

The Effects of controllers' psychological capital on managerial attitudes toward budgeting, job satisfaction and managerial performance

Efeitos do capital psicológico de *controllers* nas atitudes gerenciais em relação ao orçamento, satisfação no trabalho e desempenho gerencial

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Abstract: This research analyzes the effects of controllers' psychological capital on managerial attitudes toward budgeting, job satisfaction and managerial performance. A descriptive and quantitative research was carried out by means of a survey with 316 controllers with budgetary responsibility in Brazilian companies. Among the relationships investigated, only the relationship between job satisfaction and managerial performance was not significant and the indirect effects of psychological capital on managerial performance, mediated by job satisfaction. These results show that psychological capital is positively associated with management attitudes towards the budget and the managerial performance of controllers. These results reveal that psychological capital improves managerial attitudes toward budgeting and has positive effects on managers' job performance. Furthermore, managerial attitudes toward budgeting enhance the relationship between psychological capital and managerial

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performance. It is concluded that the promotion of psychological capital and managerial attitudes towards the budget can positively influence the managerial performance of controllers.

Keywords – Psychological capital; Managerial attitudes; Job satisfaction; Managerial performance.

Resumo: Esta pesquisa analisa os efeitos do capital psicológico de *controllers* nas atitudes gerenciais em relação ao orçamento, satisfação no trabalho e desempenho gerencial. Pesquisa descritiva e quantitativa, foi realizada por meio de levantamento com 316 *controllers* com responsabilidade orçamentária em empresas brasileiras. Entre as relações investigadas, apenas a relação entre satisfação no trabalho e desempenho gerencial não foi significativa e os efeitos indiretos do capital psicológico no desempenho gerencial, mediados pela satisfação no trabalho. Esses resultados revelam que o capital psicológico está positivamente associado às atitudes gerenciais em relação ao orçamento e ao desempenho gerencial dos *controllers*. Esses resultados revelam que o capital psicológico melhora as atitudes gerenciais em relação ao orçamento e tem efeitos positivos no desempenho dos gestores no trabalho. Além disso, as atitudes gerenciais em relação ao orçamento aumentam a relação entre capital psicológico e desempenho gerencial. Conclui-se que a promoção do capital psicológico e das atitudes gerenciais em relação ao orçamento podem influenciar positivamente o desempenho gerencial dos *controllers*.

Palavras-chave – Capital psicológico; Atitudes gerenciais; Satisfação no trabalho; Desempenho gerencial.

Introduction

The budget has been considered an essential tool for business management capable of influencing the behavior and performance of individuals at work (Covaleski *et al.*, 2007, Derfuss, 2016). In this sense, the performance of managers in budget activities (Zonatto, 2014) can be explained by the social, cognitive, behavioral and environmental factors, characterized by Bandura (1977a) in Social Cognitive Theory (SCT). Under this theoretical research perspective, there is not a single factor capable of influencing an individual's performance at work, but rather a set of cognitive and personal factors, behavioral factors and environmental factors that interact by determining human action at work (Zonatto, 2014).

The research that uses theories from psychology in accounting has made it possible to carry out several studies, in which the purpose of evaluating the effects of management control instruments (such

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as the budget context) on cognitions and human behavior at work (Derfuss, 2016, Baldvinsdottir *et al.*, 2010, Birnberg *et al.*, 2007). In spite of this observation, few papers have been devoted to evaluating positive elements of managers' psychological capital and their effects on managerial performance in accounting (Venkatesh & Blaskovich, 2012, Saithong-In & Ussahawanitchakit, 2016, Schlup *et al.*, 2021, Degenhart *et al.*, 2022) facts which stimulate the realization of new studies. Psychological capital is an emerging topic in the accounting area, which seeks to investigate how positive psychological aspects of managers can influence their attitudes, behaviors and managerial performance (Degenhart *et al.*, 2022).

Psychological capital is a multidimensional construct, coming from the combination of factors called positive psychological capacities of self-efficacy, hope, optimism, resilience, which present the possibility of being measured, trained and developed in individuals (Luthans & Youssef, 2004, Luthans *et al.*, 2007). This construct has been investigated with several factors, such as managerial attitudes and satisfaction and the individual's performance in the workplace (Avey *et al.*, 2010a, Avey *et al.*, 2011, Schlup *et al.*, 2021, Degenhart *et al.*, 2022). As it is a positive psychological capacity, made up of four mental states, it can be modified and enhanced through training and supportive organizational strategies that encourage the development of self-efficacy beliefs, optimism, hope and resilience in the manager's ability to successfully carry out the tasks under their responsibility (Machado *et al.*, 2022).

SCT, from the perspective of human agency, plays an important role in people's capacity for self-regulation, information coding and behavior (Bandura, 1986). The individuals not only reproduce behaviors but also have a self-referential system that allows them to make decisions and choose patterns of responses to the environmental events to which they are subjected, including in the context of work (Zonatto, 2014). For this reason, if they have high psychological capital, they are more likely to believe in their psychological abilities to carry out their work tasks. These beliefs lead the individual to display proactive managerial attitudes and behaviours in the quest to achieve the desired organizational objectives, goals and results (Piccinin *et al.*, 2022; Grodt *et al.*, 2023).

In this perspective, the self-efficacy beliefs of individuals are considered one of the pillars of SCT developed by Bandura (1977a) and one of the pillars of the theoretical model of analysis of psychological capital proposed by Luthans (2002). The individuals believe in the power to achieve results (performance

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at work), without this belief they will engage less in making things happen (Bandura, 1986). In addition, the SCT discusses that an individual's behavior is influenced by a set of factors: cognitive and personal (biological, affective, cognitive issues), behavioral factors (motor, verbal responses, interactions of individuals) and environmental factors (situational constraints, environmental influences), which acting interactively influence each other and determine human action (Bandura, 1977a). In this research, cognitive and personal factors are related to psychological capital, behavioral factors refer to managerial attitudes toward budgeting and job satisfaction, and environmental factors are related to the budget context, as it is an enabling environment for the relationships tested, since controllers are key in organizations (Palomino & Frezatti, 2016).

Self-efficacy beliefs tend to influence individuals' perceptions in the budget context, on the established goals, resources, the workforce, as well as their managerial attitudes, job satisfaction and their own managerial performance (Piccinin et al., 2022). Merchant (2007) refers to managerial attitudes addressing the individual's flexibility, innovation, performance, production methods, and results monitoring. Job satisfaction is an attitude towards work activities, the structural, social conditions of the work environment (Schermerhorn *et al.*, 2007). For Avey *et al.* (2011) psychological capital is related to important attitudes, behaviors and employee performance in the work context.

In the behavioral area of accounting, the evidence found in the literature on psychological capital, managerial attitudes, satisfaction, managerial performance are considered incipient, highlighting the studies developed by Venkatesh & Blaskovich (2012), Saithong-In & Ussahawanitchakit (2016), Schlup *et al.* (2021), Degenhart *et al.* (2022) and Machado *et al.* (2022), who investigated the effects of psychological capital on managerial performance in the budget context. At the national level, only Schlup *et al.* (2021), Degenhart *et al.* (2022) and Machado *et al.* (2022) study, were performed, analyzing the effects of psychological capital on managerial performance in the accounting area, making this topic incipient and constituting an opportunity for research to carry out new studies, given the importance of understanding the predictors of managerial attitudes and managerial performance in the budgetary context.

Regarding the psychological capital under the budgetary context in the accounting area, no previous studies were found that addressed the theoretical model of analysis proposed in this research,

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with mediating variables between psychological capital and managerial performance in the context budgetary, observing the indirect effects of managerial attitudes regarding budget and job satisfaction in this relationship, a theoretical gap that motivates this research. We identify the need to investigate the direct and indirect relations of psychological capital with other intervening variables, in order to evaluate their influence (direct, indirect) on managerial performance. Managerial attitudes and job satisfaction behaviors are variables that can contribute to the understanding of these effects, as well as their impact on the performance of the individual in the work environment. The identification of such relationships can contribute to the identification of positive elements that can enhance the managerial performance of managers with budgetary responsibility.

