

The Effects of Self-Efficacy Beliefs and Managerial Attitudes on the Relationship between Budgetary Participation and Performance

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Abstract

Objective: To analyze the effects of self-efficacy beliefs and managerial attitudes on the relationship between budgetary participation and managerial performance.

Method: This is a descriptive study with a survey and quantitative approach in which data were analyzed using structural equation modeling. The sample included the voluntary participation of 225 controllers from the largest companies in southern Brazil.

Results: Budgetary Participation influenced self-efficacy beliefs and budget goal commitment. However, it did not directly influence work engagement. The results confirm the indirect effect of cognitive (self-efficacy) and affective (work engagement and commitment) factors in the relationship between budgetary participation and managerial performance.

Contribution: In the theoretical sphere, this study provides evidence of the application of Social Cognitive Theory and Affective Events Theory to explain the effects of budget planning configurations. It also indicates the conditions in which budgetary participation results in improved managerial performance. Finally, from a practical perspective, this study reveals the cognitive and affective effects of budget planning configurations on controllers' managerial attitudes and performance and individual activities that reflect organizational activities.

Keywords: Budgetary Participation; Self-Efficacy; Work engagement; Budget Goal Commitment; Managerial performance.

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1. Introduction

Budgeting is essential in an organization's planning, controlling, allocating, and coordinating resources (Hannan et al., 2010). Individuals involved with budgeting processes perform these functions, and one's level of participation tends to influence managerial performance (Hariyanti et al., 2015). Both positive (Santos et al., 2021; Zonatto et al., 2020a; Guidini et al., 2020; Degenhart et al., 2019; Hariyanti et al., 2015), negative (Etemadi et al., 2009), and also insignificant effects (Macinati et al., 2016; Jermias & Yigit, 2013; Venkatesh & Blaskovich, 2012) are reported by studies addressing the relationship between budgetary participation and managerial performance.

Given these conflicting results, the literature in management accounting seeks to find consensus that Budgetary Participation (BP) may not directly affect managerial performance (MP); rather, it indirectly affects it through the analysis of intervenient variables that possibly explain this relationship and also enhance the BP effects on MP (Derfuss, 2016; Macinati et al., 2016). The few studies conducted in Brazil to analyze attitudinal and behavioral factors on the relationship between budgetary participation and managerial performance are inconclusive (Santos et al., 2021; Dani et al., 2017). Hence, this theoretical gap is explored in this study and is also a motivation encouraging further research.

Based on the previous discussion, we propose an analysis of intervenient variables' cognitive and affective effects on the relationship between budgetary participation and managerial performance in budget activities. According to Derfuss (2016), budgetary participation's cognitive and affective effects have seldom been explored in the literature. The cognitive effects are related to the managers' psychological capacities (Ni et al., 2009; Venkatesh & Blaskovich, 2012), while affective effects are related to the individuals' behavior and actions in the workplace (Ni et al., 2009). In this study, psychological capacity, called self-efficacy beliefs, measures cognitive effects while work engagement (WE) and budget goal Commitment (BGC) assess the affective effects on the relationship between budgetary participation and managerial performance.

Self-efficacy is an important psychological capacity that tends to affect an individual's perception of goals and resources, attitudes, behaviors, ability to work, and managerial performance in a budgetary process (Nascimento, 2017). Thus, we may assume that self-efficacy positively affects this relationship based on self-efficacy beliefs developed in the workplace (Ni et al., 2009). Considering the assessment of cognitive effects, an individual's self-efficacy beliefs are defined as pillars of the Social Cognitive Theory (SCT) developed by Bandura (1977). For individuals to put effort into performing tasks, they need to believe in their ability to attain results (Bandura, 1977). Hence, self-efficacy beliefs indicate that such a perception is present and, for this reason, can influence the behavior of individuals at work.

In addition to self-efficacy, the influence of managerial attitudes in a budgetary context consists of the belief that an appropriate managerial attitude towards the company will result in effective managerial performance (Lunardi et al., 2019a). Therefore, there is a need to assess the affective effects (managerial attitudes) on this relationship, considering that individual actions materialize the managers' effort towards achieving objectives. Additionally, the Affective Events Theory (AET) considers the characteristics of the work environment with a cognitive connotation and the affective responses that result from daily events, which can produce emotions that influence an individual's satisfaction-related attitudes, commitment, and work engagement, which are based on affective aspects (Weiss & Cropanzano, 1996).

Likewise, an individual's level of work engagement enables relevant cognitive aspects that may cause the emergence of proprietorship feelings and clarity when working towards his/her responsibilities, influencing performance (Lunardi et al., 2019b); hence, presenting positive effects on the relationship between budgetary participation and managerial performance in budget activities. One's level of budget goal commitment is greater when s/he participates in the budgeting process; participation influences an individual's level of budget goals and motivation to accept and make an effort to attain such goals, consequently improving their managerial performance (Guidini et al., 2020; Chong & Johnson, 2007).

For this reason, self-efficacy beliefs and managerial attitudes are believed to enhance the relationship between BP and MP, considering the indirect effects of self-efficacy and managerial attitudes on this relationship. In this sense, self-efficacy helps managers to overcome adversities and enables individuals to believe in a promising future. Thus, budgetary participation encourages a positive psychological context for employees to establish challenging but feasible goals so that professionals have self-efficacy to achieve such goals and contribute with actions toward improved managerial performance (Venkatesh & Blaskovich, 2012).

