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Power games in the shadows: the hidden influence of dark traits on research in budgetary slack

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Abstract

Objective: To critically discuss the empirical evidence, both national and international, regarding the influence of the dark triad personality traits on the creation of budgetary slack.
Method: This study adopts a qualitative approach through a literature review. To this end, the search was restricted to scientific articles published in journals in seven different databases, culminating in the selection and analysis of nine studies.
Results: The results indicate that machiavellianism is related to the greater creation of budgetary slack, both directly and indirectly, since this trait predisposes the individual to the strategic manipulation of information and the prioritization of self-interest. Although with less intensity, the effects of narcissism and psychopathy were also identified in investigations that considered the dark triad as an aggregate variable. However, distinct motivations are observed: narcissism drives self-promotion and image preservation, while psychopathy is associated with attitudes marked by impulsivity, emotional coldness, and indifference to ethical consequences. In short, the available evidence indicates that the traits of the dark triad show a common predisposition to the adoption of manipulative budgetary practices through the creation of budgetary slack.
Contributions: This study contributes to the literature on management control by consolidating empirical evidence regarding the influence of the dark triad personality traits on the creation of budgetary slack. By integrating the perspective of personality psychology with management accounting, the research systematizes the state of the art, identifies gaps, and highlights the role of intervening factors in the materialization of budgetary slack. Additionally, a research agenda is proposed to guide future investigations and support the development of more effective control mechanisms that are less susceptible to manipulation associated with dark management profiles.

Keywords: Budgetary Slack; Narcissism; Machiavellianism; Psychopathy.

How to cite

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Introduction

Budgeting within organizations extends beyond the technical realm, proving to be a process permeated by behavioral, social, and political aspects (Covaleski et al., 2006). At the same time, the budget has historically played a central role in structuring management control systems (Libby & Lindsay, 2010; Mucci et al., 2016). However, despite its recognized importance, the effectiveness of the budgeting process is frequently compromised by dysfunctional behaviors, most notably the creation of budgetary slack. Defined as the intentional overestimation of costs and expenses or the underestimation of revenues, budgetary slack represents a deliberate distortion aimed at facilitating goal achievement, protecting managers against uncertainty, or maximizing personal utility at the expense of organizational efficiency (Dunk, 1993; Lukka, 1988; Merchant, 1985; Onsi, 1973; Schiff & Lewin, 1970). Given its adverse impacts on organizational performance and control (Frezatti et al., 2013), this phenomenon has been widely discussed in the management accounting literature (Daumoser et al., 2018).

Seminal and contemporary literature has explored the antecedents of budgetary slack, traditionally focusing on contextual and structural variables such as information asymmetry, budgetary participation, budget emphasis, and environmental uncertainty (Agustina et al., 2024; Daumoser et al., 2018; Derfuss, 2016; Dunk & Nouri, 1998). However, despite the substantial volume of research, findings remain fragmented and, at times, inconclusive (Daumoser et al., 2018; Derfuss, 2016). For example, while the economic approach suggests that budgetary participation exacerbates slack creation in asymmetrical contexts, other theoretical perspectives, supported by procedural justice and organizational commitment, indicate that participation can mitigate such behavior (Covaleski et al., 2006; Daumoser et al., 2018; Derfuss, 2016). This dichotomy suggests that additional explanatory factors, inherent to the characteristics of the individuals involved in the decision-making process, call for a more multidisciplinary research approach.

Recently, studies have begun to incorporate a psychological perspective into the analysis of this topic, suggesting that individual characteristics, especially personality traits such as those of the dark triad (Paulhus & Williams, 2002), can also influence the creation of budgetary slack (Borges et al., 2023; Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Grediani et al., 2023; Hartmann & Maas, 2010; Mohamed & Metwally, 2022; Nottar et al., 2022). In this context, personality psychology (Wibbeke & Lachmann, 2020) offers a promising theoretical lens for understanding managerial propensity for opportunism within the budgeting environment, with the dark triad traits standing out as particularly significant.

The dark triad taxonomy, seminally systematized by Paulhus and Williams (2002), integrates the personality traits of narcissism, machiavellianism, and psychopathy into a constellation of subclinical characteristics. Although they operate within the spectrum of functional normality, and are therefore distinct from clinical or forensic pathologies, these traits emerge as a robust taxonomy for predicting aversive and dysfunctional behaviors in the general population (Furnham et al., 2013; Jones & Paulhus, 2014). The literature posits that high levels of these traits delineate a "socially malevolent" behavioral profile, grounded in tendencies toward self-promotion, emotional callousness, duplicity, and aggression (Paulhus & Williams, 2002, p. 557), predisposing the individual to strategies of social exploitation and opportunism within organizational settings (D'Souza & Jones, 2017; LeBreton et al., 2018), including the budgetary context (Suryadi et al., 2019; Yasmi et al., 2025).

Despite the recognition that managers' personality traits directly influence accounting choices and the effectiveness of controls (Aguiar & Suave, 2022; Agustina et al., 2024; Borgholthaus et al., 2023; D'Souza & Lima, 2015; Wibbeke & Lachmann, 2020), the literature regarding the specific relationship between the "dark triad" and budgetary slack lacks consolidation. Evidence indicates that machiavellian individuals are more prone to creating budgetary slack, using the budget as an instrument of power and managerial protection (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Hartmann & Maas, 2010; Mohamed & Metwally, 2022). However, recent studies suggest that the manifestation of this opportunism is contingent upon moderating factors such as the interaction between pressure for compliance and managerial involvement (Hartmann & Maas, 2010; Nottar et al., 2022), managers' ability to shape the design of personnel controls to suit their preferences (Bortoluzzi et al., 2023), and the suppression of intrinsic motivation's effectiveness due to the presence of dark traits (Grediani et al., 2023). Furthermore, there is a predominance of studies set in Anglo-Saxon contexts, highlighting a need to assess the robustness of these findings in distinct institutional and cultural environments, such as Brazil.

Given the above, a theoretical gap is identified that justifies the need to critically discuss the empirical evidence, both national and international, regarding the influence of the dark triad personality traits on the creation of budgetary slack. In this sense, the present research aims to fill this gap by discussing how such traits interact with control mechanisms and different organizational contexts to foster or inhibit budgetary opportunism. In summary, understanding these dynamics is significant not only for advancing behavioral accounting theory but also for assisting organizations in designing more robust management control systems that are less susceptible to managerial manipulation, thereby mitigating the detrimental effects of dark personality traits on the efficient allocation of economic resources.

The results of this study contribute to the management control literature by deepening the understanding of the dark triad's influence on the formation of budgetary slack. First, a critical analysis of available empirical evidence is presented, synthesizing how dark triad traits act as antecedents to budgetary slack. Second, the state of the art in literature is systematized, enabling the identification of methodological patterns and gaps; this highlights a predominance of research focused on machiavellianism over analyses of the isolated effects of narcissism and psychopathy. Thirdly, a research agenda is proposed, highlighting specific topics and empirical approaches for future investigations, such as the need to overcome the predominance of samples composed of students and the importance of integrating moderate variables. Thus, by mapping existing evidence and its limitations, the study links literature contributions to new avenues for developing more effective control mechanisms to address dark managerial profiles.

2 Theoretical Framework

Management literature has historically oscillated between competing views regarding nature and motivations behind budgetary slack (Covaleski et al., 2006). From the perspective of agency theory and economic models, the firm is frequently treated as a "nexus of contracts" (Jensen & Meckling, 1976), where budgetary slack emerges as a byproduct of information asymmetry and the conflict of interest between principal and agent (Onsi, 1973; Schiff & Lewin, 1970; Young, 1985). In this context, budgetary slack is understood as the intentional underestimation of revenues and productive capacities, or the overestimation of expenses and resources, aimed at making it easier to achieve budgetary targets and objectives (Dunk, 1993; Dunk & Nouri, 1998; Young, 1985); it is interpreted as agent utility-maximizing behavior that results in resource allocation inefficiencies and agency costs (Jensen & Meckling, 1976).