Considering the research opportunity identified in the accounting literature related to psychological capital and managerial performance, this research seeks to provide new evidence of the influence of psychological capital on managerial attitudes and performance of controllers with budgetary responsibility. In this sense, this research aims at analyzing the effects of the psychological capital in managerial attitudes toward budgeting, job satisfaction and in managerial performance under the budget context.

This research is justified by the importance of understanding cognitive social factors that influence the managerial performance of controllers in the budget context, as well as the influence of the psychological capital of these professionals on behavioral factors (attitudes), on managerial performance. This theme in the budget context can help in understanding the effects of interactions between cognitive, personal factors, behavioral factors, environmental factors, and their effects on the performance of controllers in their work activities.

The use of SCT is justified to explain the effects of psychological capital on managerial attitudes, job satisfaction and managerial performance, since the application of this theoretical approach in behavioral research in accounting has still been little used. This theory advocates that human action and development are influenced by a set of factors (Bandura, 1977a). After identifying the psychological capacities that constitute the psychological capital (Luthans *et al.*, 2007), considerable attention has been given to these capacities in the workplace (Avey *et al.*, 2010b, Newman *et al.*, 2014). Such evidence

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justifies the analysis of individuals' mental states through the perspective of psychological capital. It is suggested that psychological capital is an emerging construct (Luthans *et al.*, 2010, Newman *et al.*, 2014, Venkatesh & Blaskovich, 2012) and little used in the accounting literature and that presents important contributions to the debate of its effects on attitudes and performance of controllers in budget activities (Schlup *et al.*, 2021, Degenhart *et al.*, 2022, Machado *et al.*, 2022).

The results of the study demonstrate the direct effect of psychological capital on managerial attitudes and job satisfaction, which leads to a higher performance of controllers in the workplace. Such findings, enable organizations to develop strategies to motivate positive attitudes and behaviors in individuals (Lucena *et al.*, 2011), through the development of psychological capital, considering their positive impacts on the managerial performance at work. Understanding how these important psychological capacities (self-efficacy, hope, optimism, resilience) influence the human actions developed by these professionals in the budget context, as well as their consequent reflexes in their work performance, contribute for the development of behavioral accounting research.

The results also highlight the enabling effects (Chapman & Kihn, 2009) of the budgetary configuration adopted by companies, which reflect positively on psychological capital, managerial attitudes and the performance of controllers in budgetary activities. Organizations that adopt formal budget control, and use it for performance evaluation, are more likely to encourage the participation of subordinate managers in budget processes, which reflects positively on their cognitions and behaviors at work. Under these conditions, managers become more likely to share private information that they have (Lunardi *et al.*, 2020, Machado *et al.*, 2022), tend to dedicate themselves more to investigate items that are 'outdated' beyond the budget, to improve their performance in activities budgets.

The results obtained have the potential to inform controllers about the improvement of their performance at work, as well as the performance of the whole organization, since professionals with developed psychological capital have confidence (self-efficacy) to assume and put the effort needed to succeed in challenging tasks, make a positive assignment (optimism) about their success, persevere toward goals, when necessary, redirect paths (hope) to succeed, and when hit by problems and adversity, rethink and backward and even beyond (resilience) to achieve success (Luthans *et al.*, 2007). These contributions

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broaden the research developed in the behavioral area, since this research aims to minimize the existing gap on the mediating role of managerial attitudes in the relationship between psychological capital and managerial performance in budget activities.

Research Hypotheses

Effects of psychological capital on managerial performance

The psychological capital is based on the recognition of psychological capacities that are intertwined with performance improvement (Newman *et al.*, 2014). Individuals with high psychological capital are motivated to put effort into work activities, resulting in higher work performance (Avey *et al.*, 2011). The individual with high psychological capital presents positive expectations in future results, confidence in their own capacity to deal with organizational challenges (Newman *et al.*, 2014), employing greater effort at work, thus achieving better performance at work (Luthans *et al.*, 2007).

The explanation of Avey *et al.* (2011) for this link between high psychological capital and better performance is that self-efficacy makes the individual believe in his or her ability to achieve the goals, being more likely to apply effort to make it happen. In these cases, individuals tend to have hope for problem solving and tend to be more optimistic about positive outcomes and when facing adversity persevere with the help of resilience. The fusion of the four positive psychological capacities is supported in cognitive, motivational processes that support the individuals to analyze positively the difficult situations, raising the probability of a good result (Luthans *et al.*, 2007).

According to Venkatesh & Blaskovich (2012) the positive psychological capacities of psychological capital, in the case of hope, optimism, resilience, have the potential to improve an individual's level of self-efficacy in order to succeed in a specific activity. They point out that the combined influence of internalized agency, motivation, perseverance, expectations of success, which comprise each of the four psychological capacities of psychological capital have the potential to increase levels of performance at work (Venkatesh & Blaskovich, 2012).

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Evidence organizational management literature, psychology indicate positive relationship between psychological capital and work performance (Alessandri *et al.*, 2018; Avey *et al.*, 2010b, Avey *et al.*, 2011, Luthans *et al.*, 2007, Luthans *et al.*, 2008, Rabenu *et al.*, 2017). In the behavioral investigation of accounting, only the researches of Degenhart *et al.* (2022), Machado *et al.* (2022), Schlup *et al.* (2021), Venkatesh & Blaskovich (2012) analyzed the effects of psychological capital on managerial performance in budgetary activities and Saithong-In & Ussahawanitchakit (2016) in the public accounting scenario. The results found by these authors also indicated a positive, significant relationship between the psychological capital and the performance of the employee at work.

Other evidence was found in the budget context, however, the research developed by Ni *et al.* (2009), only analyzed one of the positive psychological capacities of psychological capital, self-efficacy and its relationship with managerial performance. The results of this study also indicated a positive relationship between such relationships. Ni *et al.* (2009) emphasize that self-efficacy is considered an important variable that aims to increase employee performance. Bandura (1977b), who proposed SCT, suggests that highly self-efficacious employees will involve more work effort, will be more patient to overcome job-related obstacles. Thus, high self-efficacy, hope, optimism, resilience will improve the managerial performance of individuals at work. It is postulated that cognitive, personal factors influence the performance of controllers in their budget activities (Zonatto, 2014). From the above, the first hypothesis consisting of: *H1*: There is a positive and significant association between psychological capital and managerial performance.

Effects of psychological capital on managerial attitudes and job satisfaction

High psychological capital also influences the attitudes of individuals, since positive ends are expected when optimism is present. In these cases, individuals believe in their power to create their own success. Through his beliefs of self-efficacy, he hopes that his success is created by himself and amidst setbacks do destabilize with the support of resilience (Avey *et al.*, 2011).

The effects of psychological capital on attitudes, behaviors are explained by individuals who have high psychological capital. Highly optimistic individuals expect positive work results, self-efficacy and

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hope make them believe that their success is created by themselves and the resilience causes the setbacks not to destabilize (Avey *et al.*, 2011), which positively impacts on their managerial attitudes at work. The psychological capital also tends to impact job satisfaction. According to Luthans *et al.* (2007), the individuals with high psychological capital are influenced to expect positive results, employing greater effort in the work and consequently obtaining a better performance, which also affects the satisfaction of individuals at work.

