Determinant factors of procrastination behavior at work: A case study in the university context

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Abstract

Procrastination, or delaying or postponing something frequently, is often found at workplace including university staff. Many factors in personal characteristics, task characteristics, and organizational work settings can cause procrastination. The existing empirical literature on procrastination focuses mainly on student procrastination, with little attention paid to the procrastination patterns of academic staff. Therefore, by using social exchange theory, this study aims to discuss the factors that influence procrastination behavior in academic staff. This research examines the influence of achievement motivation, job satisfaction, and psychological contract fulfillment on procrastination directly or through organizational commitment. The study was conducted through a case study approach. This research uses a quantitative approach with a survey research design of 126 staff at one of the state universities in Yogyakarta. The research instrument was developed from previous research. The data were analyzed using partial least square (PLS) based on structural equation modeling (SEM). The research results show that only achievement motivation and organizational commitment have a negative influence on procrastination. Organizational commitment mediates the influence of achievement motivation on procrastination. Job satisfaction and fulfillment of the psychological contract do not directly influence procrastination yet through organizational commitment. The results of this research provide implications for the role of human resource management in controlling procrastination at work. In the university context, achievement motivation and organizational commitment have a dominant influence in controlling procrastination behavior.

Introduction

University staff, both academic and non-academic, play an important role in achieving institutional goals in the context of environmental dynamics (Veles et al., 2023). Academic staff have main roles in the learning process, research, and community service. Non-academic staff play a role in support functions (administrative, technical, managerial, decision support, finance, laboratory, library, service). Environmental dynamics such as technological developments, information flow, social dynamics, and work dynamics (such as perceptions of injustice towards: career systems, performance appraisals, compensation systems, etc.) often affect motivation, employee satisfaction-dissatisfaction, and perceptions in the relationship between employees and the organization (Capelleras, 2005; Dube, 2024; Veles et al., 2023; Zdonek et al., 2021). Developing employee commitment in higher education management is important amidst environmental dynamics (Dube, 2024). This is because committed employees contribute positively to the competitiveness of the organization through their behavior and identification with the values and goals of the organization (Dube, 2024; Tett & Meyer, 1993). Committed employees tend not to be easily provoked, behave positively, and avoid counterproductive behavior, such as procrastination.

Recently, there has been an increased interest in studies related to the development of human resources in universities (Veles et al., 2023). Some of them are related to organizational commitment (Capelleras, 2005; Dube, 2024). However, few studies discuss the role of organizational commitment in controlling negative behaviors such as procrastination. Procrastination behavior is often found in academic behavior (Grunschel et al., 2013b; Kim et al., 2017; Solomon & Rothblum, 1984; Steel & Klingsieck, 2016), but few studies discuss procrastination behavior in university staff, both academic and non-academic staff (Asio, 2021; Sunarta et al., 2023a).

Procrastination in the workplace is often found among university staff, especially in developing countries such as Indonesia. A survey-based study on 195 educators at three state universities in Yogyakarta (Sunarta et al., 2023b) found that 41.4% of employees had been procrastinating, and 17% often procrastinated. The procrastination involves activities outside of work, such as scrolling through social media too often, taking a break too long, chatting too much, or doing other unnecessary and unproductive things. Another activity was spending too long doing tasks or unimportant work, which delayed finishing the primary work that was more urgent to be completed.

This study is motivated by several gaps in the literature:

1. Empirical literature that discusses procrastination and its influencing factors focuses more on procrastination in students (Grunschel et al., 2013b; Kim et al., 2017; Solomon & Rothblum, 1984; Steel & Klingsieck, 2016), and is still very limited in the workplace such as academic staff.

2. Procrastination behavior is also often found in academic staff (Asio, 2021; Sunarta et al., 2023a). Working in an academic institution is a challenge related to teaching and research functions, and community service. The characteristics of academic staff tasks, such as workload, autonomy, and task characteristics that cannot all be regulated in formal settings often encourage individuals to procrastinate.

3. Previous studies found the influence of achievement motivation (Li et al., 2021; Thomas, 2020) and the job satisfaction (Grunschel et al., 2013a; Scheunemann et al., 2022) on procrastination, but were limited to studies that explained the role of organizational commitment in mediating the influence between achievement motivation and job satisfaction on procrastination. Even though job satisfaction and organizational commitment are attitudinal dimensions, these two variables can influence each other (Kristiani et al., 2021; Lee & Kim, 2023). Organizational commitment is important, especially in socio-educational organizations such as universities. Academic staff at universities work as a calling (relational-devotional) (Zhang & Deng, 2016) so that organizational commitment can control counterproductive behavior such as procrastination behavior.