Evidence reported in the literature confirms the beneficial effects of budgetary participation on self-efficacy (Degenhart et al., 2022; Yuliansyah & Khan, 2017; Macinatti et al., 2016; Ni et al., 2009; Venkatesh & Blaskovich, 2012; Heath & Brown, 2007), work engagement (Lunardi et al., 2019a; Lunardi et al., 2019b), and budget goal commitment (Degenhart et al., 2022; Zonatto et al., 2019; Macinati & Rizzo, 2014; Jermias & Yigit, 2013; Sandalgaard et al., 2011; Breaux et al., 2011; Chong & Johnson, 2007). Therefore, when cognitive and affective effects are enhanced by budgetary participation, they tend to boost the managers' performance in these activities (Ni et al., 2009). However, interactions between variables are established, which need to be analyzed to better understand the predictors of managerial performance in budget activities and the interactions between these variables.

Additionally, the theoretical assumptions of the social-interaction approach of Bandura's Social Cognitive Theory (1977) need to be considered. From this perspective, it is not a single factor that influences an individual's work performance but a set of factors that interact and determine performance (Zonatto et al., 2020a). Thus, analyzing the interactions between the variables selected for this study enables understanding how managerial performance is influenced in a budgetary context, considering the budget planning configuration and cognitive and affective aspects.

This study was based on evidence, and it differs from other studies addressing the subject (Degenhart et al., 2022; Macinati et al., 2016; Ni et al., 2009) as it includes an analysis of affective effects on the relationship between budgetary participation and managerial performance, by investigating budget goal commitment and work engagement. Given the previous discussion, this study addresses the following guiding question: **What are the effects of self-efficacy beliefs and managerial attitudes on the relationship between budgetary participation and managerial performance?** Therefore, the objective is to analyze the effects of self-efficacy beliefs and managerial attitudes on the relationship between budgetary participation and managerial performance among the controllers of the largest companies in southern Brazil.

The importance of this study is based on the contradictory results presented by accounting literature regarding the relationship between BP and MP (Derfuss, 2016), which motivated this study. Various studies (Degenhart et al., 2022; Lunardi et al., 2020; Zonatto et al., 2020a; Degenhart et al., 2019; Macinati et al., 2016; Nascimento, 2017) show that this relationship occurs indirectly, through intervenient variables that enhance this relationship. Another reason is that this study contributes to knowledge in the field, providing new evidence of the effects of budgetary participation on self-efficacy, work engagement, and budget goal commitment. Therefore, the objective is to identify evidence of the effects of cognitive and affective variables on managerial performance, showing the indirect effects of the relationship between budgetary participation and managerial performance (Zonatto et al., 2020a; Degenhart et al., 2019; Lunardi et al., 2019a; Macinati et al., 2016; Nascimento, 2017).

This study contributes to the accounting literature by adopting an empirical approach to the relationship between budgetary participation, self-efficacy, work engagement, budget goal commitment, and managerial performance, aspects that have not yet been discussed together in the field of accounting management. Additionally, the literature provides recommendations on how budgetary participation can result in improved budget forecasts, greater work engagement, and better managerial performance (Lunardi et al., 2019a). There are also implications of using SCT and AET to explain the effects of budget planning configurations (Ni et al., 2009).

This study is expected to contribute to practice by presenting the budget management practices adopted in Brazil and some of its constraints. For organizations, the results will enable them to assess their management practices to plan training interventions for workers to achieve improved performance, considering that employees with enhanced behavioral and cognitive attitudes are more likely to present better performance. This study's findings are also helpful because they enable identifying the factors interfering in budget planning configurations and managerial performance; employees with self-efficacy beliefs, engaged and committed to the budgeting process perform better (Degenhart et al., 2022; Lunardi et al., 2020). Additionally, these study's results reveal the cognitive and affective effects of the budget planning configurations capable of influencing the performance of controllers in their daily tasks (Zonatto et al., 2020b).

2. Theoretical Framework and Hypotheses

Given the gap identified and the social-interaction approach, we sought to understand the interactions between budgetary participation and managerial performance, considering the effects of intervenient variables in this relationship. This study's focus and results show that the use of antecedents and mediating variables can improve understanding of the relationship between budgetary participation and managerial performance (Degenhart et al., 2022; Lunardi et al., 2020; Macinati et al., 2016; Ni et al., 2009; Zonatto et al., 2020a). Therefore, we seek to understand performance constraints (self-efficacy, work engagement, and budget goal commitment) that influence the relationship between BP and MP. Figure 1 presents a synthesis of the theoretical relationships.

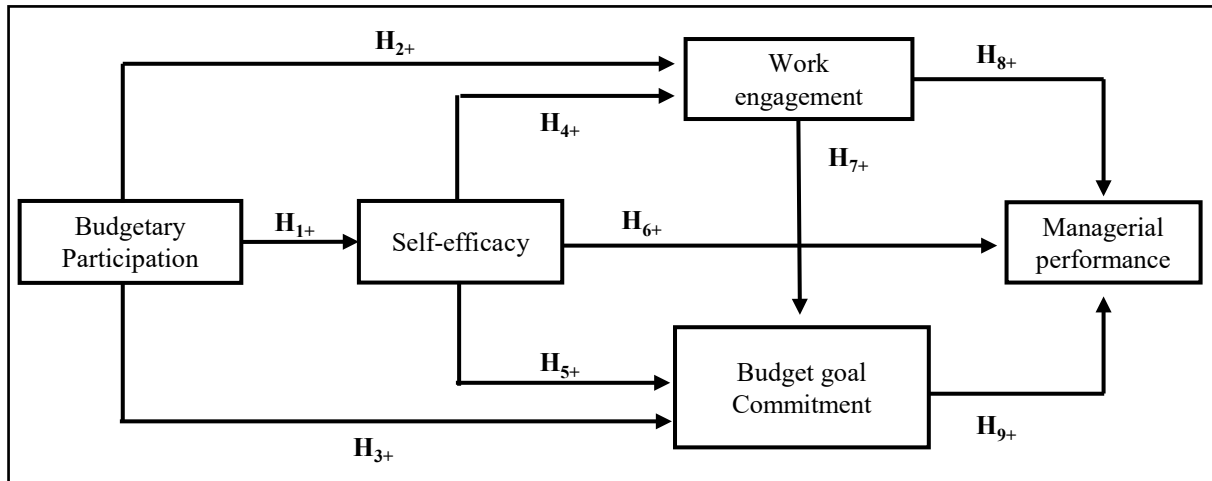


Figure 1. Theoretical model and hypotheses

Source: Developed by the authors.