When created without the consent of senior management (Aguiar & Souza, 2010; Frezatti et al., 2013), budgetary slack tends to generate various dysfunctional effects. First, it can induce a short-sighted orientation in individuals, limiting decisions to performance within the budget period (Merchant, 1990; Van der Stede, 2000). Furthermore, slack compromises organizational efficiency by fostering inappropriate budget allocations and the waste of resources (Davila & Wouters, 2005; Lukka, 1988; Webb, 2002), thereby proving economically (Lukka, 1988). Finally, the presence of slack hinders performance evaluation and individual accountability by obscuring the distinction between results stemming from individuals' managerial effort and those resulting from the budgetary slack incorporated into the budget (Frezatti et al., 2013; Webb, 2002).

However, reducing the phenomenon to a purely economic analysis, where the individual is seen merely as a homo economicus, has been questioned by approaches of a behavioral nature (Cyert & March, 1963). Studies indicate that budgetary slack is not merely an appropriation of resources; it can serve as a protective mechanism against uncertainty (Merchant, 1985; Onsi, 1973), a tool for managing multiple conflicting goals (Davila & Wouters, 2005), or a response to organizational pressures by providing greater flexibility in risk management (Elmassri & Harris, 2011). Most crucially, the propensity to create budgetary slack is not uniform; it varies substantially depending on factors intrinsic to the individual, such as ethical values, honesty, and personality traits (Agustina et al., 2024; Daumoser et al., 2018; Derfuss, 2016). It is within this space between economic opportunity and individual predisposition that the relevance of dark triad personality traits comes into play.

The dark triad refers to a constellation of three widely studied personality traits: narcissism, machiavellianism, and psychopathy (Paulhus & Williams, 2002). Although they have distinct theoretical origins, these traits share a socially aversive nature, characterized by a propensity for undesirable interpersonal behaviors (Jones & Paulhus, 2014; Paulhus & Williams, 2002). These traits converge on a common core of callous manipulation (Furnham et al., 2013), associated with a recurring tendency to seek personal advantage, even at the expense of others' well-being (Jones, 2013). It should be noted, however, that these traits do not constitute clinical diagnoses but rather characteristics that may be present at varying levels within the general population (Paulhus et al., 2021; Paulhus & Williams, 2002); they are more common and, comparatively speaking, less problematic than personality disorders (LeBreton et al., 2018; Paulhus et al., 2021).

Narcissists are individuals who intensely promote their own image and constantly seek attention to gain external validation and rise in social status (Cesinger et al., 2023; Harrison et al., 2018); machiavellians are masters of manipulation used to secure power and control for personal gain (Jones & Figueredo, 2013; Smith et al., 2016; Wisse & Sleebos, 2016); and psychopaths, the most treacherous and darkest trait of the triad (LeBreton et al., 2018; Paulhus & Williams, 2002), reveal callousness and impulsivity, being capable of causing harm to other individuals or organizations (Boddy, 2006; Jones & Figueredo, 2013). In summary, individuals with these traits tend to prioritize their own interests over institutional goals, which can compromise both organizational performance and business sustainability (D'Souza & Lima, 2015).

To facilitate understanding of the distinctions between the dark triad personality traits, their main characteristics are presented in Table 1.

Table 1

Key characteristics of the dark triad personality traits

Characteristic	Narcissism	Machiavellianism	Psychopathy
Insensibility	+ +	+ +	+ +
Impulsivity	+		+ +
Manipulation	+	+ +	+ +
Criminality		White collar	+ +
Grandiosity	+ +		+
Low-risk deception	Yes	Yes	Yes
High-risk deception	No	No	Yes
Deception exhausted by ego	No	Yes	Yes
Intentional fraud	No	Yes	Yes
Self-deception	Yes	No	Somehow

Note. A double plus sign indicates high levels of a given characteristic; a single plus sign indicates slightly elevated levels; the absence of a sign indicates moderate levels.
Source: Adapted by the authors based on Paulhus (2014, p. 422) and Jones and Paulhus (2017, p. 3).

Based on the listed characteristics, the narcissism trait is defined by grandiosity and a need for admiration, combined with relatively lower levels of impulsivity and a reduced propensity for high-risk behaviors; this tends to channel its expression toward strategies aimed at enhancing self-image. In contrast, the trait of machiavellianism emerges as an essentially strategic and instrumental behavioral pattern, guided by rational strategies, low ethical considerations, and a predisposition to opportunistic practices, especially in contexts of lower risk and greater possibility of control. The psychopathy trait, meanwhile, represents the most dysfunctional pole of the triad, combining high levels of impulsivity, callousness, and a propensity for antisocial and high-risk behaviors, making it relevant to understanding opportunistic practices within organizational contexts. Overall, the only characteristic shared by all three personality traits is callousness.

Given these characteristics, it can be inferred that individuals with high levels of these dark traits may or may not create budgetary slack, depending on distinct underlying purposes and motivations. In this sense, slack is no longer viewed merely as an economic phenomenon but is instead interpreted as a mechanism contingent upon individuals' psychological motivations, the opportunities presented by the management control system, and the organizational context in which the manager operates. For example, in environments with high information asymmetry, individuals with dark traits may exploit this strategic advantage more aggressively than individuals without such traits (Yasmi et al., 2025).

In the case of narcissism, the relationship with budgetary slack proves to be ambiguous and dependent on context and perceived incentives. On the one hand, the need for self-promotion, recognition, and maintenance of an inflated self-image can lead narcissistic individuals to create budgetary slack as a self-protection mechanism, by reducing the likelihood of failure to meet goals and, consequently, increasing the chance of performing well (Amernic & Craig, 2010; Borgholthaus et al., 2023; Yasmi et al., 2025), functioning as a buffer that preserves the image of competence and superiority. On the other hand, this same desire for distinction can drive the acceptance of more challenging targets and a reduction in slack, particularly when aggressive budgets are perceived as opportunities to demonstrate excellence, skill, or exceptional leadership to superiors and peers (Campbell et al., 2011; Cesinger et al., 2023). In short, for the narcissist, the creation of slack does not necessarily stem from risk aversion, but rather from a strategic and deliberate assessment of which budgetary configuration maximizes reputational gains and external validation.

Machiavellianism, in turn, involves a more instrumental and calculating relationship with budgetary slack (Hartmann & Maas, 2010). Machiavellians tend to view slack as a strategic resource to be utilized when it contributes to strengthening power, control, and influence in the long term (Bortoluzzi et al., 2023; Hartmann & Maas, 2010; Jones & Paulhus, 2014; Yasmi et al., 2025). Creating slack can create room for maneuvering, facilitate negotiations, or ensure flexibility to deal with contingencies, especially in environments marked by informational asymmetry (Yasmi et al., 2025). However, this trait does not necessarily imply greater propensity for slack in all contexts. When demonstrating alignment with organizational interests or delivering budgetary results proves more advantageous for maintaining political alliances or advancing one's career, machiavellians may reduce or avoid creating budgetary slack (Cesinger et al., 2023; Hartmann & Maas, 2010; Jones & Paulhus, 2014). Thus, for individuals with this trait, slack is not an end, but rather a means contingent upon strategies to maximize personal benefits.

