017). Mach individuals are known for their strategic approach and meticulous planning in deploying their behaviors (Jones & Paulhus, 2014; Vize et al., 2019). Mach's distinct feature of exploiting others to attain goals and plan strategically sets Mach employees apart from other dark traits and personalities (Vize et al., 2019). Bandura (2001) termed the ability to strategize, think, and plan 'forethoughtfulness.' Forethoughtful individuals adapt their actions according to environmental needs (Bandura, 2005). Forethoughtful tend to be proficient self-regulators, enhancing their ability to plan, adapt, and execute behaviors accordingly (Bandura, 2001). Thus, Mach individuals, being strategic planners and demonstrating forethoughtfulness, are likely to have higher self-efficacy.

Forethought, a key aspect in social cognitive theory (Bandura, 2001), encompasses goal-directed effort, a prominent trait in Mach individuals. Machiavellianism emphasizes pursuing personal goals within its cynicism dimension (LeBreton et al., 2018; Paulhus & Williams, 2002). Individuals can self-direct their goals, anticipate outcomes, and shape desired results (Jones & Paulhus, 2014). This forethought-driven goal pursuit taps into their values, fostering identity and engagement in meaningful activities (Bandura, 2001). Goals' self-engaging nature propels the action, heightening self-engagement and motivation and boosting belief in task accomplishment through effort (Bandura, 2001). Mach individuals' goal-oriented nature leads to the prediction of their high self-belief in achieving tasks. Hence

H2: Machiavellianism positively relates to self-efficacy

3) Self-efficacy as a mediator between Machiavellianism and performance

Bandura's social cognitive theory emphasizes that an individual's belief in their capabilities significantly shapes their behavior. Self-beliefs strongly impact performance; those with resilient self-beliefs perform better, while similar skills may yield different outcomes based on these beliefs (Bandura, 2001; Wood & Bandura, 1989). Strong self-beliefs enhance persistence and achievement, whereas low self-efficacy correlates with decreased

performance, often due to self-limiting doubts rather than actual abilities (Wood & Bandura, 1989). Additionally, individuals with Machiavellian traits, known for their strong self-concept and self-reliance (Jonason & Zeigler-Hill, 2018), use their belief systems to plan and achieve their objectives effectively.

Self-efficacy influences adaptability by shaping how individuals perceive challenges and opportunities in their environment (Bandura, 2005). Machiavellians excel at interpreting environmental cues, directing their actions toward goals, and capitalizing on opportunities, potentially reinforcing their confidence in handling complex situations (Smith et al., 2018). Their adeptness in managing uncertainty further supports their task execution and strengthens their self-belief. Considering the intertwined nature of self-efficacy, Machiavellianism, and performance within the social cognitive theory predict that

H3: Self-efficacy mediates the relationship between Machiavellianism and individual performance.



Figure 1 Conceptual model of study

III. METHODS

a) Study 1 Survey

1) Sample and data

The data was collected from middle and senior managers and employees working in the service industry (higher education sector), which is known for its frequent employee interactions. The dark personality tendency to utilize dark behaviors for personal gains is more apparent in roles involving influence, such as in the service industry (Van der Linden et al., 2017). Middle managers significantly influence organizational culture and have the authority to shape the behavior of lower-level staff (Mayer et al., 2009). Using a sample of multiple organizations is beneficial as research focusing on one organization or a homogeneous sample recognizes limitations in generalizing findings (Boswell et al., 2004; Ohly & Fritz, 2010; Webster & Ward, 2011).

2) Data collection

Data was collected from multiple organizations of service industry such as hospitals, banks and universities of Faisalabad city. The respondents of the study are all frontline workers (such as bank officers, doctors, customer care officers, and lecturers). The reason for opting the sample of frontline workers is that front-line employees have frequent employee and customer interaction and are highly authoritative. The dark personality tendency to utilize dark behaviors for personal gains is more apparent in roles involving influence, such as in the service industry (Van der Linden et al., 2017). Furthermore, dark personality expressions are more visible in authoritative jobs (Schyns, 2019).

The primary data for this study were collected through surveys administered to two distinct groups: supervisors/managers, and employees. In the first phase, supervisors provided ratings on the Machiavellian personality traits of employees while employee surveys focused on evaluating employee demographics (age, gender, education, and experience) and self-efficacy in time-1. In the second phase time -2 after the one-month interval, the remaining survey of employee performance was administered. In the second phase supervisors rated employee performance and employees self-rated their Machiavellianism. The employee personality was measured twice to avoid common rater variance. The researcher and supervisor did an exhaustive job of matching manager-rated surveys with employee surveys. Both managerial and employee questionnaires were labeled with employee codes, team numbers, and supervisor names to enable seamless matching of supervisor-rated employee Machiavellianism and employee performance with employees' self-rated Machiavellianism and self-efficacy.