2.1 Budget participation effects

The participation of managers in the budgeting process can trigger self-efficacy beliefs and positive attitudes and behavior in the workplace (Degenhart et al., 2022; Lunardi et al., 2019b). When these aspects are encouraged, they concur with improving managerial performance in budget activities (Degenhart et al., 2022). Self-efficacy can be defined as an influence on the allocation of tasks and persistence in performing tasks (Macinati et al., 2016). Stajkovic and Luthans (1998) note that it consists of one’s belief in his/her competence to mobilize cognitive resources and having the motivation to perform tasks successfully. Therefore, when managers participate in a budgeting process, they influence the establishment of their unit’s budget goals and interact with and are encouraged by their superiors. All of which favor increased confidence and persistence to perform tasks and achieve objectives, reflected in the managers’ increased self-efficacy (Venkatesh & Blaskovich, 2012).

In this sense, when managers with budget responsibilities actively participate in the definition of budget goals and objectives (Milani, 1975), they are more likely to present stronger self-efficacy beliefs (Luthans et al., 2007) to perform their work tasks (Ni et al., 2009). Budgetary participation enables an environment conducive to increasing the individuals’ cognition (Yuliansyah & Khan, 2017) and their self-efficacy in the workplace. Luthans et al. (2007) note that higher levels of psychological capital enable workers to become more optimistic at work, aim to succeed (self-efficacy and hope), and be more resilient when facing adversities. These capacities are developed when managers participate in budgeting processes (Degenhart et al., 2022; Nascimento, 2017).

Various authors analyzed the relationship between budgetary participation and self-efficacy in this context and reported positive influences (Degenhart et al., 2022; Yuliansyah & Khan, 2017; Macinati et al., 2016; Ni et al., 2009; Heath & Brown, 2007). Therefore, we suggest that budgetary participation enables a positive psychological context for employees to establish challenging but achievable goals, have self-efficacy to achieve those goals, overcome adversities, and believe in positive prospects (Venkatesh & Blaskovich, 2012). Therefore, based on the previous discussion, the first hypothesis is proposed:

H₁: Budgetary participation is positively associated with self-efficacy beliefs.

Budget participation enables employees to understand the process in which budget goals are established (Dani et al., 2017; Derfuss, 2016), increasing their confidence, work engagement, and sense of control (Chong et al., 2006; Shield & Shields, 1998). The reason is that when employees participate in the process, they are more likely to experience self-respect and feelings of equality due to the opportunity to express their budget-related values and knowledge (Shield & Shields, 1998).

Lunardi et al. (2019) report that budgetary participation positively influences work engagement among controllers because WE refers to a cognitive belief that workers' needs are satisfied by work (Lunardi et al., 2019b) and is also the workers' level of identification with the work performed (Siqueira, 2008). Therefore, budgetary participation (Milani, 1975) tends to trigger affective effects in managers with budget responsibilities, making them feel more engaged and connected to and satisfied with their jobs, experiencing their work tasks intensively (Siqueira, 2008; Moynihan & Pandey, 2007; Lodahl & Kejner, 1965). Hence, the second hypothesis is proposed:

H₂: Budgetary participation is positively associated with work engagement.

Budgetary participation can result in positive behaviors in the organizational environment (Chong et al., 2006), such as goal commitment, which concerns the involvement of managers in the establishment of budget goals and their willingness (effort) to attain such goals (Chong & Johnson, 2007). In addition, Birnberg et al. (2007) argue that budgetary participation influences an individual's behavior and mindset. In this sense, through various (cognitive and affective) mechanisms, budgetary participation tends to lead to greater budget goal commitment and improved performance (Derfuss, 2016; Jermias & Yigit, 2013).

According to Chong and Johnson (2007), when individuals participate in the budgeting process, they are more likely to accept and commit to attaining a certain level of budget goals. Therefore, organizations should allow managers to participate in the establishment of budget goals to encourage greater commitment toward the organization and improved performance (Guidini et al., 2020).

Studies report a positive relationship between budgetary participation and goal commitment (Zonatto et al., 2019; Macinati & Rizzo, 2014; Jermias & Yigit, 2013; Breaux et al., 2011; Sandalgaard et al., 2011; Wentzel, 2002). Hence, the involvement of controllers in the budgeting process is believed to promote commitment and effort to achieve goals:

H₃: Budgetary participation is positively associated with budget goal commitment.

2.2 Cognitive effects on self-efficacy beliefs

SCT takes into account psychological (cognitive) aspects when considering the relationship between cognitive and personal behavioral aspects, which influence human action and behavior (Bandura, 1977). Psychological capital is a positive state associated with attitude, behavior, and performance (Alessandri et al., 2018). Bitmis and Ergeneli (2013) consider that an individual's performance must be improved to increase his/her psychological capital by sharing information and encouraging work engagement. Alessandri et al. (2018) found a positive relationship between psychological capital and work engagement, revealing that personal resources support work engagement.