Regarding psychopathy, the literature suggests a distinct dynamic characterized by impulsivity, low risk aversion, and limited concern for long-term consequences (Harrison et al., 2018; Jones & Paulhus, 2014, 2017; LeBreton et al., 2018). These characteristics can lead to either the creation or the reduction of slack, depending on the potential for immediate gains (Boddy, 2006; Jones, 2013). On one hand, predisposition toward antisocial behavior may foster the creation of slack, particularly when there are opportunities to find appropriate resources, manipulate information, or deliberately exploit flaws in control systems (Boddy, 2006; Harrison et al., 2018; Jones, 2013; Yasmi et al., 2025). On the other hand, a high propensity for risk can lead these individuals to operate with reduced budgetary margins, accepting risky goals when these promise quick rewards, power, or status, even if this increases the probability of failure (Boddy, 2006; Jones, 2013; Jones & Paulhus, 2017). In summary, unlike machiavellianism, decisions regarding slack tend to be less strategic in nature, being driven instead by impulses and the pursuit of short-term gains.

Considering these discussions, it is concluded that investigating budgetary slack through the lens of the dark triad traits allows for moving beyond the traditional interpretation rooted in economic rationality and individual utility maximization. By incorporating psychological dimensions into the analysis, it becomes evident that the creation or reduction of slack can be associated with symbolic, reputational, political, or impulsive motivations, which are not fully explained by economic approaches. In this regard, the dark triad offers new perspectives for understanding the subject by revealing how managers' individual characteristics influence the strategic, defensive, or opportunistic use of the budget, thereby broadening the understanding of the behavioral determinants of budgeting practices and their effects on organizational performance and governance.

3 Methodological Procedures

This study adopts a qualitative and theoretical approach, structured as a literature review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol (Page et al., 2021), aligning with methodological practices used in previous reviews (e.g., Agustina et al., 2024). It aims to identify, synthesize, and interpret evidence from national and international literature regarding the relationship between dark triad traits and budgetary slack, thereby contributing to both theoretical advancement and the direction of future research in a field that shows promise for understanding the individual and behavioral aspects involved in managerial practices (Agustina et al., 2024; Daumoser et al., 2018; Wibbeke & Lachmann, 2020). The search strategy was designed based on a combination of descriptors and standardized terminology found in journal databases. The search was limited to scientific articles published in journals, given that only peer-reviewed publications can be considered validated empirical knowledge and are, therefore, the ones most likely to influence academic discourse (Podsakoff et al., 2005). In summary, non-periodical publications, such as dissertations and theses, were disregarded because they are not necessarily subject to the same formal peer-review processes adopted by scientific journals and because they have less insertion into the consolidated literature of the field. In this context, Table 2 presents the databases consulted, the descriptors used through boolean operators, and the criteria applied in the searches.

Table 2

Database search criteria

Base	Descriptors	Criteria
Scopus		
Web of Science	budgetary slack OR budget	Search in: "Title-Abs-Key" OR "Topic"
ScienceDirect	slack AND dark personality	Subject area: "All"
Emerald Insight	OR dark triad OR	Language: "All"
SpringerLink	machiavellianism OR	Document type: "Article" OR "Research Article"
Taylor & Francis	narcissism OR psychopathy	Years: "All"
EBSCOhost		

The following inclusion criteria were adopted: (i) articles published up to 2025; (ii) empirical studies published in scientific journals; (iii) availability of the text; and (iv) investigations addressing the relationship between dark personality traits and budgetary slack. Conversely, the exclusion criteria comprised: (i) duplicate articles; (ii) studies of a theoretical nature (e.g., Agustina et al., 2024; Wibbeke & Lachmann, 2020); and (iii) works analyzing the association of dark traits with phenomena other than budgetary slack (e.g., Aguiar & Suave, 2022).

Subsequently, the review process followed the PRISMA protocol stages, as illustrated in Figure 1: (i) identification, involving the retrieval of articles from the databases; (ii) screening, involving the removal of duplicate records and the review of titles and abstracts; (iii) eligibility, conducted by reading the articles that met the preliminary criteria; and (iv) inclusion, corresponding to the final selection of articles deemed suitable for the analysis. Additionally, to broaden the review's scope and identify any studies not captured in the consulted databases, a supplementary search was conducted on Google Scholar. This step identified four additional articles (Borges et al., 2023; Bortoluzzi et al., 2023; Mohamed & Metwally, 2022; Yasmi et al., 2025) that, upon full-text review, were found to be aligned with the topic and were incorporated into the analysis.

Figure 1
Research protocol design

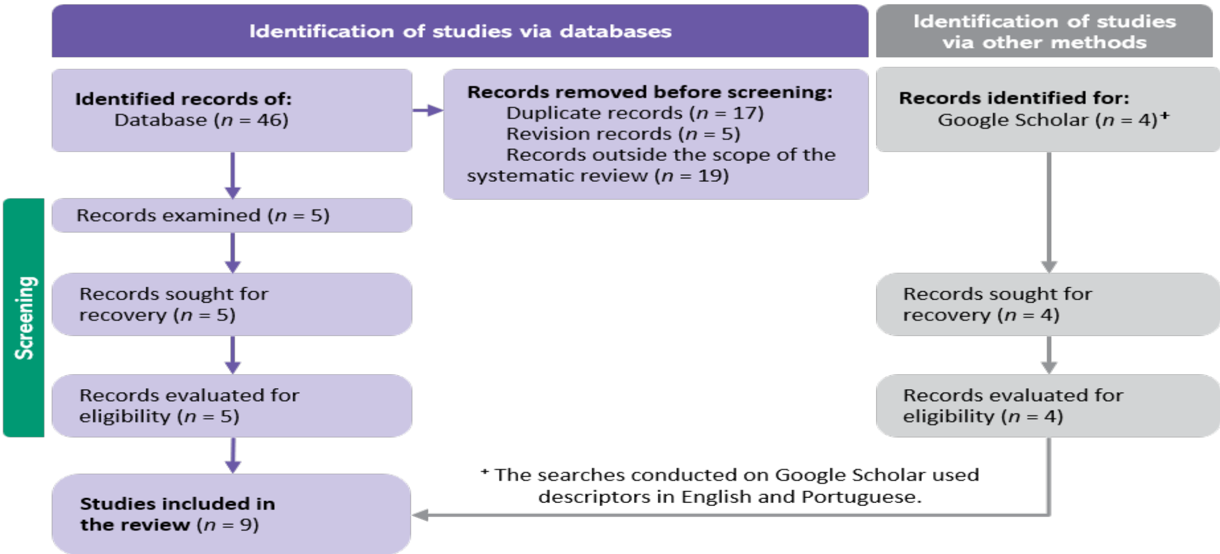

Table 3 presents the list of analyzed articles, including information on authors, article title, year of publication, and the journal of publication.

Tabela 3

List of analyzed articles

Autor(es)	Título	Ano	Periódico
Hartmann e Maas	Why Business Unit Controllers Create Budget Slack: Involvement in Management, Social Pressure, and Machiavellianism	2010	Behavioral Research in Accounting
Suryadi et al.	Managing Inefficiency of Participatory Budgeting by Investigating the Dark Side Personality of Managers	2019	Polish Journal of Management Studies
Corrêa e Lavarda	Machiavellianism in the Creation of Budgetary Slack	2021	Journal of Accounting, Management and Governance
Mohamed e Metwally	The Relationship Between Machiavellian Leadership, Budget Participation, and Budgetary Slack: mediating propensity to create slack and moderating Locus of Control	2022	Scientific Journal for Financial and Commercial Studies and Researches
Nottar et al.	The Effect of the Dark Triad Traits on the Relationship Between Obedience Pressure and Budgetary Slack	2022	Revista Contabilidade & Finanças
Borges et al.	Influência do Maquiavelismo e da Cultura Organizacional na Criação da Folga Orçamentária sob a Perspectiva de Estudantes Universitários	2023	Gestão e Desenvolvimento em Revista
Bortoluzzi et al.	Efeitos do Maquiavelismo, Comprometimento Organizacional e Controle de Pessoal na Folga Orçamentária	2023	The Journal of Globalization, Competitiveness, and Governability
Grediani et al.	Moderating Effects of Machiavellianism, Management Control, and Fairness on a Motivation-Honesty Relationship in Budget Reporting	2023	Problems and Perspectives in Management
Yasmi et al.	The Effect of Budget Participation and Information Asymmetry on Budgetary Slack with Dark Triad Character as a Moderating Variable in Hospitals in East Kalimantan	2025	Disclosure: Journal of Accounting and Finance

Note 1. Suryadi et al. (2019) was incorporated into the analysis by using the HEXACO-PR-I model as an inverse measure of dark traits, considering that honesty-humility, at its opposite pole, constitutes the common core shared by the traits of the dark triad (Lee & Ashton, 2014). Note 2. Grediani et al. (2023) was incorporated into the analysis based on the argument that honest budget reports serve as an inverse measure of budgetary slack, given the antagonism between reporting veracity and the intentional distortion of resources (Daumoser et al., 2018).