In the scope of behavioral accounting, only research by Degenhart *et al.* (2022) investigated the relationship involving psychological capital and managerial attitudes towards the budget. Evidences found in the areas of organizational behavior, applied psychology and managerial accounting suggest that psychological capital can positively influence employee attitudes, behaviors and performance at work, from the individual level of analysis (Avey *et al.*, 2010a, Avey *et al.*, 2011, Newman *et al.*, 2014, Degenhart *et al.*, 2022), as proposed in this research, and when there are organizational contexts of support (Avey *et al.*, 2010a, Luthans *et al.*, 2008), such as budget participation (Degenhart *et al.*, 2022). Avey *et al.* (2008) have found evidence that psychological capital enhances positive emotions, which affect the attitudes and behaviors of employees. In this sense, psychological capital is focused on the personal level in order to highlight the value of the individual (Saithong-In & Ussahawanitchakit, 2016), which has a positive impact on the managerial attitudes towards the budget (Merchant, 2007, Degenhart *et al.*, 2022) and satisfaction at work (Dewar & Werbel, 1979).

In other areas such as psychology and organizational behavior, research was developed on psychological capital and job satisfaction. From these studies, the evidence found in the literature suggests a positive relationship between psychological capital and job satisfaction, results found in investigations conducted by Abbas *et al.* (2014), Avey *et al.* (2011), Bitmiş & Ergeneli (2013), Karatepe & Talebzadeh (2016), Larson *et al.* (2013), Larson & Luthans (2006), Luthans *et al.* (2007), Luthans *et al.* (2008) and Paek *et al.* (2015). Idris & Manganaro (2017) analyzed under the context of rapid social and organizational changes, the relationship between psychological capital and job satisfaction, however, found no significant relationship between such relationship. One possible explanation for this result may be related to existing institutional pressures and the need to achieve a certain result, even if working conditions are not the most

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favorable or suitable for the expected organizational support. This tends to influence individuals' job satisfaction.

Despite the non-observance in the accounting literature of the effects of psychological capital on managerial attitudes towards the budget and on job satisfaction, and considering that the positive elements of psychological capital tend to positively impact the satisfaction of the individual at work, it is expected that such results are also perceived in relation to the managerial attitudes of the controllers in relation to the budget. In this research, it is expected to obtain evidence of a positive relationship between psychological capital, managerial attitudes toward budget and job satisfaction. In this context, it is assumed that cognitive and personal factors influence behavioral factors according to the SCT approach: There is a positive and significant association between the psychological capital and managerial attitudes of controllers in relation to the budget (*H2*); and, between psychological capital and the satisfaction of controllers at work (*H3*).

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Effects of managerial attitudes and job satisfaction on managerial performance

The managerial attitudes, according to Brayfield & Crockett (1955), influence the performance of the individuals at work, because the budgetary context has reflexes in the attitudes towards the decision makers, which impacts the performance in the work. This finding of the authors was confirmed by Mia (1988), as evidenced that managers who participated actively in the budget process, reported favorable attitudes, motivations, as well as a better managerial performance in the budget activities for planning, research, negotiation, supervision, selection, evaluation, representation (Mahoney *et al.*, 1963, 1965, Zonatto, 2014).

The results of Lu (2011) also revealed that when budget attitudes were proactive and positive, performance in budget processes was also considered high. When managers with budgetary responsibilities have positive budgetary attitudes, they will be able to achieve better results at work (managerial performance) (Lu, 2011). It is suggested that once the managers perceive the usefulness of the budget and that it allows them to be better managers, more flexible and more innovative, they will perform better in the development of their budget activities (Degenhart *et al.*, 2022).

Despite the findings in the literature of a link between the managerial attitudes variable in relation to the budget and the managerial performance, the evidence for such a relationship in the accounting literature is still incipient (Degenhart *et al.*, 2022), but it is assumed that the managerial attitudes proactive towards the budget improve the performance of controllers at work. Considering the importance of managerial attitudes and behaviors at work as important antecedents of managerial performance, this evidence reinforces the importance of the proposed analysis and the research gap identified in the literature (Machado *et al.*, 2022, Piccinin *et al.*, 2022, Grodt *et al.*, 2023).

Another attitude that tends to have positive effects on the performance of controllers in the budget context is job satisfaction, since according to Jermias & Yigit (2013) job satisfaction is considered a precondition for better performance of individuals at work. The authors also point out that satisfaction influences managerial performance, as managers feel they are valuable partners in the decision-making process, when they become involved and assist in the definition of budget goals and objectives.

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In the accounting area, researchers revealed that job satisfaction influences managerial performance (Bitmiş & Ergeneli, 2013, Chong *et al.*, 2006). The results of the Chong *et al.* (2006) and Bitmiş & Ergeneli (2013) revealed that this relationship is positive and significant. However, the study developed by Bowling (2007) revealed that the cause and effect relationship between job satisfaction and performance does not exist. They consider that job satisfaction and performance are related, therefore, these variables are the results of subordinate attitudes regarding their jobs. When considering the effects of job satisfaction on managerial performance as a result of individuals' psychological capital level, this research can provide useful insights into the inconsistent results reported in previous studies on the relationship between satisfaction and performance of controllers in budget activities.

We propose that managerial attitudes proactive toward budgeting and a higher level of satisfaction in the work environment is associated with an increase in the performance of subordinates at work. Thus, postulated that behavioral factors contribute to the controllers' performance in budget activities: There is a positive and significant association between managers' managerial attitudes toward budget and managerial performance (*H4*); and, between controller satisfaction and managerial performance (*H5*).

Indirect effects of psychological capital on managerial performance

The SCT advocates that human action and development are influenced by a set of cognitive and personal, behavioral and environmental factors that, when interacting, influence each other in a context of social interaction (Bandura, 1977a), being this context in this research, the budget. In this sense, it is suggested according to SCT that cognitive and personal factors (psychological capital), behavioral factors (managerial attitudes toward budget, job satisfaction), when related in the budgetary context (environmental factors), determine the performance of controllers at work. That way, managerial attitudes toward budgeting and job satisfaction may enhance the relationship between psychological capital and managerial performance.

Once controllers perceive a sense of budget usefulness by developing self-efficacy, hope, optimism, resilience, they will come to believe that the budget allows them to be better managers, more flexible, be more innovative, watch your success as managers and improve your production methods

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(Merchant, 2007). Which will positively impact the relationship between cognitive and personal factors and their performance in budget activities.

Likewise, when controllers feel that the work gives them a sense of personal satisfaction, pride in working in the organization in which they work, that the work is rewarding, feel fulfilled and still part of the organization and identify with this (Dewar & Werbel, 1979), consequently they will present higher levels of self-efficacy, hope, optimism, resilience, which will positively impact the performance of the controllers in the budget activities. It is suggested that job satisfaction enhances the relationship between psychological capital and managerial performance.

In the budget context, there was no evidence of the indirect effects of psychological capital on managerial performance, through the use of the managerial attitudes variable in relation to the budget (Degenhart *et al.*, 2022). But according to the SCT, behavioral factors are important determinants of human action and development, which assumes that these controllers' attitudes have positive effects in the relation proposed in this research (Machado *et al.*, 2022).

The relationship between psychological capital and managerial performance mediated by job satisfaction was analyzed by Durrah *et al.* (2016). The authors found a positive relationship between psychological capital and work performance when this relationship is mediated by satisfaction at work. These findings suggest the importance of observing the satisfaction of the individual at work, as a means to boost their levels of psychological capital and their performance in activities budgetary.

In this way, it is understood that the performance of controllers in budget activities is determined by a set of cognitive and personal factors (psychological capital) and behavioral factors (managerial attitudes toward budget, job satisfaction). In addition, we seek to confirm the SCT approach that human behavior is influenced by a set of factors and not just one factor alone (Bandura, 1977a). In this context, it is assumed that, under conditions of proactive managerial attitudes and job satisfaction: There is a positive and significant association between psychological capital and managerial performance, mediated by controller's managerial attitudes toward budgeting (*H6*); and, between psychological capital and managerial performance, mediated by the satisfaction of controllers at work (*H7*).