Due to the specific and limited nature of the dark personality in the community sample census technique is used at the initial level to grab initial data. There was a sample of 1150 employees

working in different 29 organizations. The questionnaire was distributed among employees and their supervisors and after completing the first phase 760 responses were received whereas in the second phase, 650 complete sets of questionnaires were received from both managers and employees. The response rate was approx. 44%.

Examination using Box plots and Z-scores found no significant outliers. Minimal missing values (1.6% for managers, 2.08% for employees) were present in two top managers' and ten employee surveys, handled using the Hot-deck imputation method (Hair et al., 2010). Normality checks through Skewness and kurtosis values revealed no deviations for any variable. These meticulous tests ensured data accuracy, absence of outliers, and suitability for subsequent analysis. The final dataset, comprising 80 managerial

and 506 employee surveys, was comprehensive and prepared for rigorous analysis.

The research employed three key statistical analyses: evaluating model-variable alignment, using structural equation modelling for complete model variance analysis, and conducting separate analyses for mediation and moderation effects. Extensive utilization of SPSS, AMOS and PLS-SEM tools ensured a thorough exploration of the research model's intricacies, allowing for a comprehensive examination of data relationships. The potential for same-source bias is mitigated by collecting data with a time lag, as temporal data collection decreases the likelihood of common rater variance (Podsakoff et al., 2003).

3.1.3 Measures and Measurement Model

Machiavellianism was each measured using 9 items (Jones & Paulhus, 2014) - sample items for each are "hide things from other people to preserve her/his reputation" and "I avoid dangerous situations" respectively. Self-efficacy is measured using a 17-item scale (Sherer et al., 1982); a sample item includes, "When I make plans, I am certain I can make them work" and "One of my problems is that I cannot get down to work when I should". Individual performance is measured using 6 items (Williams & Anderson, 1991); a sample item is, "adequately complete the task, and "fulfil duties as specified in the job description". All items were measured on 5 5-point Likert scale.

IV. RESULTS

1) Post-Hoc Analysis

To ensure the reliability of the previously mentioned results obtained using the well-established Process macro method, we performed a path analysis. This specific type of structural equation modeling uses composite scores to represent constructs (Hair et al., 2019). Traditional structural equation models estimate the

Table 1. Descriptive statistics, correlation, and reliabilities

	M	SD	1	2	3	4	5	6	7
^a Age	2.771	0.996							
^b Gender	1.670	0.471	.151**						
^c Education	3.338	0.494	.117**	.174**					
^d Experience	1.919	0.964	.790**	.142**	.166**				
Machiavellianism	3.543	0.639	.317**	.000	.131**	.432**	(0.81)		
Self-efficacy	3.594	0.823	.397**	.150**	.047	.421**	.439**	(0.79)	
Performance	3.971	0.680	.118**	-.001	.157**	.156**	.206**	.275**	(0.85)

**p<0.01, *p<0.05

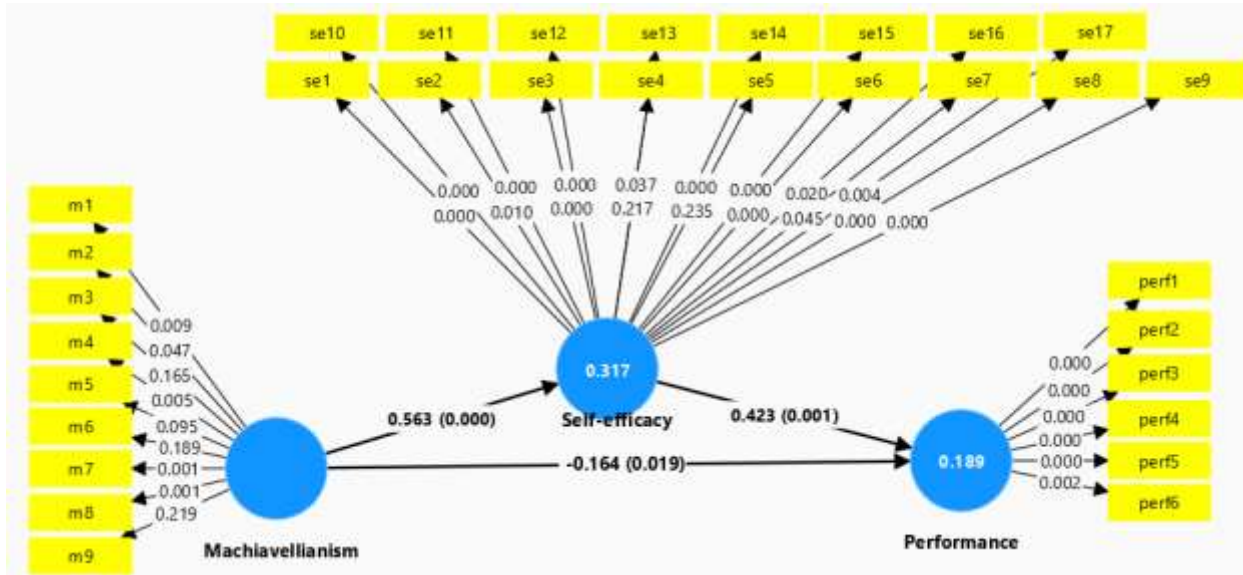
a 1 = Below 25; 2 = 26–35; 3 = 36–45; 4 = 56–65; 6 = Above 65.