Among the articles deemed relevant and directly related to the topic, five were published in international journals (Grediani et al., 2023; Hartmann & Maas, 2010; Mohamed & Metwally, 2022; Suryadi et al., 2019; Yasmi et al., 2025) and four in national journals (Borges et al., 2023; Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Nottar et al., 2022). Regarding the chronological evolution of publications, an increase in academic interest in the subject has been observed over the last decade, although output remains nascent when restricted to the specific phenomenon of budgetary slack (Wibbeke & Lachmann, 2020). This trend may be linked to the growing scientific attention paid to dark traits, which are establishing themselves as a promising field of inquiry due to their interdisciplinary nature and the fact that they remain under-explored within accounting research (Borgholthaus et al., 2023; D'Souza & Jones, 2017).

A summary of the review of the analyzed studies is presented in Appendix A.

4 Presentation and Discussion of the Review

The analysis of the nine studies reveals a complex picture of the behavioral determinants of budgetary slack. Initially focused on machiavellianism, management literature has expanded to encompass the aggregate construct of the dark triad and alternative models, such as HEXACO-PR-I, consolidating a network of intervening variables that clarify not only the occurrence but also the mechanisms and circumstances in which these traits contribute to budget distortions.

4.1 Dark traits as antecedents of budgetary slack

Primary and most consistent evidence points to machiavellianism as a predictor of budgetary slack. Hartmann and Maas (2010) established the theoretical basis by describing individuals with high machiavellianism as homo economicus, agents who operate with calculating rationality and ethical detachment to maximize personal interests, being, ultimately, the first publication to establish a relationship between some of the dark personality traits and budgetary slack (Daumoser et al., 2018; Wibbeke & Lachmann, 2020). When investigating this relationship, the authors found a direct, positive, and statistically significant correlation, a result later corroborated by subsequent studies (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Grediani et al., 2023; Mohamed & Metwally, 2022). This evidence suggests that machiavellian individuals, due to their manipulative and self-centered nature, tend to underestimate revenues and overestimate costs to secure personal benefits, protection, or bargaining power within organizations.

However, the nature of this trait proves resilient to external interventions; Corrêa and Lavarda (2021) demonstrated that the threat of punishment, a negative environmental effect, failed to inhibit the creation of slack by machiavellians, suggesting that these individuals focus on rewards or rationalize dishonesty, ignoring the risks of sanctions. A departure from this trend was observed by Borges et al. (2023), who found no statistical support for the influence of machiavellianism on budgetary slack within the context of Latin American integration; this indicates that, in certain environments, organizational culture may override the influence of personality traits, making this the only study analyzed that did not find a positive and significant relationship between machiavellianism and budgetary slack.

When the analysis expands to the construct of the dark triad, which includes narcissism, machiavellianism, and psychopathy, it is observed that the tendency toward budgetary opportunism persists. In this context, Nottar et al. (2022) adopted the dark triad taxonomy as a unidimensional variable, combining the three traits into a composite measure aimed at capturing their shared essence. Although this approach allows for the assessment of the dark triad's overall influence, it does not enable the distinction of the individual effects of each trait, given that their underlying motivations and behaviors differ (Jones & Paulhus, 2017; Paulhus & Williams, 2002). The study results indicated that the creation of budgetary slack is significantly influenced by these dark traits, demonstrating that individuals with high levels of dark triad traits create more slack compared to those with lower levels.

Observing the predominant focus on the machiavellianism trait and the aggregation of the dark triad, a gap emerges in the analyzed literature: the absence of empirical tests isolating the effects of narcissism and psychopathy on the creation of budgetary slack. Although Nottar et al. (2022) use the dark triad as a construct, treating the variable in a one-dimensional way prevents understanding how the motivations of each trait, such as the pursuit of grandiosity and recognition in narcissism or impulsivity and lack of remorse in psychopathy, operate individually in the budgetary context. Disaggregating these traits analytically is particularly relevant because, unlike the cold, strategic calculation characteristic of machiavellianism, narcissists and psychopaths may respond differently to management controls and reward systems; this suggests that current understanding, while robust regarding the "dark side", lacks granularity concerning specific behavioral determinants beyond machiavellianism.

4.2 Contextual and dispositional determinants of budgetary slack

An analysis of empirical evidence reveals that the relationship between dark traits and budgetary slack does not occur in a vacuum but is shaped by a complex system of intervening variables. Among these variables are managerial involvement and social pressure (Hartmann & Maas, 2010), participation in the budgetary process (Suryadi et al., 2019; Yasmi et al., 2025), the threat of punishment (Corrêa & Lavarda, 2021), locus of control and the propensity to create budgetary slack (Mohamed & Metwally, 2022), obedience pressure (Nottar et al., 2022), personnel control (Bortoluzzi et al., 2023), internal and external motivation (Grediani et al., 2023), and information asymmetry (Yasmi et al., 2025), which, together, condition the intensity and direction of these effects on budgetary slack.

Hartmann and Maas (2010) offer an illuminating perspective on the role of context in the activation of machiavellianism. The authors demonstrate that the trait does not predict budgetary slack; rather, its manifestation is contingent upon the level of managerial involvement (Hartmann & Maas, 2010). Individuals with high levels of machiavellianism tend to yield to social pressure to create slack only when they participate in decision-making and perceive that such conduct serves their own interests. In contrast, when not directly involved in management, these individuals demonstrate a greater capacity to resist social pressure than those with low levels of the trait, adopting a stance that disregards social conformity in the absence of personal benefits. These findings indicate that, for such individuals, the creation of budgetary slack does not stem from an impulse, but from a decision, guided by a strategic choice and conditioned by the existence of opportunity and advantage in the managerial context.

Expanding the concept of opportunity, budgetary participation emerges as a facilitating mechanism. Suryadi et al. (2019) demonstrate that budgetary participation is positively related to budgetary slack, particularly when associated with low levels of honesty-humility. Yasmi et al. (2025) corroborate this understanding by showing that the dark triad, treated in aggregate, positively moderates both the relationship between budget participation and slack and the relationship between information asymmetry and budgetary slack. Taken together, these findings indicate that budgetary participation and information asymmetry can become drivers of opportunism when they interact with predispositions toward self-aggrandizement and strategic manipulation, reinforcing the idea that slack arises from the convergence of institutional opportunity and individual traits.