Figure 1 presents the theoretical model of analysis adopted in this research.

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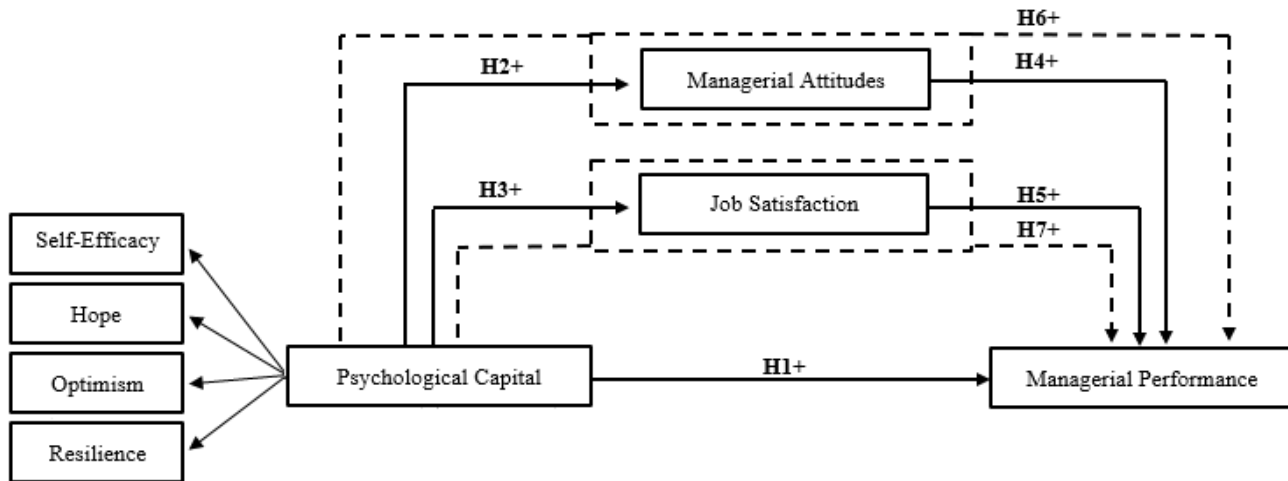


Figure 1.
Theoretical Analysis Model
Source: Prepared by the authors.

Research Method

This research is characterized as descriptive, developed through a survey, with quantitative approach of the data, with the participation of 316 professionals with the positions of controllers of different organizations and national segments. The controller is considered a key player in companies aiming at organizational success (Palomino & Frezatti, 2016). Anthony and Govindarajan (2008) point out that the controller is responsible for functions that include preparation of strategic and budget plans, installation and operation of budget programs and systems, as well as analysis of planned and executed budgets, what makes the analysis of the cognitive factors of these professionals in their work environment. Other studies also compose their sample with different sectors, such as Chong & Eggleton (2007), Karakoc & Ozer (2016) and Ni *et al.* (2009), as well as analyzing controllers (Palomino & Frezatti, 2016).

For the sample selection, a contact was initially established with managers with budget responsibilities (controllers) selected to participate in the study, through the LinkedIn® business network. Following the confirmation of such information and the acceptance of these professionals to voluntarily

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participate in the research, the questionnaire used to collect the data was then sent along with a letter of presentation that clarifies the objectives of the study and the use of information for academic purposes only. The questionnaire adopted for data collection was developed with objective questions, with the variables analyzed, and it was approved by the research ethics committee. Table 1 shows the variables and their operational definition.

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Table 1.
Operating variables and definitions

Variables	Operational definitions	Questions/Scale Authors
Psychological Capital (PC)	Is defined as an individual's positive state of psychological development that is characterized by self-efficacy, hope, optimism and resiliency.	24/Likert 6 points* Luthans <i>et al.</i> (2007)
Self-Efficacy (SE)	Refers to an individual's confidence in their ability to perform a task.	
Hope (HO)	Hope refers to the motivation of individuals to strive and plan ways to achieve goals.	
Optimism (OP)	Optimistic people have a generalized positive expectation. They interpret positive events in terms of personal causes and negative events as external.	
Resilience (RE)	Is defined as the capacity to rebound back from adversity, conflict, failure, or even of positive events (progress and increased responsibility).	
Managerial Attitudes (MA)	They refer to the usefulness of budgeting, if managers believe that budgeting allows them to be better managers, be more flexible, be more innovative, be mindful of their successes as managers and improve their production methods.	5/Likert 5 points* Merchant (2007)
Job Satisfaction (JS)	Satisfaction with work activities, structural and social conditions of the individual in the workplace.	6/Likert 7 points* Dewar and Werbel (1979)
Managerial Performance (MP)	Measured with a self-assessment scale. Refers to the degree to which controllers are successful in carrying out budget activities.	9/Likert 7 points* Zonatto (2014)

Source: Research data.

* Likert 5, 6 and 7 points (Strongly Disagree; Strongly Agree). ** Likert 7 points (Below average performance; Above average performance).

According to Table 1, it is highlighted that Psychological Capital is a second order construct, as it is formed by four positive psychological capacities: Self-efficacy, Hope, Optimism and Resilience. Moreover, it is emphasized that according to the SCT, the individual is influenced by a set of factors: cognitive and personal, behavioral and environmental, which influence each other and determine human action and behavior (Bandura, 1977a). In this research, cognitive and personal factors as advocated by the SCT are represented by psychological capital. Behavioral factors are related to managerial attitudes toward budget and job satisfaction.

With the answers obtained in the data collection, these were tabulated in Excel spreadsheets and later imported into the SPSS® 22.0 software, for statistical treatment. Initially, the evaluation of missing data was performed, but all 316 questionnaires were kept, since they were filled out correctly. After this

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step, we performed the (confirmatory) factorial analysis for the validation of the theoretical measurement constructs, according to procedures recommended by Hair Jr. *et al.* (2009). In this (confirmatory) factor analysis, the grouping of the indicators in their respective measurement constructs, was evaluated as proposed in its original version. To this end, the grouping of the indicators into their respective measurement constructs and the factor loadings of the indicators for each construct (a minimum of 0.60, given the size of the sample analyzed) were observed. The values of the reliability indicators (Cronbach's alpha, composite reliability and average variance extracted) of the constructs were also observed, as were the results of the significance of Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) test.

After the evaluation, and if necessary, purification of the constructs (with the exclusion of indicators with low factor loading), the data were analyzed by means of descriptive statistics and analysis of trajectories, from the modeling of structural equations. These procedures are convergent to those adopted in studies developed under the behavioral approach of accounting (Chong *et al.*, 2006, Zonatto, 2014, Lunardi *et al.*, 2020). The results are presented below.

Analysis of results

Descriptive analysis and adjustment indices of the initial and final model for measuring

The surveyed managers are mostly between 31 and 40 years old (45,57%). The predominant gender among the respondents is male (87,66%). The level of academic training that predominates among these respondents is postgraduate *lato sensu* (specialization) (69.94%). It was identified that no respondent considered totally low (1) their hierarchical level in the function. The mean of the responses obtained is high (5.86), with a standard deviation of 0.95, which indicates a low variance of the data around the mean. In relation to the use of the budget for the performance evaluation, the average obtained in the answers was 5.83. The perception of these managers in relation to their level of budget knowledge (average 6.52) and routines and budget processes (average of 6.49) also is high.