b 1 = Male; 2 = Female.

c Metric=1, Intermediate=2, Graduation=3, Masters=4, Ph.D.=5

d Years of work experience on job 1 = 1-5years; 2 = 6-10years; 3 = 11-15 years; 4 = 16-20years; 5 = Above 20years.

< 0.019). Self-efficacy altering the strong negative effect of



Machiavellianism on performance (0.423, p < 0.001) .

Table 2. Direct and Interaction Effects

	Dependent Variable			
	Self-efficacy		Performance	
	B	SE	B	SE
Controls				
Age	.328**	.034	.080**	.030
Gender	.161*	.072	-.027	.065
Education	-.024	.069		.062
			.209**	
Direct Effects				
Machiavellianism (H2-s, H1-s)	.615**	.072		.046
			.219**	
Intercept				
ΔR² (Controls)		15.5%		1.4%
ΔR² (Main effect)		19.2%		4.2%
Mediation (Conditional direct effect)				
	B	SE	(LLCI, ULCI)	
Machiavellianism → Self-efficacy → Job Performance (H3)	.203**	.051	(.108, .310)	

Note: ** p<.01; *p<0.05; s =supported

Figure 2 Smart PLS-SEM Results

b) Study 2 Experiment

We followed the experimental design of manipulation of mediator as a moderator MMM designs to assess the causal effect of mediator from all three analyses as suggested by Ge (2023). Previous mediation research designs failed to test and verify the causal effect of mediation (Ge, 2023). In this study, we employ the three analyses of justifying the role of the mediator and its causal effect on performance as recommended by Ge (2023). Analysis 1 is to verify the effect of the mediator as moderator by 2*2 ANOVA. If Analysis 1 satisfies the conditions of 2*2 ANOVA then proceed to Analysis 2 one-way ANOVA / t test whether the independent variable causes a mediator when the independent variable is in the control. Furthermore Analysis 3 verifies the one-way ANOVA/t- test to check the effect of the independent variable on the mediator of manipulated vs of mediator not manipulated. A factorial design experiment as 2(high vs low Machiavellianism) X 2(self-efficacy control vs self-efficacy manipulation) conditions within the subject experiments. We experimented on the strength of 75 students of the executive MBA class of Pakistani University. All the students were invited to join an experiment and provide their personality data prior start of the experiment in November 2023. After exactly 10 days intervals the students were again contacted for lab experiment. Due to the unavailability of many students, only 50 students were available for lab experiments at the university. 48 students were selected from these 75 students based on their Machiavellian personality ratings. The cases who predicted their personality at

loadings of measurement items on their respective constructs, but they can be problematic when the conceptual framework includes large scales. Such estimations can cause nonlinearity issues due to the many possible terms for measurement items loading on interacting constructs (De Clercq et al., 2024). The post hoc path analysis circumvents these nonlinearity problems. The findings were entirely consistent with those derived from the Process macro. Figure 2 illustrates a structural equation model highlighting the relationships between Machiavellianism, self-efficacy, and performance. Machiavellianism has a strong positive effect on self-efficacy (0.563, p < 0.000). Machiavellianism has a direct and significant negative impact on performance (-0.164, p

near mean or at mean value were discarded from an experiment and only high and low mean students were group separately. 48 students were given a task procedure of logical-mathematical calculation of Tzur et al (2016).