Macinati et al. (2016) report that self-efficacy is positively associated with work engagement, budget, and managerial performance. Because self-efficacy refers to an individual's belief in his/her ability to perform specific tasks and functions (Nouri & Parker, 1998), believing in one's own ability to mobilize cognitive and motivational resources encourages individuals to successfully perform their tasks (Stajkovic & Luthans, 1998). Self-efficacy beliefs tend to positively reflect work engagement because it is conditioned to a work-related motivational state and well-being (Bakker et al., 2008; Schlup et al., 2021).

Given the positive results found between psychological capital and work engagement (Alessandri et al., 2018; Bitmis & Ergeneli, 2013) and between self-efficacy and engagement (Macinati et al., 2016; Moynihan & Pandey, 2007), we present the fourth hypothesis:

H₄: Self-efficacy beliefs are positively associated with work engagement.

Budget goal commitment concerns behavior and effort on the part of managers toward achieving goals (Chong & Johnson, 2007) and can be enhanced by individuals through self-efficacy beliefs. Studies indicate a positive relationship between psychological capital and budget goal commitment (Degenhart et al., 2022; Nascimento, 2017). In addition, individuals with a strong sense of self-efficacy challenge themselves continually and choose to perform tasks that demand greater effort (Venkatesh & Blaskovich, 2012; Luthans et al., 2007). Hence, the stronger a controller's self-efficacy beliefs, the more committed s/he will be with budget goals:

H₅: Self-efficacy beliefs are positively associated with budget goal commitment.

Many studies report the positive relationship between self-efficacy beliefs and management performance (Macinati et al., 2016; Heath & Brown, 2007; Ni et al., 2009), and positive evidence has also been found for the relationship between psychological capital and management performance (Degenhart et al., 2022; Alessandri et al., 2018; Nascimento, 2017; Saithong-In & Ussahawanitchakit, 2016; Venkatesh & Blaskovich, 2012). Hence, an individual's positive personal characteristics (self-efficacy), which support the motivational process (Alessandri et al., 2018), tend to positively impact management performance (Degenhart et al., 2022; Schlup et al., 2021).

Individuals with high levels of self-efficacy who opt for challenging tasks make a greater effort to achieve their goals successfully and persevere when facing difficulties and obstacles (Luthans & Youssef, 2004). SCT (Bandura, 1977) suggests that employees with high levels of self-efficacy apply greater effort in their work. Therefore, the sixth hypothesis is

H₆: Self-efficacy beliefs are positively associated with managerial performance.

2.3 The affective effects of work engagement and goal commitment

AET postulates a connection between work events and affective and emotional responses. This theory's primary purpose is to consider events as causes of emotions and other phenomena at work (Weiss & Cropanzano, 1996). For example, budget goal commitment and involvement in the budgeting process result from the opportunity to become involved with and influence the process in which budget goals and objectives are established (Shields & Shields, 1998). In this sense, when managers become intensively engaged with their work, they are more likely to become committed to budget goals (Lunardi et al., 2019b) and obtain positive performance results (Breux et al., 2011).

Engagement determines the degree to which an individual is psychologically identified with his/her work and its relevance to his/her self-image (Siqueira, 2008; Moynihan & Pandey, 2007; Lodahl & Kejner, 1965). Therefore, when individuals are engaged with their work, they are committed to attaining budget goals, considering that BGC refers to the involvement of managers in establishing goals and being determined to achieve them (Erez & Arad, 1986). Therefore, the seventh hypothesis assumes that:

H₇: Work engagement is positively associated with budget goal commitment.

Evidence suggests a potential influence of work engagement on management performance (Alessandri et al., 2018). One of the reasons for workers obtaining improved performance is related to work engagement (Bakker et al., 2008). The managers' involvement is a behavior that tends to positively impact actions at work, reflecting on performance (Lunardi et al., 2019b; Alessandri et al., 2018; Macinati et al., 2016; Hariyanti et al., 2015; Breux et al., 2011).

As a result, managers become very involved with their work and personally connected with their jobs, intensively experiencing their responsibilities (Moynihan & Pandey, 2007; Siqueira, 2008). Consequently, they make a greater effort to perform tasks linked to planning, investigating, coordinating, assessment, supervising, selecting, negotiating, and representing budget activities (Mahoney et al., 1965). Hence, a controller's greater work engagement will reflect on his/her performance, which constitutes the following hypothesis:

H₈: Work engagement is positively associated with managerial performance.

Cognitive aspects influence human decisions, and the level of effort individuals are willing to make to perform their tasks, which tend to reflect their management attitude, commitment, and performance (Degenhart et al., 2022). Therefore, an individual's level of goal commitment will influence his/her actions and performance (Chong & Johnson, 2007). For example, Macinati and Rizzo (2014) explain that managers tend to become more motivated at work when they participate in the budgeting process and will also be more committed to budget goals, presenting improved performance, considering that their actions are guided by the information obtained in the budgeting process. Therefore, budgetary participation and managers' cognition (self-efficacy) tend to promote affective, cognitive effects, such as a greater commitment to the budget goals. This commitment reflects greater performance in budget activities (Macinati et al., 2016; Macinati & Rizzo, 2014).

The direct and positive influence of goal commitment on management performance corroborates other studies' findings (Jermias & Yigit, 2013; Breaux et al., 2011; Chong & Johnson, 2007; Marginson & Ogden, 2005; Shields & Shields, 1998; Wentzel, 2002). Additionally, goal commitment mediates the relationship between budgetary participation and management performance (Jermias & Yigit, 2013). The last hypothesis is proposed in this context:

H₃: Budget goal commitment is positively associated with managerial performance.

3. Research Method and Procedures

This descriptive and quantitative study was conducted through a survey. To analyze the objective proposed here, we addressed professionals from the 500 largest companies (according to the *Revista Amanhã* ranking) located in southern Brazil. Therefore, the population comprised controllers from the largest companies listed in this ranking. Furthermore, this population was chosen because controllers can play different roles; hence, they are strategy players in companies and produce high-quality information (Palomino & Frezatti, 2016).