One significant finding in the literature reviewed is the failure of traditional coercive controls when faced with dark personality traits. Corrêa and Lavarda (2021) tested the threat of punishment and found it ineffective at inhibiting the creation of budgetary slack by machiavellian individuals. This evidence suggests that such individuals tend to overvalue potential rewards or rationalize the risks involved in the decision, thereby undermining the ability of punishment to act as an inhibitory mechanism. Similarly, Nottar et al. (2022) investigated obedience pressure and found evidence that individuals with high levels of dark triad traits were more likely to create slack, regardless of whether they were under obedience pressure. These results reinforce the understanding that formal mechanisms based on coercion or hierarchy are insufficient to curb opportunistic behavior when confronted with dispositional predispositions toward manipulation, highlighting the need to rethink the design of management control systems considering individuals' personality traits.

While external controls prove limited, internal factors emerge as more promising alternatives, albeit ones subject to certain weaknesses. Mohamed and Metwally (2022) introduce locus of control as a moderating variable and the propensity to create slack as a mediating variable in the relationship between machiavellian leadership style and the creation of budgetary slack. Evidence indicates that the propensity to create budgetary slack partially mediates this relationship in a positive direction, suggesting that machiavellian leaders foster the intention to build reserves, which in turn facilitates their actual creation. Furthermore, locus of control acts as a partial negative moderator, suggesting that individuals with a stronger belief in their control over outcomes tend to mitigate the impact of machiavellian leadership on this practice. Overall, the study demonstrates that the strengthening of opportunistic intent induced by leadership drives budgetary slack, yet this effect can be mitigated when the individual possesses an internal locus of control.

Along these lines, Grediani et al. (2023) analyzes how different types of motivation influence honesty in budget reporting, based on the distinction between internal motivation, understood as the genuine desire to act honestly, and external motivation, associated with the desire to appear honest, and how this relationship is moderated by machiavellianism. Evidence suggests that individuals driven by internal motivation report budgets more honestly than those driven by external motivation. However, machiavellianism weakens this association; consequently, even individuals with internal motivation exhibit lower levels of honesty when they display high levels of machiavellian traits. This result indicates that the presence of the machiavellian trait diminishes the tendency toward honesty, even when the motivation for it exists.

Taken together, the evidence from Mohamed and Metwally (2022) and Grediani et al. (2023) indicates that the dynamics of budgetary slack and reporting honesty cannot be understood solely through the lens of formal control mechanisms but require consideration of dispositional and motivational variables. From this perspective, the machiavellian leadership style acts by strengthening opportunistic intent, which translates into effective behavior, revealing the role of cognitive processes in mediating this phenomenon (Mohamed & Metwally, 2022). At the same time, internal factors such as locus of control and intrinsic motivation show the potential to mitigate dysfunctional practices by strengthening self-regulation and commitment to ethical standards, although machiavellianism undermines these protective mechanisms (Grediani et al., 2023; Mohamed & Metwally, 2022). Theoretically, these findings suggest that machiavellianism not only directly influences budgetary behavior but also conditions the effectiveness of psychological variables that would otherwise serve as safeguards against opportunism.

Finally, it is necessary to address personnel controls. Bortoluzzi et al. (2023) highlight a particularly sophisticated mechanism, demonstrating that managers with machiavellian traits do not merely circumvent established rules but influence the very configuration of personnel controls, aligning them with their own preferences and strategic interests. The findings indicate a positive relationship between machiavellianism and the use of personnel controls, suggesting that their adoption or configuration tends to reflect individual power agendas at the expense of organizational objectives. At the same time, the results reveal positive partial mediation by these controls in the relationship between machiavellianism and budgetary slack, indicating that this trait influences the design of control mechanisms to favor or intensify the creation of slack within the budgeting process. Thus, it is concluded that such managers do not merely exploit the existing management control system but strategically configure it to support their own interests.

A comprehensive analysis of the evidence suggests that budgetary slack arises from a dynamic interaction between dark personality traits and contextual conditions; it cannot be adequately explained in isolation by either individual characteristics or the design of control systems alone. Dark personality traits manifest strategically when opportunities and advantages arise (Hartmann & Maas, 2010; Suryadi et al., 2019; Yasmi et al., 2025), whereas traditional control mechanisms demonstrate limited effectiveness against manipulative predispositions (Corrêa & Lavarda, 2021; Nottar et al., 2022). Although individual variables, such as locus of control and intrinsic motivation, have mitigating potential (Grediani et al., 2023; Mohamed & Metwally, 2022), their effectiveness is reduced in the presence of high levels of machiavellianism. Furthermore, by demonstrating that individuals can shape personnel controls to suit their own interests (Bortoluzzi et al., 2023), the literature suggests that management control systems are not neutral but are susceptible to the influence of dark personality traits. Consequently, this evidence points to the need for more integrative theoretical models capable of understanding budgetary slack as a multifaceted phenomenon, in which dispositional traits, institutional opportunities, and the configuration of control systems interact dynamically and reciprocally.

4.3 Measurement instruments

An analysis of the measurement instruments used in the studies reveals the adoption of distinct strategies for operationalizing constructs, reflecting the specific aims of each piece of research. Self-report psychometric scales designed to identify personality traits and individual predispositions predominate in surveys, whereas experimental designs employ procedures based on decision analysis within tasks or scenarios, developed to capture behavior as it is manifested in controlled environments.

Regarding budgetary slack, this diversity in operationalization is evident in the distinction between instruments designed to capture a manager's predisposition to create it and those aimed at identifying its actual incorporation into the budget (Derfuss, 2016; Mohamed & Metwally, 2022). The first relates to the manager's individual willingness to create slack, representing an attitude oriented towards the possibility of budget manipulation, even if such an intention does not necessarily translate into a tangible benefit (e.g., Onsi, 1973). The second focuses on the inclusion of budgetary slack for the purpose of facilitating the achievement of established targets (e.g., Dunk, 1993). However, despite this conceptual distinction, it is acknowledged that both measurement approaches seek to capture dimensions of the same underlying construct (Derfuss, 2016).

In this regard, the literature examined employs two distinct approaches to capture budgetary slack. In survey-based studies, slack is treated as a latent construct, measured using scales established in the management literature. Dunk's (1993) instrument stands out as the dominant reference (Bortoluzzi et al., 2023; Mohamed & Metwally, 2022). This scale, composed of six items, three of which are reversed, seeks to capture both the perception of the ease of achieving budgetary goals and the inclination of managers to underestimate their productive capacity (Dunk, 1993). Borges et al. (2023), in turn, opted for Onsi's (1973) classic scale, which consists of seventeen items and focuses on measuring attitudes and behaviors related to the creation of budgetary slack.

In experimental designs, budgetary slack is treated as an observable behavioral variable, operationalized through decisions made in structured situations. Hartmann and Maas (2010) employed a scenario in which slack was measured by the likelihood of a controller yielding to social pressure to create budgetary slack. Corrêa and Lavarda (2021) adapted a decision-making task in which participants defined the budget proposal to be submitted to the general manager. Along similar lines, Nottar et al. (2022) used a binary variable capturing the decision to maintain or alter the budget across scenarios, shifting the focus from intention to the concrete act of creating slack. Finally, Grediani et al. (2023) made progress by using an "honesty index", a metric that quantifies the exact degree of slack on a continuum, overcoming the limitations of self-report scales.

Regarding personality traits, measurement strategies have evolved alongside the field of personality psychology itself, shifting from an initial emphasis restricted to machiavellianism toward more comprehensive approaches that incorporate the dark triad and alternative theoretical models. Notable instruments include the

MACH-IV (Machiavellianism Scale) (Bortoluzzi et al., 2023; Grediani et al., 2023; Hartmann & Maas, 2010), the MPS (Machiavellian Personality Scale) (Borges et al., 2023; Corrêa & Lavarda, 2021), the MLS (Machiavellian Leadership Style) (Mohamed & Metwally, 2022), the SD-3 (Short Dark Triad) (Nottar et al., 2022; Yasmi et al., 2025), and the HEXACO-PR-I (Suryadi et al., 2019). The latter, by emphasizing the trait of honesty-humility, functions as an inverse proxy for dark traits, measuring the absence of ethical virtues associated with opportunistic behaviors, a dimension that shows a strong correlation with the propensity for fraud (Lee & Ashton, 2014). This multiplicity of instruments demonstrates the wide range of possibilities for measuring the various facets of these traits[1], while simultaneously highlighting the need for coherence among the chosen measure, the underlying theoretical construct, and the empirical context of the investigation.