1) Task Procedure

Participants must determine if each provided solution is correct or incorrect, with approximately 40% of the solutions being incorrect. The first round was rated as a control condition, while the third round was rated as self-efficacy condition. The task involves basic arithmetic operations, including addition, subtraction, multiplication, and division. Despite its simplicity, the task demands precision and careful attention. For instance, one of the problems might be $(+0.6) - (-0.8) - (+0.7) = 0.9$. Each participant completed three rounds of the task. The first round included 20 calculations, while the second and third rounds each included 35 calculations. first round was rated as a control condition, while the third round was rated as a treatment condition. The reason for opting the task of mathematical calculations is research has also highlighted the role of mathematics in improving cognitive abilities (Cevikbas et al., 2023). Regular practice of mathematical calculations can enhance memory, attention to detail, and mental agility. This cognitive development is beneficial across different age groups and can contribute to understanding better lifelong learning capabilities with experience (Cevikbas et al., 2023)

2) Manipulation

Drawing from Bandura's (2001) concept of self-efficacy we aimed to boost participants' self-efficacy and self-perceptions by using bogus feedback (as suggested by Tzur et al., 2016), observational learning and through task mastery experiments employing various mediums such as after 2nd trial written vignettes, pictures, and videos of easy ways and tricks of doing logical and mathematical calculations. participants were led to believe in their ability to accomplish tasks, thus bolstering their self-efficacy.

3) Measures

Machiavellianism is measured by Dirty Dozen (as shorter versions are used in experiments of the dark triad and self-efficacy is assessed by Bandura's measure of self-efficacy strength by asking participants how confident they are to accomplish the task before the first trial of task of 20 mathematical calculations. Bandura's magnitude measure of self-efficacy was assessed by asking participants to estimate how much they believe they have done the task rightly on a 7-point scale, each point representing an efficacy level from low-1 to high-7. The mean of both measures was taken to identify the threshold of self-efficacy of participant

4) Results

In analysis 1, one-way ANOVA is implied to test the effect of whether Machiavellians have self-efficacy and the causation has

been tested in a control condition. Among individuals with low Mach individuals, exhibited a mean self-efficacy score of 4.16, with a 95% confidence interval ranging from (3.56, to 4.7) and with a standard deviation of 2.05. In a control condition, the significance of Machiavellianism causing performance is 0.049 with high Mach having low self-efficacy and low Mach having high self-efficacy as depicted by Figure 3a of the way ANOVA test. In analysis 2, one-way ANOVA tested the effect of Machiavellianism on self-efficacy of manipulated conditions. In contrast to the control condition, individuals with high Machiavellian displayed different patterns. After manipulating self-efficacy, the mean rose to 6.83 with a confidence interval of (6.24, 7.43). This indicates a notable interaction effect between machiavellist levels and performance on self-efficacy, particularly evident among those with high machiavellist levels where self-efficacy significantly boosted performance scores. Overall the results of the experiment (profile plot of means) are depicted in Figure 3b where the treatment condition predicted a significant two-way interaction of Machiavellianism and self-efficacy. Meanwhile, in the control condition, the relationship between self-efficacy and performance was significant at low levels of Machiavellianism. The results of the control condition are counterintuitive concerning this study which challenges the notion that machiavellists somehow have a negative relationship with self-efficacy. However, manipulating the condition of self-efficacy supports that in the case of low self-efficacy of machiavellist, still it could be raised and injected environmentally via sources of self-efficacy. Viewing self-efficacy from an agency perspective supports both the results by justifying that despite having low self-efficacy in Machiavellianism still, it could be raised through the agency perspective of social cognitive theory. In Analysis-3, we conducted a 2x2 factorial ANOVA as suggested by Ge to completely verify the mediation mechanism through the MMM technique. We found that in control conditions low machiavellist tendencies reported high self-efficacy values ($M=5.90$; $SD=0.84$). Conversely, individuals with high Machiavellian tendencies exhibited low self-efficacy values ($M=7.30$; $SD=2.46$) when there was no self-efficacy manipulation. However, In a treatment condition. interestingly, high machiavellist individuals showed high self-efficacy levels ($M=7.17$; $SD=0.937$) when supported by self-efficacy manipulations low machiavellist predicted good performance ($M=5.95$; $SD=0.75$). Finally, our analysis revealed that Machiavellian within high self-efficacy conditions demonstrated higher self-efficacy ($M=6.50$; $SD=2.15$) compared to those with low Machiavellian levels ($M=5.60$; $SD=1.43$). The results of 2X2 ANOVA is depicted in Figure 3c.