This study contributes to the literature by filling the gap in the literature by discussing procrastination behavior in academic staff.

Literature Review and Hypotheses Development

Based on the social exchange theory (Ahmad et al., 2023), the relationship between employees and organizations is not only in the form of short-term transactional relationships but also long-term relational relationships. The resources exchanged are not only material resources but also immaterial. The relationship is not only regulated in a formal written contract but is also often regulated in an unwritten agreement based on trust such as in a psychological contract. In the context of a long-term relationship, commitment becomes important to maintain long-term relationships.

Modern commitment theory is rooted in social exchange theory (Ahmad et al., 2023), and interdependence theory (Van Lange & Balliet, 2015; Victor & Blackburn, 1987). Commitment as one of the fundamental pillars of SET (Ahmad et al., 2023) is the result of a relationship that continues to develop over time. This pillar requires that the parties demonstrate compliance with certain rules. Interdependence theory suggests that long-term relationships depend not only on the characteristics of both parties but also on the interdependence that develops between the two parties (Van Lange & Balliet, 2015; Victor & Blackburn, 1987). The level of interdependence in a

relationship is determined by the level of satisfaction with the relationship and their perception of the quality of the relationship alternatives.

The main characteristic of commitment is the intention to maintain a long-term relationship between employees and the organization (Ahmad et al., 2023). This makes one party such as employees provide positive behavior for the common good and avoid negative behavior such as procrastination. Achievement motivation, changes in job satisfaction, and perceptions of fulfilling the agreement in the psychological contract are evaluated in the long term through organizational commitment. Individuals who are confident in a sustainable relationship in the future, someone tend to behave in a way that prioritizes common interests by avoiding counterproductive behavior that only benefits themselves but will reduce the quality of the relationship in the long term.

Procrastination is one of several types of counterproductive behavior defined as a purposive delay in initiating or completing a task (Ferrari et al., 2009). Employees often carry out a psychological phenomenon at work in the form of procrastination, both when starting and finishing work (Ferrari, 2018). Furthermore, Ferrari explained that some people procrastinate for reasons (functional procrastination), such as based on prioritization over other work, while others actually "deliberately" procrastinate for various subjective reasons, such as feeling lazy or bored or having no intention (called dysfunctional procrastination). In other words, procrastination means purposely delaying or postponing work (Ferrari, 2018).

Internal and external factors influence procrastination. The internal factors of a person are physical and psychological conditions (Grunschel et al., 2013b; Kanten, 2016; Weymann, 1988). A physically weak employee will feel tired quickly, be lazy, even get ill easily and often, and have a high tendency to postpone work. Psychological conditions can also influence procrastination as a negative behavior at work. Psychological factors that can cause employees to become procrastinators include intrinsic motivation, low self-esteem, and low concern for organizational duties. Based on the external factors, an individual is more dominant due to differences in task characteristics, workload, time, work arrangement systems, supervision systems, and reward systems received by employees (Grunschel et al., 2013b; Harris, 1983; Weymann, 1988). External factors also touch on matters related to the compensation system, career system, work supervision system, work benefits, reward system, work procedures, relationships with co-workers, and communication carried out by the organization (Dhamija et al., 2019). External factors can influence an employee's job satisfaction. These factors are also related to informal relationships, such as ethics and norms (unwritten rules), autonomy, promises, and expectations between employees and the organization.
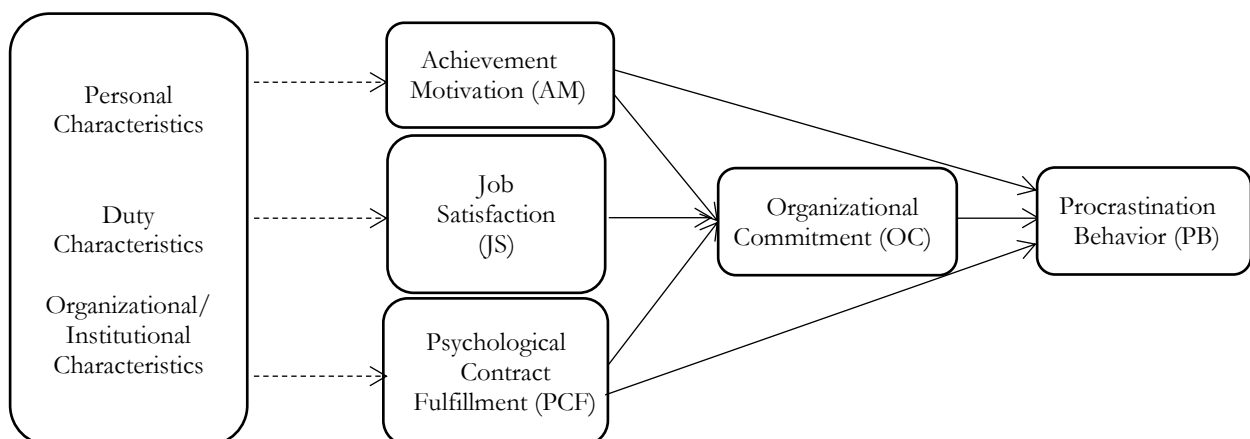