Therefore, the analysis shows that the measurement of budgetary slack and dark traits is not homogeneous but rather conditions the very nature of the evidence produced, either by privileging self-reported attitudes and perceptions, or by capturing observable behavioral decisions in simulated contexts. The coexistence of various scales and objective metrics reveals a methodologically heterogeneous field, where differing operationalization choices expand analytical possibilities but also pose challenges regarding comparability across studies. Therefore, advancing research in this area requires greater clarity in distinguishing between intention and behavior, as well as rigorous alignment among the theoretical construct, the measurement instrument, and the empirical design, to strengthen the validity and robustness of findings concerning the relationship between dark traits and budgetary slack.

4.4 Methodological characteristics

The methodological analysis of the nine studies reveals a dichotomy in research strategies on the relationship between dark traits and budget slack: on the one hand, experimental designs aimed at identifying causal links through the controlled manipulation of variables and the construction of hypothetical scenarios, which prioritize internal validity and the understanding of the psychological mechanisms underlying budgetary behavior (Corrêa & Lavarda, 2021; Grediani et al., 2023; Hartmann & Maas, 2010; Nottar et al., 2022); and on the other hand, there are surveys, which seek external generalization and correlation in organizational environments, focusing on expanding external validity and analyzing structural associations between variables (Borges et al., 2023; Bortoluzzi et al., 2023; Mohamed & Metwally, 2022; Suryadi et al., 2019; Yasmi et al., 2025). This methodological diversity reflects the complexity of the subject matter, which requires both elucidating the psychological processes linking personality to budgetary opportunism and verifying their manifestation in real-world organizational environments.

Regarding sample characteristics, a heterogeneous profile is also observed, contributing to varying levels of validity and interpretative scope for the results. Part of the studies analyzed mainly use university students (Borges et al., 2023; Corrêa & Lavarda, 2021; Grediani et al., 2023; Hartmann & Maas, 2010; Nottar et al., 2022), especially in experimental designs, which allows for the control of intervening variables and the standardization of stimuli, but imposes limitations on external validity, restricting the generalization of findings to complex organizational contexts. Conversely, studies conducted with managers, banking professionals, and public officials enhance the external validity of the evidence (Bortoluzzi et al., 2023; Mohamed & Metwally, 2022; Suryadi et al., 2019; Yasmi et al., 2025) by capturing budgetary behavior in environments where economic incentives, institutional pressures, and reputational consequences are genuinely experienced. Thus, this sample diversity highlights a field that is still consolidating, characterized by the coexistence of efforts to understand behavioral mechanisms and attempts at empirical validation within concrete organizational settings.

The experimental designs analyzed mostly used factorial arrangements for the analysis of main effects and interactions, with emphasis on the adoption of 2x2 designs (Corrêa & Lavarda, 2021; Hartmann & Maas, 2010; Nottar et al., 2022) and, in a more complex structure, a 2x2x2 design (Grediani et al., 2023), which allows for greater control of variables and the isolation of the specific effect of personality traits in interaction with contextual factors. In contrast, survey studies have relied on self-report scales associated with scenarios or the measurement of perceptions about the work environment (Borges et al., 2023; Bortoluzzi et al., 2023; Mohamed & Metwally, 2022; Suryadi et al., 2019; Yasmi et al., 2025); although such strategies broaden external validity and allow for an understanding of the complexity of the real organizational context, they have inherent limitations, notably the social desirability bias, especially when they involve the self-disclosure of potentially unethical behaviors and dark traits.

[1]For a detailed overview of the instruments available for measuring dark personality traits, consulting the work of LeBreton et al. (2018).

In addition to study designs and sample characteristics, it is pertinent to examine the statistical techniques adopted by the studies, as these influence how hypotheses are tested and the consistency of the reported results. Analytically, there is a preference for structural equation modeling (Borges et al., 2023; Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Suryadi et al., 2019; Yasmi et al., 2025), a choice technically justified by its ability to handle small samples and non-normal data, as well as its robustness in estimating models involving multiple relationships (Hair Jr. et al., 2022). In parallel, studies are identified that use mean comparison procedures, such as ANOVA and the non-parametric Mann-Whitney and Kruskal-Wallis tests, as well as the application of multiple, hierarchical and binary logistic regression (Grediani et al., 2023; Hartmann & Maas, 2010; Mohamed & Metwally, 2022; Nottar et al., 2022), techniques that allow the evaluation of linear relationships, incremental effects between variables and categorical outcomes.

In summary, the methodological analysis reveals a diverse and consolidating field of inquiry, characterized by the complementarity of experimental strategies and empirical surveys, as well as the use of varying levels of statistical sophistication. This setup reflects a consistent effort to understand the relationship between dark traits and budgetary slack from multiple perspectives, linking the identification of mechanisms in controlled settings with the verification of associations in actual organizational contexts. However, the prevalence of student samples limits the external validity of the findings, highlighting the need for more research involving active managers and professionals. Thus, advancing the field requires greater integration of approaches and encouragement of replication studies using professional samples, thereby strengthening the robustness, comparability, and generalization of empirical evidence.

4.5 Reflections on empirical evidence

The reviewed literature attributes a central role to machiavellianism in explaining budgetary slack, which appears theoretically coherent, given that individuals with this trait are commonly associated with the strategic manipulation of information and the relaxation of ethical constraints in favor of their own interests (Hartmann & Maas, 2010). The consistency of the results (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Hartmann & Maas, 2010; Mohamed & Metwally, 2022) reinforces the understanding that machiavellianism not only relates to budgetary slack but also acts as a catalyst for behaviors aimed at self-preservation, the maximization of individual benefits, and the reinforcement of power positions within the organization. Consequently, budget manipulation by these individuals tends to be legitimized through narratives of prudence, masking a strategic rationality in which individual objectives prevail over collective interests (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021; Hartmann & Maas, 2010; Mohamed & Metwally, 2022).

Another relevant aspect concerns the ability of machiavellian individuals to adjust their behavior according to organizational environmental conditions, exploiting opportunities and weaknesses for personal gain (Bortoluzzi et al., 2023; Hartmann & Maas, 2010; Mohamed & Metwally, 2022). This capacity, combined with an astute reading of power dynamics and the exploitation of information asymmetry (Grediani et al., 2023; Hartmann & Maas, 2010), facilitates a discreet approach to leveraging gaps in control systems and opportunistically exploiting bonds of trust (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021). In short, machiavellianism is not limited to an isolated individual deviation but can manifest as a strategic response to organizational contexts characterized by ambiguous accountability and weak control mechanisms. This scenario necessitates a rethinking of the design and use of budgetary systems; these systems are not structurally neutral and must account for the motivations and strategies of individuals possessing dispositional traits oriented toward maximizing self-interest.