In terms of descriptive statistics, all the indicators analyzed had minimum and maximum values on the scale used. The dimensions of psychological capital had mean values ranging from 4.99

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(lowest value) to 5.73 (highest value), on a 6-point scale, with the highest means identified in the "hope" and "resilience" dimensions of analysis, and the lowest means in the "self-efficacy" and "optimism" dimensions. In relation to managerial attitudes, the average found for this construct was 4.37, with the lowest average found being 4.15 and the highest 4.57, on a 5-point scale. The job satisfaction construct also had averages (minimum and maximum) ranging from 5.70 to 6.02, on a 7-point scale. Finally, in relation to managerial performance, the results also revealed average values ranging from 5.29 (lowest value) to 6.02 (highest value), on a 7-point scale. For all the cases analyzed, the value of the standard deviation identified also varied between 0.74 (lowest value) and 1.62 (highest value).

The results of the factorial analysis revealed the grouping of all variables in their due measurement constructs. Thus, there were no exclusions of indicators in the respective constructs, since, in addition to grouping in their initial composition, all indicators presented factor loadings greater than 0.60. The Cronbach's alpha values of each construct were greater than or close to 0.8, as well as the KMO test indicators. Bartlett's sphericity test results indicated adequacy of the analyzes performed to assess the overall consistency of the data. The same was identified in relation to the explained total variance, greater than 60% in all analyzed cases, which reveals that the final composition of these constructs is adequate for the analysis of trajectories. In an attempt to assess possible problems of common method bias, the Harman test (one factor test) was carried out. The results show that the indicators analyzed together explain only 27.42% of the total variance explained from the first factor. Table 2 shows the adjustment indices of the initial and final model.

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Table 2.

Adjustment indices of the initial and final model for measuring the effects of psychological capital in managerial attitudes, job satisfaction and managerial performance

Adjustment measures	Recommended Value	Reference	Final Level
Qui ² /GL	≤ 5		2.406
P-values	> 0.05	Hair Jr. et al. (2009)	0.000
Root Mean Square Error of Aproximation - RMSEA	< 0.10		0.067
Goodness of Fit Index - GFI		Jöreskog & Sörbon (1983)	0.785
Adjusted Goodness of Fit Index - AGFI			0.757
Tucker-Lewis Index - TLI	> 0 and < 1, best closer to 1		0.841
Normed Fit Index - NFI		Hair Jr. et al. (2009)	0.772
Comparative Fit Index - CFI			0.852

Source: Research data.

Analyzing the adjustment indices of the final model for measuring the effects of psychological capital on attitudes and performance, in Table 2, the adjustment index presented a value of 2.406 with significance at $p > 0.000$. The Comparative Fit Index - CFI (0.852), the Normed Fit Index - NFI (0.772) and the Turker-Lewis Index - TLI (0.841) presented values close to that expected, as did GFI (0.785) and AGFI (0.757). The RMSEA (Root Mean Square Error of Approximation) was within the expected parameters (0.067). All indexes confirm the validity of the analyzed model, according to Hair Jr. et al. (2009) and Jöreskog & Sörbon (1983), although not all the indicators reached values higher than the expected values (0.9).

Tests of hypotheses

Table 3 presents the standardized coefficients and significance of the relations of the final model of measurement.

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Table 3.

Standardized coefficients and significance of the relationships of the final model for measuring the effects of psychological capital on managerial attitudes, job satisfaction and managerial performance

Structural Paths			Estim.	E.P.	t-values	P	Coefficient Standardized	R ²
SE	←	PC	0.541	0.101	5.328	***	0.595	0.354
HO	←	PC	1.444	0.217	6.656	***	0.853	0.727
OP	←	PC	1.000	-	-	-	0.678	0.460
RE	←	PC	0.636	0.112	5.677	***	0.741	0.549
MA	←	PC	0.686	0.131	5.254	***	0.470	0.221
JS	←	PC	0.927	0.162	5.710	***	0.677	0.459
MP	←	MA	0.146	0.050	2.949	0.003	0.186	0.522
MP	←	PC	0.708	0.129	5.501	***	0.616	

Source: Research data.

Note: SE. Self-Efficacy, HO. Hope, OP. Optimism, RE. Resilience, PC. Psychological Capital, MA. Managerial Attitudes, JS. Job Satisfaction, MP. Managerial Performance. *** p <0.01.

Regarding the individual analysis of the positive psychological capacities of psychological capital (self-efficacy, hope, optimism, resilience), it can be seen from Table 3 that the controllers participating in the research have more hope (0.727) when developing their activities focused on budgetary processes, followed by resilience capacity (0.549), since these capacities presented the greatest explanatory power in the analyzed model. These results reveal that in the Controlling department, the reviewed controllers have higher levels of hope, which allows them to be committed to achieving their goals and to devising ways to develop their activities and achieve their goals. In addition, they overcome the adversities that may occur in this important accounting department (Venkatesh & Blaskovich, 2012; Degenhart et al., 2022).

These findings indicate the importance of these professionals presenting positive cognitive and personal factors in the workplace, which corroborates the SCT, because this theory addresses that human action and development are influenced by a set of factors, as is the case cognitive and personal, being in this research the psychological capital of controllers. The cognitive and personal factors addressed by the SCT refer to biological, affective and cognitive issues (Bandura, 1977a), they relate to the psychological capacities of psychological capital, since this construct has its roots stemming from this theory. In this sense, positive cognitive and personal factors when present in workplace controllers tend to impact their attitudes and managerial performance in budget activities.

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When the four psychological capacities are analyzed together, Table 3 shows that the greatest influence obtained in the theoretical model of analysis is between psychological capital and job satisfaction ($\lambda = 0.68$), followed by psychological capital and managerial performance ($\lambda = 0.62$) and capital psychological and managerial attitudes ($\lambda = 0.47$). However, only one analyzed relation was presented without statistical significance $MP \leftarrow JS$. In addition, all t-values of the relations with statistical significance were within the standards recommended as ideal by Hair Jr. *et al.* (2009). As for the values of the standardized coefficients, observing the significant relationships, the lowest relationship strength was found in the relation between $MP \leftarrow MA$ (0.186) and the greatest relation was with the relation of the influence of psychological capital on job satisfaction $JS \leftarrow PC$ (0.677).

The results of the trajectory analyzes revealed that the psychological capital directly and positively influences the managerial performance of the controllers in budgetary activities. H_1 : There is a positive and significant association between psychological capital and managerial performance. The results demonstrate that higher levels of self-efficacy, hope, optimism, resilience (psychological capital) result in higher managerial performance, suggesting that the development of these positive psychological capacities in controllers (Luthans *et al.*, 2007) improves their performance levels in budget activities related to planning, research, negotiation, coordination, supervision, selection, evaluation, representation and overall performance in budget activities (Mahoney *et al.*, 1963, 1965, Zonatto, 2014). These findings converge with the results found in the accounting area by Venkatesh & Blaskovich (2012), Saithong-In & Ussahawanitchakit (2016), Schlup *et al.* (2021), Degenhart *et al.* (2022).

These results suggest that psychological capital motivates the accomplishment of tasks and the achievement of goals (Luthans *et al.*, 2007). Likewise, Bandura (1986) explains that different factors can influence the behavior of individuals differently. The agency concept of Bandura (2008) emphasizes that the individual not only receives the influences of the environment, it is also determinant of their behaviors, wills and thoughts. It is in this context that we explore the concept of triadic reciprocity established by SCT, in which human actions and development result from an interaction of cognitive and personal, behavioral and environmental influences.

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These results reinforce the benefits of psychological capital to improve the performance of individuals at work, since according to Newman *et al.* (2014), psychological capital is composed of positive psychological abilities aimed at improving performance. Moreover, once the levels of psychological capital have been enhanced, individuals are more likely to strive to develop their activities, which results in better managerial performance (Avey *et al.*, 2011). These results allow us to accept the first hypothesis of research.

By feeling self-reliant, hopeful, optimistic and resilient in the face of adversity at work (Luthans *et al.*, 2007), managers are more likely to have a sense of budget utility, believing that budgeting allows them to be better managers, more flexible, more innovative, paying attention to their successes as managers and improving their production methods (Merchant, 2007). Thus, a favorable environment is created so that managers with budgeting responsibilities present managerial attitudes proactive towards the budget. When this occurs, there is a perception of higher levels of job satisfaction (Dewar & Werbel, 1979).