The *Revista Amanhã* ranking of the 500 largest companies (revenue) located in the states in southern Brazil was chosen due to its relevance to the regional context. These companies were also chosen because they are audited by the Big Four, which lends greater reliability to the information used by the magazine. Additionally, being the largest companies in southern Brazil, the organizations have already consolidated the budgeting process (Santos et al., 2021).

The sample is characterized as a non-probabilistic, intentional, and accessible sample. The individuals were contacted from November 2020 to January 2021 via LinkedIn. The controllers were initially invited to participate in the study, and an electronic form was sent via LinkedIn and e-mail after they provided consent. At the end of this process, we obtained the voluntary participation of 225 controllers from selected companies.

The instrument used to collect data consisted of a questionnaire addressing 33 objective multiple-choice questions based on the constructs presented in Table 3.

Table 1

Research constructs

Variables	Definition	Questions/ Scales	Authors
Budgetary Participation	It concerns the involvement of individuals in setting budget goals and objectives and their influence in establishing their unit's budgets.	6 statements/ 7-point Likert scale	Milani (1975).
Self-efficacy	It concerns an individual's belief in his/her capacity to mobilize cognitive resources to perform tasks successfully.	6 statements/ 6-point Likert scale	Luthans et al. (2007).
Work engagement	It determines an individual's psychological identification with his/her work and its importance for self-image.	7 statements/ 7-point Likert scale	Lodahl & Kejner (1965); Moynihan & Pandey (2007); Siqueira (2008).
Budget goal Commitment	It concerns the involvement of managers in setting goals and their resolve to attain such goals.	5 statements/ 7-point Likert scale	Latham & Steele (1983), Erez & Arad (1986).
Managerial performance	It concerns how the individuals assess their performance regarding budget activities.	9 statements/ 7-point Likert scale	Mahoney et al. (1963; 1965), Zonatto (2014).

Source: developed by the authors

After identifying and establishing which instruments best suited this study, two experienced professionals who specialized in English translated and back-translated them. Additionally, two professors with a Ph.D. in Accounting Sciences, who are experts and researchers in the topics addressed here, assessed the instruments. Finally, a pretest was applied among three managers responsible for budgeting in their (Brazilian) companies to verify the instrument's clarity. Next, data collection was initiated. According to the G*Power software, a minimum sample of 77 valid responses would be needed. This study obtained 225 responses, i.e., a number that is sufficient to analyze the theoretical model proposed here.

Regarding data analysis procedures, exploratory factor analysis was conducted with the measurement constructs, using the following criteria: Cronbach's alpha >0.70, Kaiser-Meyer Olkin (KMO) >0.50, Bartlett's test of sphericity $p < 0.05$, indicators' factor loadings >0.35, and communalities >0.60 (Hair Jr. et al., 2009). Next, the common method bias and discriminant validity tests were performed according to the criteria proposed by Bagozzi and Philips (1982). Finally, confirmatory factor analysis was performed, and the relationships were investigated using SEM with AMOS® software. Criteria for validating the models are presented in Table 2.

Table 2

Criteria to assess the measurement constructs

Indicator	Recommended	Reference	Expected
Chi-square/DF	< 5		< 5
Statistical significance (p)	< 0.05		< 0.05
CFI			> 0.90
TLI	< 0 and < 1 (The closest to 1)		> 0.90
NFI		Hair Jr. et al. (2009)	> 0.90
RMSEA	< 0.10		< 0.10
Cronbach's alpha (construct)	> 0.70		> 0.70
Factor loadings (indicators)	> 0.40		> 0.40
Composite Reliability	> 0.50		> 0.50
Extracted validity	> 0.50		> 0.50

Source: adapted from Lunardi et al. (2020, p. 21).

4. Results

The results of the exploratory factor analysis indicated the validation of measurement models for all the constructs analyzed. Cronbach's alpha coefficients were greater than 0.7 in all the cases. The KMO values were higher than 0.870, and the measurement models were statistically significant. The total variance explained was above 64%, which indicates a high explanatory power. Regarding the frequency of responses obtained in the survey, we found that they varied from minimum and maximum degrees of disagreement and agreement in all the constructs analyzed. Such evidence shows that the organizations where the respondents work have different budget planning configurations, and not all controllers actively participate in the budgeting processes. The results also reveal that the levels of self-efficacy, work engagement, and budget goal commitment are different, reinforcing the need to investigate these relationships and their effects on managerial performance.

As Bido et al. (2018) recommended, the Harman single-factor test was performed to analyze existing method bias (Common Method Bias), and the results revealed that together, the construct generated five factors. The first factor explains only 35.87% of the total explained variance, suggesting the non-occurrence of method bias. Likewise, according to Bagozzi and Phillips (1982), we verified the discriminant validity of the structural model. The free model with unfixed parameters to obtain χ^2 totaled 1236,577. The fixed model obtained 1128,984; the difference of 107,593 was statistically significant. Next, MEE was performed to analyze the relationships proposed here. Figure 2 presents the results of the measurement used to assess these relationships.