Studies treating the dark triad as a unidimensional construct offer a broader view of the behavioral impacts of these traits on budgetary slack by capturing aggregate patterns of opportunism and manipulation. However, this methodological approach, by merging the three traits into a single dimension, tends to obscure relevant conceptual and motivational differences between the traits, reducing the ability to identify behavioral mechanisms and their distinct implications for budgetary slack. Thus, the findings of Nottar et al. (2022) and Yasmi et al. (2025) are significant in demonstrating that these individuals' general propensity for callousness and manipulation (Paulhus, 2014; Paulhus & Williams, 2002) is a sufficient condition to subvert participatory budgeting processes and exploit information asymmetries (Yasmi et al., 2025). This dynamic occurs regardless of whether the predominant motivation is linked to the self-aggrandizement of narcissism, the instrumental gain of machiavellianism, or the impulsivity associated with psychopathy (Jones & Paulhus, 2014; Nottar et al., 2022; Yasmi et al., 2025).

Despite the focus on studies regarding machiavellianism and the treatment of the dark triad as a unidimensional variable, this emphasis limits our understanding of how the triad's traits influence the creation of budgetary slack. Both narcissism and psychopathy are as relevant as machiavellianism, capable of shaping budgetary behavior in distinct yet equally impactful ways. Narcissism can motivate budget manipulation for self-promotion, the pursuit of recognition, or the maintenance of social status, whereas psychopathy fosters impulsive decisions detached from ethical norms, leading to the opportunistic creation of budgetary slack. Therefore, overlooking these traits diminishes the ability to understand the dispositional determinants of slack and underestimates the complexity of the interaction between personality and context; at the same time, it opens the door for future studies to explore how these personality traits, in interaction with contextual factors, influence the creation of budgetary slack.

In conclusion, this evidence indicates that budgetary slack is not merely a technical or strictly rational phenomenon but encompasses symbolic and political dimensions that can be leveraged for subjective ends. Individuals with dark personality traits may use budgetary slack to build their image, gain influence, or secure bargaining power within the organization, transforming the budget into an arena of symbolic contestation where budgetary decisions transcend economic expectations to incorporate strategies of interpersonal control and domination. Thus, understanding budgetary slack considering these traits requires moving beyond purely economic analyses and recognizing the budget as a space for power negotiation, where psychological factors directly, strategically, and often decisively influence individuals' managerial behavior. This approach highlights a perspective that has been little explored, capable of revealing the different motivations that lead individuals to create budgetary slack.

5 Considerations

The discussions lead to the conclusion that the understanding of budgetary slack is deepened when analyzed considering the personality traits comprising the dark triad. These traits offer an interpretive key to deciphering subjective motivations that elude traditional approaches to budgetary behavior. Instead of being viewed as pathological deviations, they reveal consistent patterns of individual behavior that help explain why and how certain individuals may, or may not, manipulate organizational budgets.

Analytically, the results indicate the prominence of machiavellianism as the most consistent predictor of budgetary slack. The literature suggests that individuals with this trait operate based on a strategic and utilitarian rationality, using the budget as an instrument of power and managerial protection rather than merely for immediate financial gain. The most troubling aspect revealed by the evidence is the resilience of this behavior in the face of traditional control mechanisms: the threat of punishment and pressure for compliance proved ineffective at curbing these individuals' opportunistic conduct. This implies that the machiavellian manager tends to rationalize dishonesty or focus solely on the reward, disregarding the punitive risks established by control systems.

Reflecting on contextual dynamics reveals that personality does not operate in isolation; it requires a conducive context and opportunity. The review demonstrated that budgetary participation and information asymmetry, tools designed to improve management, can be converted into vectors of opportunism when they interact with shady dealings. Evidence indicates that machiavellian managers are more than mere opportunists; they can actively influence the design of controls to align them with their own interests, such that the management control system ceases to function as an organizational safeguard and potentially becomes an artifact shaped by the very manipulation it was meant to prevent.

Regarding the taxonomy of the dark triad, a critical gap in the literature is evident: the tendency to aggregate narcissism, machiavellianism, and psychopathy into a single construct or to focus disproportionately on machiavellianism. Although there is a shared predisposition toward callousness and manipulation, the underlying motivations differ and warrant granular investigation. Narcissism, for example, can drive budgetary slack to protect self-image in case of failure, but it can also lead to the acceptance of risky goals for self-promotion, a nuance that is lost in aggregate analyses. Similarly, the impulsivity characteristic of psychopathy suggests a less strategic and more erratic budgeting behavior than that of the machiavellian, a distinction that has not been empirically explored.

Therefore, the evidence indicates that by incorporating these traits into the analysis of budgetary slack, the budget ceases to be perceived merely as a resource allocation tool; instead, it comes to be understood as a space for symbolic and political contestation, where strategies involving power, image building, and influence over interpersonal decisions play out. This approach broadens the traditional understanding of budgetary slack, highlighting its multifaceted nature and the continuous interaction between individual motivations and organizational contexts. The presence of these traits represents not just an isolated risk but suggests that economic rationality may be permeated by subjective interests. Therefore, understanding these dynamics becomes relevant for deepening the analysis of budgetary processes and guiding the creation of control mechanisms capable of dealing with the influence of these personalities on organizational decision-making, and opening new avenues for discussing the role of personality psychology in budgetary management.

5.1 Avenues for research on budgetary slack and dark personalities

Based on the analysis of the studies, the research agenda regarding the relationship between dark personality traits and budgetary slack points to the need to move beyond the one-dimensional view of the dark triad, explore new control contexts, and refine methodological approaches to capture the complexity of human behavior in the corporate environment.

One of the gaps lies in the prevalence of approaches that treat dark traits in an aggregated manner or focus excessively on machiavellianism. Although the literature has established machiavellianism as a predictor of opportunistic behavior and ethical disengagement regarding the creation of budgetary slack, treating the dark triad as a single, aggregated construct hinders an understanding of the motivational nuances inherent to each trait. Future research should analytically disaggregate narcissism and psychopathy, examining them separately to verify whether the budgetary slack in narcissists stems from the pursuit of recognition by achieving easy goals, while psychopathy promotes slack through impulsivity and indifference to risks, contrasting with the strategic calculation characteristic of machiavellianism.

At the same time, it is relevant to investigate whether traits from the Big-Five or HEXACO-PR-I models can, under certain conditions, override or moderate the dark trait strategy, thereby offering a complementary perspective on the determinants of budgetary behavior (Bortoluzzi et al., 2023; Suryadi et al., 2019). Furthermore, future research could explore whether varying levels of dark traits (low, moderate, and high) exert differential effects on budgetary slack, which would allow for a more precise understanding of the intensity and dynamics of these effects (Grediani et al., 2023; Hartmann & Maas, 2010; Nottar et al., 2022; Suryadi et al., 2019). Concomitantly, the influence of gender on the relationships between dark personality and budgetary behavior represents a field that is still little explored (e.g., Bortoluzzi et al., 2023; Nottar et al., 2022), especially considering that the literature recognizes that there are gender differences in the levels of traits of the dark triad, with men presenting higher scores of these traits (Furnham et al., 2013; Jones & Paulhus, 2014; Paulhus et al., 2021).

Beyond the disaggregation of personality traits, there is a vast field to explore regarding the interaction between dark traits and management control and incentive systems, to map interactions and mediating or moderating effects. Given that punishment and pressure for compliance have proven ineffective at curbing budgetary slack among individuals with dark traits (Corrêa & Lavarda, 2021; Nottar et al., 2022), it is recommended that future research focus on the effectiveness of incentive and reward systems and alternative control typologies (Bortoluzzi et al., 2023; Corrêa & Lavarda, 2021). Thus, it is relevant to investigate how different compensation schemes (variable vs. fixed) interact with these traits, determining whether incentives act as triggers that exacerbate opportunistic behavior where punishment has failed. Similarly, it is pertinent to investigate how different types of managerial control, such as coercive, enabling, and outcome controls, produce distinct reactions in these individuals, as well as to understand how managers with dark personalities can shape managerial controls to perpetuate their power and enable the creation of future budgetary slack.