The findings found in this research corroborate with such evidence, since the psychological capital presented a positive, significant relationship with the managerial attitudes of the controllers in relation to the budget and with job satisfaction. Thus, one can accept the hypotheses H₂: There is a positive and significant association between the psychological capital and the managerial attitudes of controllers in relation to the budget.

According to Avey *et al.* (2011), psychological capital influences the attitudes and behaviors of individuals. This research tested a variable little yet investigated in the accounting area with psychological capital, in this case, managerial attitudes towards the budget (Degenhart *et al.*, 2022). The result obtained for this relation presents a contribution and an innovation for the accounting area, since the results found revealed that the controllers with greater psychological capital present better attitudes related to the budget and larger job satisfaction.

In this way, it is possible to affirm that the results found explain the managerial attitudes regarding the budget of the controller due to self-efficacy, hope, resilience and optimism. Specifically for controllers, these psychological capacities of psychological capital are necessary, since, according to Ribeiro *et al.*

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(2011), is a professional that has a broad vision of the company and carries out various activities, ranging from the operational to the strategic level.

These findings indicate that the psychological capacities of self-efficacy, hope, resilience and optimism when grouped form the psychological capital and positively influence job satisfaction of controllers. In this way, accepted H₃: There is a positive and significant association between psychological capital and the satisfaction of controllers at work. In the accounting area, the relations between psychological capital and job satisfaction were not tested. In other areas authors found a positive relationship between such relationship, Abbas *et al.* (2014), Avey *et al.* (2011), Bitmiş & Ergeneli (2013), Karatepe & Talebzadeh (2016), Larson *et al.* (2013), Larson & Luthans (2006), Luthans *et al.* (2007), Luthans *et al.* (2008) and Paek *et al.* (2015), studies that corroborate with the results of the present research.

The results of this research also evidenced a positive, significant relationship between the managerial attitudes of the controllers in relation to the budget and their performance in budget activities and an unimportant relationship between the controllers' satisfaction in the work and the managerial performance. A non-significant relationship between job satisfaction and managerial performance was also obtained by Bowling (2007). These results allow the hypothesis to be accepted H₄: There is a positive and significant association between managerial attitudes of controllers in relation to budget and managerial performance; and reject the hypothesis H₅: There is a positive and significant association between controller satisfaction at work and managerial performance.

These findings suggest that the sense of utility of the budget allows controllers to devote more effort to the development of their activities work, improving their performance. The findings of Brayfield & Crockett (1955), Mia (1988) and Lu (2011) were confirmed regarding the positive relationship between managerial attitudes and work performance. According to Lu (2011), managers who have positive attitudes at work are more likely to achieve better results at work, which was observed in this research.

Finally, with regard to the indirect relationship between psychological capital and managerial performance, mediated by managerial attitudes towards the budget, positive results were obtained in both $MA \leftarrow PC$ (0.470) and $MP \leftarrow MA$ (0.186). From this result, it can be affirmed that the psychological

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capital influences the managerial performance through the managerial attitudes of the controllers in relation to the budget, accepting the hypothesis H₆: There is a positive, significant association between psychological capital and managerial performance, mediated by controller's managerial attitudes toward budget.

These evidences confirm that the managerial attitudes towards the budget, potentiate the relation between the psychological capital of the controllers and consequently improve their performance in budgetary activities. Because they are positive psychological capacities that form the psychological capital, this tends to positively affect the performance of the individual at work, because according to Luthans *et al.* (2008) psychological capital is represented by the positive evaluation of events and the probability of success based on motivation and perseverance. The finding of the mediating effect of behavioral factors (managerial attitudes) according to SCT (Bandura, 1977a) in the proposed relationship between psychological capital and performance reveals that individuals 'behavioral factors positively influence the development of individuals' psychological capital levels and allows controllers to obtain better job performance.

In the indirect relationship between psychological capital and managerial performance intermediated by job satisfaction, only the path between psychological capital and job satisfaction showed a significant relation (JS ← PC). However, the path between job satisfaction and managerial performance did not present a significant relationship (MP ← JS). Thus, it is not possible to affirm that there is the influence of job satisfaction on the managerial performance of the controllers studied in this study, based on the evaluation of this measurement model. Bowling (2007) also revealed that there is no relationship between job satisfaction and managerial performance. According to the results of this research, Bowling (2007) suggests that the satisfaction of controllers at work should be better worked out in the budget environment, to achieve better performance. Thus, it is not possible to also accept the hypothesis H₇: There is a positive and significant association between psychological capital and managerial performance, mediated by the satisfaction of controllers at work.

The results found at this stage of the research provide evidence that larger self-efficacy beliefs convey security to the controller to solve problems and seek solutions as well as helps to set budget goals

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and objectives. Hope also generates enthusiasm in accomplishing budget objectives, seeking various ways to achieve them, and being resilient the controller has the ability to cope well with hardship and stressful situations at work. Optimism provides the positive view of organizational situations (Machado et al., 2022). The psychological capital represented by the four positive psychological capacities enhances managerial attitudes and job satisfaction.

It is verified that by increasing psychological capital, the controller believes that he can become a better manager, more innovative and with better production methods, as well as, work generates greater personal satisfaction, becomes rewarding and impacts positively in determining their budget goals, production of information, organizational leadership and in the negotiations involving the organization. Consequently, it becomes possible to achieve a better managerial performance in the budget context (Degenhart et al., 2022, Machado et al, 2022).

From the results it can be verified that the observance of the effects of psychological capital improves the understanding of the factors that influence the managerial performance of the controllers participating in the research. These results are consistent with the evidence highlighted by Birnberg *et al.* (2007), Covaleski *et al.* (2007) and Derfuss (2016) to carry out new studies in the behavioral area of accounting. According to these authors, understanding the reactions of individuals from the use of management control systems, as well as the individual's mental states and their influence on attitudes, behaviors and performance at work constitutes a research gap that has not yet been investigated in the area accounting behavior. The results found in this study corroborate with the understanding of the relationships between these variables.

The findings of this research indicated a positive relationship between psychological capital and controllers' attitudes towards the budget, as well as their job satisfaction. Consequently, these individuals had higher levels of managerial performance. Allowing to affirm that improving the mental state of the individual improves his performance in the work (Schlup *et al.*, 2021; Degenhart *et al.*, 2022), which, under the budget context, is a result of cognitive and motivational effects (Zonatto *et al.*, 2020a; 2020b).

The results converge with the assumptions of the SCT proposed by Bandura (1977a), since individuals are receptors and agents of their actions and these determine their thoughts, emotions and

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behaviors. The intentionality which indicates the commitment of the individual to the search for positive results is addressed in this theory and identified in this research through the characteristics of psychological capital found in the respondents. In the same way, there were present, the characteristics of self-reflection, consisting of the attitudes, behaviors and thoughts expressed by these professionals in relation to environmental conditions, triggered through by their personal beliefs. Thus, when these aspects are present, it is possible to affirm that controllers are more likely to achieve better managerial performance.

Discussion of Results

The SCT approach applied to the budget context, more precisely to management accounting, provides a different view of budgeting processes, because from this perspective one can analyze the effects of cognitive and personal, behavioral and environmental factors on human action and development a social context, in the case of this research the controlling department. This research aimed to analyze the effects of the psychological capital of controllers on managerial attitudes regarding budget, job satisfaction and managerial performance. It is noteworthy that these relationships have not been observed in previous studies developed on the subject, under the support of SCT (self-efficacy beliefs, cognitive and personal, behavioral, environmental factors), being a differential of this study.