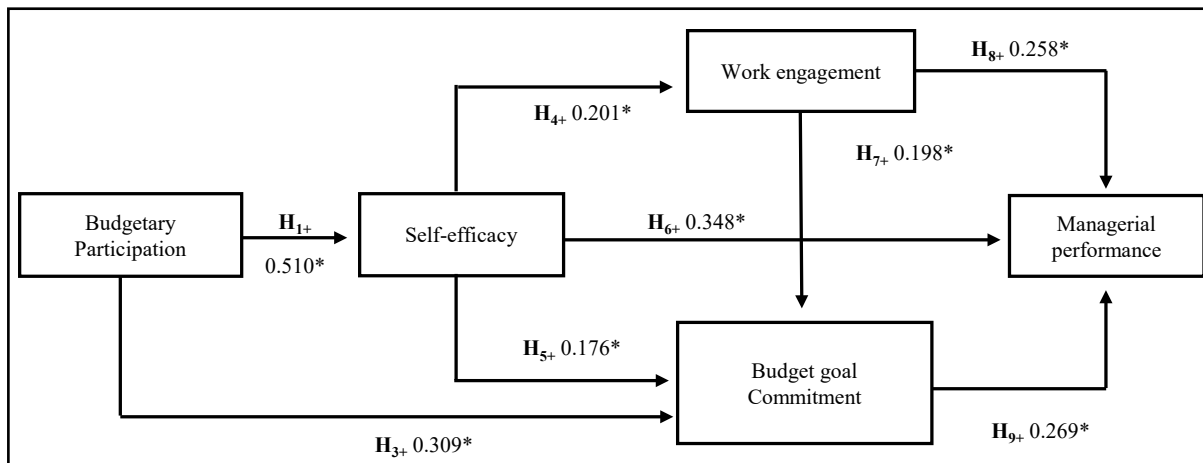


Figure 2. Structural model paths estimates

Model's goodness of fit: χ^2 1135,376; Degrees of Freedom 487; χ^2 /Degrees of Freedom 2.331; CFI 0.894; TLI 0.885; NFI 0.828; RMSEA 0.077.

Source: study's data.

The results concerning the goodness of fit indexes indicate that the proposed measurement model presented acceptable values within the expected parameters, confirming the measurement model's validity. In addition, these results indicate that self-efficacy beliefs and budget goal commitment are factors conditioning improved management performance when controllers participate in budgeting processes and are engaged with their work.

5. Discussion

Table 3 presents the coefficients and significance of the relationships proposed.

Table 3

Standard coefficients and significance of the relationships in the models tested

Results of the Initial Model								
Structural Paths			Estimate	E.P.	t - values	ρ	Standardized coefficient	R ²
AE	←	BP	0.347	0.050	6.901	***	0.510	0.260
WE	←	BP	0.041	0.062	0.661	0.509ns	0.055	0.055
WE	←	AE	0.219	0.093	2.349	0.019	0.201	0.055
BGC	←	BP	0.258	0.063	4.086	***	0.309	0.257
BGC	←	AE	0.216	0.092	2,351	0.019	0.176	0.257
BGC	←	WE	0,222	0.074	2,997	0.003	0.198	0.257
MP	←	WE	0.280	0.071	3.948	***	0.258	0.411
MP	←	BGC	0.260	0.063	4.140	***	0.269	0.411
MP	←	AE	0.413	0.080	5.141	***	0.348	0,411

Source: study's data.

The established model initially investigates the direct effects of budgetary participation on the controllers' self-efficacy, showing a positive and significant relationship ($\lambda = 0.510$). Given this result, we can say that budgetary participation positively influences their self-efficacy beliefs, which confirms the study's first hypothesis. Similar results are reported by Degenhart et al. (2022), Yuliansyah and Khan (2017), Macinati et al. (2016), Ni et al. (2009), and Heath and Brown (2007).

This evidence suggests that when controllers are entirely involved in the budgeting process of their unit and obtain information from superiors about budget reviews, and have the autonomy to express opinions and suggestions, influencing the final budget, they believe that their contributions are valuable and are sought out by their superiors to share information on budget forecasts (Milani, 1975). Consequently, they believe in their ability to mobilize positive cognitive resources to successfully carry out activities (Luthans et al., 2007). Therefore, budgetary participation can be considered a means to motivate managers to put effort into their activities and develop positive beliefs that they will successfully achieve the budget results (Ni et al., 2009; Schlup et al., 2009; Schlup et al. al., 2021).

The model's path that assesses the direct effects of budgetary participation on work engagement does not express a significant relationship ($\lambda = 0.055$), which does not support this study's second hypothesis. Although several studies indicate that a positive and significant influence of budgetary participation reinforces the individuals' work engagement (Chong et al., 2006; Lunardi et al., 2019b), this was not confirmed in this study.

Contrary to what was expected, the controllers addressed in this study indicated that budgetary participation does not directly influence work engagement. Therefore, budgetary participation does not, by itself, satisfies the worker's cognitive needs, or promote identification with their work; rather, it indicates that other variables interfere with the controllers' degree of psychological identification with their work and how important it is for self-image (Lodahl & Kejner, 1965). These results indicate that cognitive effects (self-efficacy) are important for controllers to be intensely involved with budget-oriented work activities when they participate in setting budget goals and objectives.

The relationship between budgetary participation and budget goal commitment was positive and significant ($\lambda = 0.309$). Hence, these findings confirm the third hypothesis, corroborating the findings of previous studies (Zonatto et al., 2019; Derfuss, 2016; Macinati & Rizzo, 2014; Jermias & Yigit, 2013; Sandalgaard et al., 2011; Breaux et al., 2011; Chong & Johnson, 2011; 2007; Chong et al., 2006; Wentzel, 2002).

Such effects are generated by participation in the budgeting process, considering that the knowledge obtained in this process helps determine the budget and makes controllers feel more involved in setting goals and become resolved to achieve such goals. In this sense, budgetary participation makes individuals more likely to accept and become committed to the budget goals and objectives (Guidini et al., 2020). Chong and Johnson (2007) explain that individuals are more likely to accept and work toward achieving goals when participating in the process. When managers realize the importance of a budget for their companies and feel they are active participants in the budgeting process, they tend to be more committed to attaining goals and show greater concern for achieving better performance (Wentzel, 2002). Thus, the affective effects of goal commitment are enhanced through budgetary participation.