Additionally, it is recommended that studies investigate the underlying intention or purpose of budget slack, distinguishing between "noble" motivations, such as protection against uncertainty, and opportunistic motivations, such as earnings management (Nottar et al., 2022). This distinction would allow for an understanding not only of the presence of budgetary slack but also of the psychological and strategic mechanisms driving it. It is also recommended to include organizational performance as a final dependent variable (Bortoluzzi et al., 2023; Nottar et al., 2022) in order to assess whether, paradoxically, managers with shady traits who create budgetary slack can generate short-term financial results or whether, on the contrary, the destructive effect of these behaviors compromises the sustainability and reliability of the budgeting process.

Finally, advancing the field requires methodological refinement that goes beyond experiments involving students and self-report questionnaires, which may suffer from a lack of external validity and social desirability bias. Conducting studies with professionals embedded in real organizational contexts, subjected to performance pressures and incentives, is necessary to verify whether the "dark side" identified in experimental environments manifests itself in managerial practice. Furthermore, the use of longitudinal designs would allow for the confirmation of causal relationships and the analysis of combinations of conditions that foster budgetary slack, shifting the focus from identifying correlations to understanding the mechanisms and circumstances that enable or inhibit the expression of these traits within the budgetary context.

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Appendix A
Summary of the review of the analyzed studies

Authors	Sample	Método Técnica	Relação analisada	Sign		Operationalization		Conclusions
				Expected	Found	Trait	Slack	
Hartmann and Maas (2010)	136 Students in managerial positions (Netherlands)	Experiment 2x2 ANOVA Hierarchical Regression	Machiavellianism → Slack	+	+ $p < 0.01$ (Hypothesis accepted)	MACH-IV	Case scenario developed by the authors (Constitution)	Students' propensity to engage in creating budgetary slack is influenced by machiavellianism. Furthermore, individuals high in machiavellianism are more likely to yield to social pressure to create slack when involved in budgetary decisions.
			Involvement x Pressure x Machiavellianism → Slack	+	+$p < 0.05$ (Hypothesis accepted)			
Suryadi et al. (2019)	150 Public Sector Managers (Indonesia)	Questionnaire SEM-PLS	Honesty-Humility → Participation	+	+ $p < 0.01$ (Hypothesis accepted)	HEXACO PR-I	Ajibolade and Akinniyi (2013) (Propensity)	The propensity of public managers to get involved in creating budgetary slack is influenced by the traits of honesty-humility and conscientiousness. Low levels of these traits make managers more susceptible to creating slack when involved in the budgeting process.
			Conscientiousness → Participation	+	+ $p < 0.01$ (Hypothesis accepted)			
			Participation → Slack	+	+ $p < 0.01$ (Hypothesis accepted)			
Corrêa and Lavarda (2021)	390 Students (Brazil)	Experiment 2x2 SEM-PLS with multi-group analysis	Machiavellianism → Slack	+	+ $p < 0.10$ (Hypothesis accepted)	MPS	Case scenario adapted from Farias (2012) (Constitution)	Students' propensity to engage in the creation of budgetary slack is influenced by machiavellianism, even in the face of negative environmental affect imposed by the threat of punishment.
			Machiavellianism x Punishment → Slack	–	+ $p > 0.10$ (Hypothesis rejected)			
Mohamed and Metwally (2022)	248 Bankers (Egypt)	Questionnaire Multiple Regression (Baron and Kenny's method for mediation)	Machiavellianism → Slack	+	+ $p < 0.01$ (Hypothesis accepted)	MLS		Bank employees' propensity to engage in creating budgetary slack is influenced by a machiavellian leadership style. The study also found a positive partial mediating role of this propensity in the relationship between machiavellian leadership style and the creation of budgetary slack, as well as a negative partial moderating role of locus of control in the relationship between machiavellian leadership style and the creation of budgetary slack.
			Machiavellianism → Propensity	+	+ $p < 0.01$ (Hypothesis accepted)		Kren (2003) (Propensity)	
			Machiavellianism → Propensity → Slack	+ / –	+ $p < 0.01$ (Hypothesis accepted)		Dunk (1993) (Constitution)	
			Machiavellianism x Locus of control → Slack	+ / –	– $p < 0.01$ (Hypothesis accepted)			

Authors	Sample (Context)	Method Technique	Relationship analyzed	Sign		Operationalization		Conclusions
				Expected	Found	Trait	Slack	
Nottar et al. (2022)	82 Students (Brazil)	Experiment 2x2 Mann-Whitney Kruskal-Wallis Binary Logistic Regression	Dark triad → Slack	+	+ $p < 0.01$ (Hypothesis accepted)	SD-3	Case scenario adapted from Davis et al. (2006) and Faria et al. (2012) (Constitution)	Students' propensity to engage in slack creation is influenced by dark triad traits; specifically, individuals with high levels of dark traits were more prone to slack creation, regardless of whether they were under pressure to comply.
			Obedience pressure x Dark triad → Slack	+	– $p > 0.10$ (Hypothesis rejected)			
Borges et al. (2023)	161 Students (Brazil)	Questionnaire SEM-PLS	Machiavellianism → Slack	+	+ $p > 0.05$ (Hypothesis rejected)	MPS	Onsi (1973) (Propensity)	Students' propensity to engage in slack creation does not appear to be influenced by the trait of machiavellianism, even though 67,39% of the sample demonstrated behaviors characteristic of this personality type.
Bortoluzzi et al. (2023)	150 Managers (Brazil)	Questionnaire SEM-PLS	Machiavellianism → Slack	+	+ $p < 0.01$ (Hypothesis accepted)	MACH-IV	Dunk (1993) (Constitution)	Managers' propensity to engage in slack creation is influenced by the personality trait of machiavellianism. Evidence also suggests that managers with machiavellian traits tend to adopt personnel controls that enable them to achieve their objectives, such as the creation of slack.
			Machiavellianism → Personnel controls	+	+ $p < 0.01$ (Hypothesis accepted)			
			Machiavellianism → Personnel controls → Slack	+	+ $p < 0.10$ (Hypothesis accepted			
Grediani et al. (2023)	333 Students (Indonesia)	Experiment 2x2 2x2x2 ANOVA	Internal motivation x Low machiavellianism → Honesty versus External motivation x High machiavellianism → Honesty	+	+ $p < 0.01$ (Hypothesis accepted)	MACH-IV	Evans et al. (2001) (Constitution) Proxy = Honesty index	The results demonstrated that intrinsic motivation had a stronger influence on honest budget reporting than extrinsic motivation. However, machiavellianism weakened this relationship, indicating that for these individuals, self-interest still prevails over organizational interests.
Yasmi et al. (2025)	69 Managers (Indonesia)	Questionnaire SEM-PLS	Dark triad x Participation → Slack	+ / –	+ $p < 0.01$ (Hypothesis accepted)	SD-3	Not specified	Dark triad traits moderate the relationship between budgetary participation and budgetary slack, as well as the relationship between asymmetry and budgetary slack. In short, these individuals strategically use participation and asymmetry to manipulate targets and create slack.
			Dark triad x Asymmetry → Slack	+ / –	– $p < 0.01$ (Hypothesis accepted)			

Note 1. It is noted that the citation of Farias (2012), mentioned by Corrêa and Lavarda (2021), does not appear in the study's list of references.
Note 2. According to Grediani et al. (2023, p. 167), the hypothesis tested can be translated as follows: "individuals in the intrinsic motivation group with lower machiavellian traits report more honest budgets than those with higher machiavellian traits in the extrinsic motivation group".
Note 3. Yasmi et al. (2025) did not explicitly present the research instruments used to measure the constructs of participation, information asymmetry, and budgetary slack. However, based on the number of indicators, it is assumed that slack was assessed using the instrument developed by Onsi (1973).