Moreover, the set of positive psychological capacities of psychological capital (self-efficacy, hope, optimism, resilience) are considered inseparable, as these capacities are interrelated, which strengthens the analysis of this construct from the SCT, as this theory addresses that there is not a single factor capable of influencing human action and behavior, but a set of cognitive and personal (psychological capital), behavioral (managerial attitudes, job satisfaction) and environmental (workplace interactions) factors (Bandura, 1977a). In addition, the direct effects of psychological capital on management attitudes and job satisfaction were not observed, as well as indirect effects on the relationship between psychological capital and managerial performance in the budget context, as well as in the controllership sector, analyzing the Professional controller. Such evidence adds originality and value to this research, as it adds evidence to

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the recent flow of psychological capital literature that employs a model of mediating variables to explain the effects of positive mental states on controllers' performance in budget activities.

As predicted, our findings indicated that psychological capital is positively associated with managerial performance, managerial attitudes toward budget and job satisfaction. We also found support for the direct effect of managerial attitudes toward budget on performance and indirect effects of managerial attitudes on the relationship between psychological capital and managerial performance. In this sense, the results revealed that the controllers professionals, in the budgetary context, present beliefs that help them in the development of their activities, being these beliefs (positive psychological capacities) called self-efficacy, hope, optimism and resilience.

In the area of controllership, once controller professionals have these positive psychological capabilities, they will set challenging but achievable goals (self-efficacy), follow a belief in meeting them (hope), will overcome adversity (resilience) and will have a belief in a positive future (optimism), which will consequently influence their managerial attitudes towards budgeting, job satisfaction and managerial performance in budget activities focused on planning, research, coordination, evaluation, supervision, selection, negotiation and representation. To this end, psychological capital is a conducive mental state for creating the positive conditions necessary to develop positive managerial attitudes toward budgeting in controllers, as well as triggering greater job satisfaction and improving their performance in their budget activities.

This occurs due to the enabling effects of the budgetary configuration adopted by the companies, which provide the interaction between superior and subordinate managers, favoring the sharing of information (Lunardi *et al.*, 2020). The sharing of information favors the acquisition, socialization of new knowledge in the budgetary context in which the managers work, which contributes to the promotion of the positive psychological capacities of the managers, who start to present a proactive attitude in the budgetary context, in search of the qualification of the budget management practices, the identification and analysis of variations, and opportunities for improvements that can be implemented, so that they can achieve better performance, at the managerial level, or at the unit of their responsibility (Machado *et al.*, 2022).

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This research confirms the SCT assumptions (Bandura, 1977a), since cognitive and personal factors (psychological capital) influenced the action, behavioral factors of controllers (managerial attitudes towards budget, job satisfaction) and consequently impacted their level of performance in budget activities. In this premise, we accept the view proposed by Bandura (1977a), that human actions and behaviors are shaped by a set of factors, which influence the performance of controllers at work. The research developed by Saithong-In & Ussahawanitchakit (2016) in Thailand, Schlup *et al.* (2021), Degenhart *et al.* (2022) and Machado *et al.* (2022) with Brazilian companies and Venkatesh & Blaskovich (2012) with US companies, also analyzed managers with controllers, however, among the analyzes developed by these authors, only one relationship was tested according to the present research, in this case, the direct effects of psychological capital on managerial performance, also confirming a positive relationship between such variables. This research has advanced to seek evidence of the indirect effects of managerial attitudes and job satisfaction in this relationship between psychological capital and managerial performance through the SCT approach.

Among the behavioral factors analyzed according to the SCT, only managerial attitudes toward budget enhanced the relationship between psychological capital and managerial performance. One justification for this result is the SCT, because the behavioral factors according to this theory refer to the degree of effort that individuals are willing to undertake in a given behavior, which is influenced by psychological and emotional characteristics (Bandura, 1977a). In accounting, more precisely in the controllership sector, when controllers incorporate the sense of budget utility, they believe that budgeting processes will make them better managers, more flexible, innovative, mindful of their success as managers, and improve their methods of production (Merchant, 2007), these will have higher levels of self-efficacy, hope, optimism and resilience, which will consequently impact the degree to which budget managers are successful in carrying out their budget activities (managerial performance) (Venkatesh & Blaskovich, 2012, Schlup *et al.*, 2021, Degenhart *et al.*, 2022). This research broadened the knowledge about the managerial attitudes variable in relation to the budget, since its indirect effects on the relationship between psychological capital and managerial performance are considered incipient in the accounting literature.

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On the other hand, when they are satisfied with their work, the structural and social conditions in the workplace, this satisfaction did not necessarily potentiate the relationship between psychological capital and managerial performance and even did not influence performance. The unobserved effects of job satisfaction on the relationship between psychological capital and managerial performance are justified by the arguments of Schermerhorn *et al.* (2007), as the authors address that job satisfaction refers to the degree to which individuals they feel both positively and negatively about work, being an attitude or emotional response to work tasks. Therefore, controllers who are not satisfied with the work they do in the budget context, tend to present difficulties to potentiate their mental states (psychological capital), which consequently will reflect on their performance in the controllership area. In this sense, the personal satisfaction when performing the work, the pride of working in the organization, believing that the work is rewarding, participating in the budget processes (Dewar & Werbel, 1979) did not influence direct the performance of the analyzed controllers, which indicates that behavioral factors according to SCT need to be better explored in the controllership area, in order to increase the evidence of satisfaction of these professionals when performing their work activities.

Given the results found, it is noted that human cognition acts in the coding and judgment of information by individuals, which will impact on the performance of certain behaviors at work (Bandura, 2001). However, the behaviors of controllers in the budget context can also be influenced by the actions of others and the situational constraints present in this context (Bandura, 1977a). In this study, it was found that managerial attitudes towards budget determine the effort employed by controllers to develop their activities with self-efficacy, hope, optimism and resilience, which will also influence their degree of performance in activities budgetary.

These results confirm the existence of a set of factors that interact and influence each other and determine human action, development and behavior (Bandura, 1977a), as proposed by the SCT. The evidence found in this research suggests that, in the controllership sectors analyzed, the behavioral factors of controllers enhance the relationship between psychological capital and managerial performance. In addition, through a better understanding of the interaction of cognitive and personal, behavioral, environmental factors in the budget context, it is possible for senior management to promote better

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performance of controllers in budget activities by encouraging the development of psychological capabilities of psychological capital through training and capacity building.

Considering the results found, it is suggested that the purpose of the controlling department is not only to influence financial control and the achievement of goals, objectives and better budget forecasts, but also to influence the mental states of controllers (psychological capital), their behaviors (managerial attitudes towards budget, job satisfaction) and their performance at work. Therefore, it is appropriate to conduct further research on the SCT approach, as there are other behavioral factors that may help explain the effects of cognitive and personal factors (psychological capital) on the management performance of controllers.

Conclusions

The budgetary context has already been presented as an object of study in several researches, including the behavioral approach, in which this context has effects on the attitudes of individuals in organizations and their performance at work (Derfuss, 2016). Corroborating with these indicatives, are the results found in this research. According to Covalski *et al.* (2007), individuals' mental or cognitive states may interfere with the work environment. According to this research, the psychological capital has the potential to improve the cognition of the individuals, making them have positive managerial attitudes and obtain better performance in the budget activities (Venkatesh & Blaskovich, 2012).

In this case, in order to infer about such relationships, we tested the direct and indirect effects of psychological capital on managerial performance, mediated by the variables of managerial attitudes regarding budget and job satisfaction of controllers. It was identified a direct and indirect relationship between the variables of psychological capital and managerial performance, intermediated only by the variable of managerial attitudes in relation to the budget, which characterized the budget as an element that contributes to the controller's function, positively affecting the managerial performance. The only non-significant direct relationship found was observed in the relationship between job satisfaction and

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managerial performance and the mediating effects of satisfaction on the relationship between psychological capital and managerial performance.