The positive influence of the cognitive effects of self-efficacy beliefs in work engagement and budget goal commitment was confirmed ($\lambda = 0.201$ and $\lambda = 0.176$). These results support the fourth and fifth hypotheses. They are also in line with the positive evidence reported in the literature for the relationship between self-efficacy beliefs and work engagement (Macinati et al., 2016) and between psychological capital and engagement (Alessandri et al., 2018; Bitmis & Ergeneli, 2013). These findings reveal that controllers have self-efficacy, trust in their ability to perform tasks (Nouri & Parker, 1998), and become intensively committed to successfully performing their assignments because they are motivated and mobilize cognitive resources. (Stajkovic & Luthans, 1998). These findings confirm SCT assumptions, which recognize the role of human cognition in the construction of reality, self-regulation, coding information, and individuals' behaviors (Bandura, 1977; 2001). Therefore, it can be inferred that self-efficacy beliefs are an important factor influencing the budgetary context so that controllers become involved in this process to achieve better performance.

Previous studies also suggest a positive relationship between psychological capital and budget goal commitment (Degenhart et al., 2022; Nascimento, 2017). For example, as a component of psychological capital, self-efficacy enables individuals with high levels of self-efficacy to increase their budget goal commitment because these managers present behaviors and make a greater effort to achieve goals (Chong & Johnson, 2007). Therefore, controllers with high levels of "confidence (self-efficacy) take on and put in the necessary effort to succeed at challenging tasks" (Luthans et al., 2007, p. 3); consequently, they are more involved in the budgeting process and exert greater effort to achieve them (Chong & Johnson, 2007).

This relationship between cognitive (self-efficacy) and affective factors (work engagement and budget goal commitment) confirms the SCT's assumptions, which postulate that a set of (cognitive and personal, behavioral and environmental) factors influences human development and action. These factors influence each other when acting interactively, determining human action and behavior in the context of social interaction (Bandura, 1977). Therefore, when cognitive and personal factors (self-efficacy) and behavioral factors (work engagement and goal commitment) interact in a budgetary context, they influence controllers' actions, impacting their managerial performance.

This study's findings confirm this relationship. Self-efficacy beliefs influence managerial performance ($\lambda = 0.348$), which supports the sixth hypothesis and the analysis of the indirect effects of self-efficacy beliefs on the relationship between budgetary participation and managerial performance. These results show that managers with high levels of self-efficacy (Luthans et al., 2007) perform better in planning and coordinating activities, assessing subordinates' activities, investigating their area's problems, supervising the team, obtaining and maintaining the appropriate personnel, negotiating, representing the interests of their area of responsibility, and complying with budget goals. These factors tend to impact their overall performance (Milani, 1975).

Additionally, these results indicate that high budgetary participation levels positively influence controllers' self-efficacy and, subsequently, their performance in budget activities. Thus, cognitive effects tend to enhance the relationship between budgetary participation and managerial performance through interactions between these beliefs, work engagement, and budget goal commitment. The SCT indicates that employees with high levels of self-efficacy will exert greater effort and be more resilient in overcoming obstacles at work (Bandura, 1977). For this reason, they will present superior managerial performance (Degenhart et al., 2022). These results support the interactive effects of the cognitive and affective aspects addressed here.

Studies corroborate the positive relationship between psychological capital and managerial performance (Degenhart et al., 2022; Nascimento, 2017; Saithong-In & Ussahawanitchakit, 2016; Venkatesh & Blaskovich, 2012). Furthermore, the studies used self-efficacy beliefs separately to explain the relationship between budgetary participation and managerial performance, reporting a positive relationship (Macinati et al., 2016; Ni et al., 2009; Heath & Brown, 2007). These results corroborate the need to analyze the effects of intervening variables in the relationship between budgetary participation and managerial performance (Zonatto et al., 2019; Dani et al., 2017), which is in line with Bandura's SCT (1977), considering that when cognitive and personal factors (self-efficacy beliefs) interact with environmental factors (level of budgetary participation), they enable controllers to perform better in budget activities.

These results also align with the affective approach of the Affective Events Theory (AET). The results suggest a positive influence of work engagement on budget goal commitment ($\lambda = 0.198$), confirming the seventh hypothesis. These findings indicate that the degree to which controllers are psychologically identified with their work and its relevance to their self-image (Siqueira, 2008; Moynihan & Pandey, 2007; Lodahl & Kejner, 1965) make them involved with budget goals setting and resolved to achieve such goals (Erez & Arad, 1986; Latham & Steele, 1983).

As for the effects of the affective variables analyzed on performance, both work engagement ($\lambda = 0.258$) and budget goal commitment ($\lambda = 0.269$) positively influenced managerial performance. These results confirm budget goal commitment's positive and significant intervening effects on the relationship between budgetary participation and managerial performance. Jermias and Yigit (2013) also identified that goal commitment intercedes the relationship between budgetary participation and managerial performance.

These results suggest that high budgetary participation levels lead to higher budget goal commitment levels and improved budget activities performance, corroborating SCT (Bandura, 1977). Human action and behavior are influenced by a set of factors, and environmental (budgetary participation) and behavioral factors (budget goal commitment) stand out in this relationship. These results also contribute to AET as, according to this theory, some characteristics of the work environment influence behavioral responses and the behavior of employees (Weiss & Cropanzano, 1996), determined by their choices. In this case, the level of budgetary participation influences the controllers' resolve and goal commitment, which reflect on their performance. Concerning involvement at work, this is enhanced through self-efficacy beliefs and, subsequently, has positive impacts on performance. Therefore, under conditions in which budgetary participation increases and self-efficacy beliefs are enhanced, these professionals tend to present better performances.