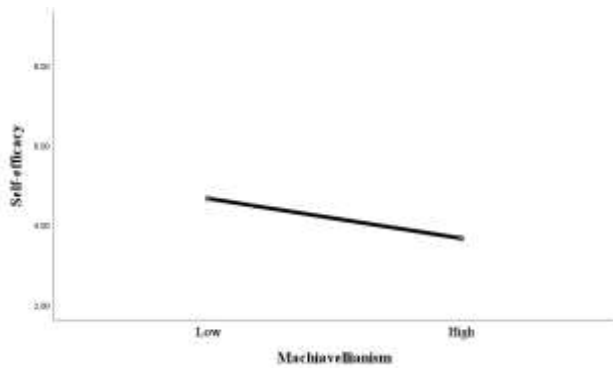


Figure 3a

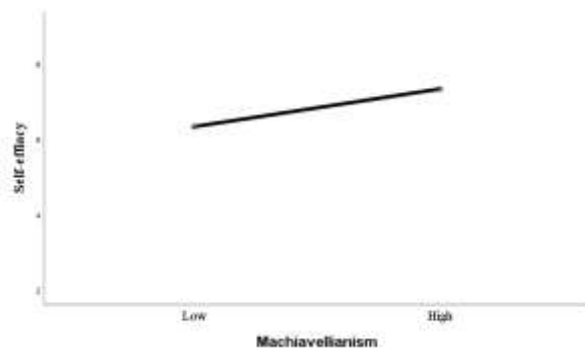


Figure 3b

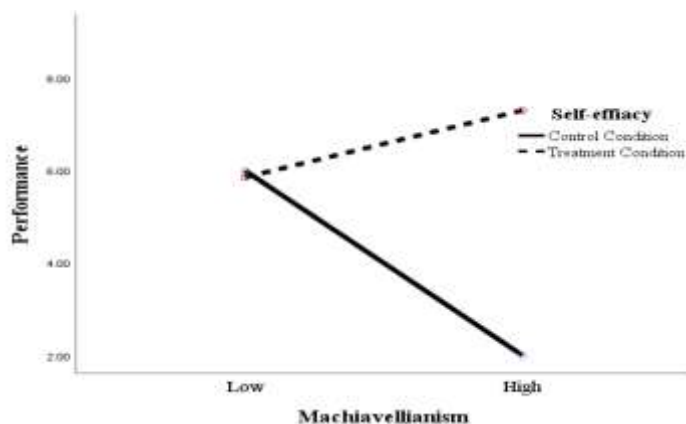


Figure 3c

Figure 3 Experiment Results of a) one-way ANOVA of control group where $x \rightarrow m$ b) one-way ANOVA of treatment group where $x \rightarrow$ manipulated m and c) 2X2 ANOVA where Mediator manipulated as moderator MMM (all three proposed tests of Ge (2023) and analysis justified mediation of self-efficacy

V. DISCUSSION AND CONCLUSION

The study found substantial empirical support for the hypotheses, notably demonstrating positive connections between Machiavellianism and self-efficacy and self-efficacy's mediation

in the Machiavellianism-performance relationship. This study provides important insights for management. Organizations should recognize the risks associated with psychopathic employees who feel dissatisfied with their jobs. To mitigate potential harm, it is essential to increase their efficacy in their roles (Bandura, 2005). Designing job roles that leverage the strengths of psychopathic employees while minimizing situations that may trigger negative behaviors is crucial. Managers should implement initiatives to boost self-efficacy through task mastery and observational learning (Bandura, 2005). Enhanced self-efficacy can help employees channel their traits into positive performance, benefiting the entire organization (Stajkovic et al., 2018).

1) Conclusion

The solution to the Machiavellian personality and its darkest nature lies in the social cognitive approach and interventions. The social cognitive theory identifies the constructs of self-efficacy as cognitive interventions that help reduce Machiavellian tendencies toward work and alter the negative relationship between Machiavellianism and performance into positive ones.

2) Research Recommendations

Future studies could explore the understanding of other phenomena such as

1. What role do Mach tendencies play in generating sustainable outcomes and can Machiavellianism tendencies play a role in generating green HRM, environmental values, climate skepticism, and employee green behavior (Tanova & Bayighomog, 2022) via self-efficacy?
2. What is the role of a growth mindset, in comprehending the adaptability of certain dark traits in diverse situations? Exploring whether it is beneficial, amidst technological changes, to recruit individuals with malleable traits rather than rigid personalities (Tasselli et al., 2018) could be an interesting avenue.
3. Investigating the positive effects of dark personality traits from motivational perspectives and examining the impact of dark dyad traits on co-workers, supervisors, and work groups from a between-person perspective are potential areas for future research.
4. How behaviors influence personality and environment and vice versa. This approach aligns with Dalal et al.'s (2020) recommendations to explore personality as both an antecedent and an outcome, offering a new path for future research to investigate feedback loops between performance and dark personality traits.

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