These results show that psychological capital is positively associated with management attitudes towards the budget and the managerial performance of controllers. These results reveal that psychological capital improves managerial attitudes toward budgeting and has positive effects on managers' job performance. In addition, managerial attitudes towards the budget improve the relationship between psychological capital and managerial performance, which allows us to infer that the promotion of psychological capital and managerial attitudes towards the budget can positively influence the managerial performance of controllers. These results are in line with the findings of Venkatesh & Blaskovich (2012), Degenhart et al. (2022) and Machado et al. (2022), corroborating these statements.

These results corroborate with the theoretical conceptions of SCT, that human action is influenced by several internal and external factors (Bandura, 1977a). In the budget context, the interaction of these professionals with the work environment related to the budget process as a whole, the individual applies more effort to achieve a better managerial performance in conditions where it presents higher levels of psychological capital (Machado et al., 2022), which affects positively their managerial attitudes and their job satisfaction (Degenhart et al., 2022). The analysis of the joint effect of such relationships (psychological capital, attitudes, managerial performance) in the budget context of organizations based in Brazil, observed in this research from SCT (Bandura, 1977a), demonstrates agreement with Bandura (2001), in the question of the interaction between cognitive and personal, behavioral and environmental influences and the reflection of this interaction in the attitudes of individuals.

These evidences reinforce the possibility of applying the SCT for the analysis of the existing interactions between organizations, people and management practices in the budgetary context, in order to better understand the intervening effects of cognitive and personal, behavioral and environmental factors on managerial performance in the budgetary context. This theory provides an explanatory reference for the results of the distinct relationships found in this research. Individuals interact in the budget context, influencing the environment and being influenced by it (Degenhart et al., 2022). In the same way, it is able to make decisions and select behaviors, which explains its actions in a context of

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social interaction (Bandura, 1977a). The managerial attitudes toward budget and job satisfaction are responses of the individual to the impulses of this environment, which can influence in a different way the individual in the work and its managerial performance (Degenhart et al., 2022, Machado et al., 2022). Our evidence reveals that it is the enabling effects of the budgetary configuration that determine how such interactions occur.

In addition, the results found reinforce the explanatory power of SCT for the analysis of human behavior in the context of social interaction (Bandura, 1977a), represented by the budgetary processes of an organization (Degenhart et al., 2022). Individuals respond differently to the impulses of the environment. Situational constraints and the actions of others are expected to interact with the perceptions of individuals, their cognitions, and determine their actions in this context (Bandura, 1977a). The positive relationship identified between the controllers' psychological capital and their psychological skills of self-efficacy, hope, resilience and optimism are positively associated with their (more positive) managerial attitudes and better managerial performance, corroborating these statements.

The results of this research confirm some of the evidences found in the literature related to the field of studies of organizational behavior, organizational psychology and accounting area, revealing that the psychological capital is important variable of analysis that needs to be observed when trying to understand the behavior of individuals at work (Venkatesh & Blaskovich, 2012). In the case of this research, in the budget context, the results provide evidence that the psychological capital reinforces the desirable attitudes of individuals, improving their performance. In the case of psychological capacities capable of training and development (self-efficacy, hope, optimism and resilience), it is possible that the potential of these elements in the individuals that act in the organizational context of the budget be modified, which can result in positive attitudes, proactive behaviors and a better managerial performance.

The results of this research also reveal the behavioral contributions of budget practices in the performance of professional controllers in their budget activities, through cognitive and personal factors that originate from mental states, psychological and behavioral abilities that refer to their managerial attitudes towards to the budget (Degenhart et al., 2022). It is inferred that the cognitive and personal factors (psychological capital), behavioral factors (managerial attitudes towards the budget) and environmental

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factors (situational constraints and actions of others) influence the action and behavior of controllers in the analyzed companies and determine their degree of managerial performance in budget activities, as advocated by Bandura (1977a).

The theoretical contributions of this research concern the deepening of existing knowledge on the subject, from the understanding of the effects of psychological capital on attitudes and on managerial performance, evidences that contribute to the insertion of a new research theme in the behavioral area of the accounting, being the psychological capital of individuals. Another theoretical contribution of this research is the understanding of the effects of the variables observed in the study in a specific sample of professionals who work with management functions in the area of control. Also noteworthy is the validation of a theoretical model of analysis that includes arguments focused on the factors discussed in the SCT, which determine human action and development: cognitive and personal factors, behavioral factors and environmental factors (Bandura, 1977a), three edges different of analyzes which together influence human actions and behaviors and enhance the performance of budget activities and leverage the performance of controllers in such activities in the budget context.

With regard to the social and practical aspects, this study aims to contribute to the results found by Venkatesh & Blaskovich (2012), Saithong-In & Ussahawanitchakit (2016), Schlup *et al.* (2021), Degenhart *et al.* (2022) and Machado *et al.* (2022), who identified the influence of psychological capital on managerial performance under the budgetary process. The analysis of these factors, plus the variables of managerial attitudes and job satisfaction, can help organizations and managers to choose the budget configuration model that results in a higher managerial performance of the controllers.

According to Karakoc & Ozer (2016), better managerial performance can contribute to the achievement of better organizational performance. As for psychological capital, which seeks to develop psychological skills to improve employee performance and leadership (Luthans, 2002), research on the subject contributes to the orientation of organizations in hiring and training managers capable of achieving better managerial performance. Thus, the search for professionals with greater self-efficacy, hope, optimism and resilience may favor the identification of the desired profile to achieve these objectives. According to Stajkovic & Luthans (1998), organizations must go beyond conventional behavioral and

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motivational approaches to achieve success in human and business performance. When identifying professionals with greater psychological capital, one can have greater success in hiring controllers aiming at such goals.

The development of human resources can also aid the resistance in the adversities found during the accomplishment of the activities in the work. According to Luthans *et al.* (2010), leaders become resistant to adversity, optimistic in planning, and hopeful in the goals to be attained when developing their psychological capital. Given the current context of financial crisis that Brazil is facing, the findings of this research also contribute by providing evidence of how psychological capital influences the performance of managers in this challenging and turbulent environment.

Some limitations of the research can be added to this work, such as the fact that its sample is predominantly male (87.66%), which, in some way, when compared to the results of other studies, may indicate specific characteristics of a certain group of managers. The translation of the questionnaire used in the data collection can also compromise the respondents' understanding and present biases in the results, as well as other variables can also influence the relationships tested in this research, not observed in this study. The context of the research country, in a financial crisis, and aspects related to perceived environmental uncertainty, is another factor that can also influence the analysis of the results, these factors can influence individuals' perceptions of the organization, its capabilities and its performance. It must also be considered that the model of data analyzed is based on individual perceptions and represents a specific and punctual cut, in a given period. Such aspects may limit the generalization of the findings of this research.

As research opportunities for carrying out new studies related to the themes addressed in this work, it is suggested the analysis of contextual factors in relation to the country in which the research is carried out, and the context in which the organizations object of study are inserted. The observance of other events such as management practices and the financial crisis that may have affected the environment were not added to this research and can be observed when carrying out new studies, especially from a comparative analysis perspective. The perception of environmental uncertainty and the support conditions of the

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organizational environment can also contribute to an understanding of the issue, as can analyses that incorporate an analysis of the sector in which companies operate and their main economic activity.

Additionally, it is recommended for future research the investigation of other influential factors in managerial performance, specifically in the budget context and the interactive effects between psychological capital, managerial attitudes, job satisfaction and managerial performance. In this perspective, other variables not observed in this research can also contribute to new studies, such as motivation for budget participation, commitment to budget goals and organization among other attitudes and behaviors. The realization of new studies contributes to the formation of consolidated literature in this emerging approach that constitutes the behavioral area of accounting.

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