These results confirm the eighth and ninth hypotheses. Evidence shows that work engagement is one of the reasons controllers present better managerial performance (Lunardi et al., 2019b; Alessandri et al., 2018; Macinati et al., 2016; Hariyanti et al., 2015; Breaux et al., 2011; Bakker et al., 2008). Therefore, work engagement should be encouraged in companies to obtain improved managerial performance from employees in budget activities. Likewise, these results indicate convergence with studies concerning the positive relationship between budget goal commitment and managerial performance (Jermias & Yigit, 2013; Breaux et al., 2011; Chong & Johnson, 2007; Marginson & Ogden, 2005; Wentzel, 2002; Shields & Shields, 1998). Thus, these results indicate that cognitive aspects (self-efficacy) influence human decisions and the degree of effort controllers put into their activities, which reflects their commitment and work performance (Degenhart et al., 2022). An individual's goal commitment will influence his/her actions and performance (Chong & Johnson, 2007).

The analyses show that self-efficacy beliefs and budget goal commitment are intervening variables that positively affect the relationship between budgetary participation and managerial performance. Likewise, they reveal that such beliefs influence the individuals' work engagement level, which impacts their managerial performance. Thus, cognitive (according to the SCT) and affective effects (according to the AET) should be encouraged among controllers by enabling their participation in budgeting processes due to their positive effects on managerial performance. This study's results indicate that the effect of budgetary participation is not restricted to achieving control and establishing better budget forecasts, but it also influences cognition, behavior, and the managerial performance of professionals with budgetary responsibilities (Degenhart et al., 2022; Lunardi et al., 2020; Zonatto et al., 2020a).

6. Conclusions

The results confirmed the effects of budgetary participation on self-efficacy and budget goal commitment, suggesting that the level of participation enhances the controllers' development of positive psychological capacities and increases their commitment to achieving budget goals. As for work engagement, budgetary participation did not present a direct influence, indicating that, according to the controllers' self-efficacy beliefs, work engagement may be influenced by other factors, as identified in this study.

Regarding the cognitive effects of self-efficacy beliefs, the results show positive effects on the affective variables addressed here (work engagement and budget goal commitment) and managerial performance. Furthermore, indirect effects were also found on self-efficacy beliefs in the relationship between budgetary participation and managerial performance. Therefore, the self-efficacy beliefs of managers with budgetary responsibilities enhanced their behaviors and the results obtained under their responsibility through their active participation in budgeting processes and improved managerial attitudes. These results validate SCT (Bandura, 1977) because, in this study, human action and behavior were influenced by cognitive and personal factors (self-efficacy) and environmental factors (budgetary participation), which consequently reflect on managerial performance.

As for the affective effects analyzed in this study, the results show that work engagement positively influences budget goal commitment, improving the controllers' performance in their budget activities. This study suggests that budget goal commitment indirectly and positively influences the relationship between budgetary participation and managerial performance. In this sense, actions are needed to encourage the controllers' budget goal commitment and improve their participation and performance. This affective behavior influences the budgeting process and the effort managers put in to achieve improved performance in these activities. Hence, environmental characteristics also influence the controllers' behaviors and performance, results supported by AET and SCT.

Overall, these findings support an understanding of the cognitive effects and affective responses that mediate the relationship between budgetary participation and managerial performance, showing that the effects of this relationship (BP x MP) are not the result of simple causality. On the contrary, these effects occur through the mediating role of cognitive and affective factors. Additionally, the results confirmed SCT and AET, showing that this study deepened the analysis of the relationship between BP x MP, providing theoretical contributions to the field. Based on these results, we infer that there is no single factor influencing the relationship between participation and performance, but a set of factors (self-efficacy and budget goal commitment) determines this relationship. Self-efficacy enables the controllers the ability to carry out their actions confidently, and commitment makes it possible for them to reach goals diligently.

Regarding this study's theoretical contribution, it advances in the literature by presenting new evidence concerning the relationship between BP x MP, considering that the aspects addressed here had not yet been discussed together in the scope of accounting management, that is, the analysis between BP, AE, WE, BGC and MP is innovative in the theoretical model we proposed. The controllers' better managerial performance may result from how budgetary participation is driven by better budget forecasts and high levels of work engagement (Lunardi et al., 2019a). Furthermore, it presents the implications of using SCT and AET to explain the effects of budget planning configurations (Ni et al., 2009).

As for practical contributions, the results reveal the effects of the budget planning configurations adopted by the companies, allowing managers to understand the effects of cognitive (self-efficacy) and affective factors (work engagement and budget goal commitment). These factors should be considered within the work environment so that the managers' participation and influence in the budgeting process positively reflect on managerial performance and the accomplishment of the tasks. Furthermore, this study's results contribute to other companies to identify the conditioning factors of participatory budgeting and managerial performance since the presence of employees committed and involved with the budgeting process and presenting high levels of self-efficacy improve performance as a whole (Degenhart et al., 2022; Lunardi et al., 2020; Zonatto et al., 2020a).

One of this study's limitations concerns the fact that inferences are limited to those responsible for budgeting and who were willing to participate in this study. Therefore, the results are restricted to this sample and respondents. Note that the sample comprises a group of professionals, not all professionals, from a specific region and companies with the largest revenue. Furthermore, the instrument disregarded other variables in the budgeting context that may explain the relationship between BP x MP.

Although the results cannot be generalized, evidence encourages further research, as there are indications of variables that affect the controllers' behaviors and actions in a budgetary context. Since there is scarce evidence of potential behavioral variables that mediate the relationship between budgetary participation and managerial performance, further studies, including other psychological capacities and managerial assets not addressed in this study and other intervening variables, are suggested.

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