Figure 1. Research Conceptual Framework
Source: Developed from previous research

Organizational Commitment and Procrastination

Tett and Meyer (1993) define commitment as something related to loyalty and the extent to which employees identify themselves according to the vision and goals of the organization. Generally,

employees committed to the organization will show a work attitude full of attention to their duties, have significant responsibility in carrying out their duties, and are very loyal to the organization. Commitment contains attitudes, self-confidence, and feelings of commitment that give rise to the strength to do the best things for the organization. Employees with high organizational commitment will be encouraged to increase positive behavior and control negative behavior, such as procrastination. Previous research has proven the influence of commitment on procrastination (Chen & Han, 2017; Rosário et al., 2009). A study of 306 nurses in public hospitals in one province in Vietnam found that affective commitment influenced behavior (Moslehpour et al., 2023). Several studies (Gagnon et al., 2018; Glick & Orsillo, 2015; Salguero-Pazos & Reyes-de-Cózar, 2023) found that interventions based on acceptance and commitment therapy (ACT) have the potential to control procrastination behavior.

H_1: Organizational commitment has a negative influence on procrastination.

Achievement Motivation and Procrastination

Achievement motivation is the effort shown by each individual to mobilize all their abilities in carrying out their duties and responsibilities to achieve specific targets that have been set (McClelland, 2015). Empirical studies (Li et al., 2021; Steel & Klingsieck, 2016; Thomas, 2020) explain that achievement motivation has a negative influence on procrastination. This follows other empirical findings, which state that procrastinators tend to have a lower drive for achievement (Story et al., 2018). A survey-based study (Thomas, 2020) found a significant correlation between achievement motivation and procrastination, even though it only had a low correlation coefficient. The influence of achievement motivation on procrastination was also found in neuroscience-based studies (Li et al., 2021). Other studies (Bäulke et al., 2021; Gurumoorthy & Kumar, 2020; Li et al., 2021; Lina et al., 2023) have shown that people with higher achievement motivation tend to have less procrastination. A study with a neuroscience approach (Li et al., 2021) found that achievement motivation was negatively correlated with procrastination. Achievement motivation was also found to be influential in controlling procrastination behavior in other survey-based studies (Bäulke et al., 2021; Gurumoorthy & Kumar, 2020; Lina et al., 2023). Procrastination can theoretically be conceptualized as a failure in self-regulation (Steel, 2007), so motivation regulation strategies can have an impact on controlling procrastination behavior (Bäulke et al., 2021).

H_2: Achievement motivation has a negative influence on procrastination.

Job Satisfaction and Procrastination

Job satisfaction is a driver of positive behavior, such as productive, disciplined, obedient, innovative, and helpful (Hajdukova et al., 2015), and a controller of negative or counterproductive behavior, such as corruption, stealing, and procrastination (Zhang & Deng, 2016). The more employees are satisfied with their current jobs, and this will be accompanied by a positive behavior and lower negative behavior, such as procrastination (Hajdukova et al., 2015). The relationship between employees and organizations is regulated in formal employment contracts and often in informal contexts. Likewise, the influence of job satisfaction on procrastination occurs in the context of formal work contracts and can happen in the context of informal work contracts. The influence of job satisfaction on procrastination behavior was found in the context of students (Grunschel et al., 2013b; Scheunemann et al., 2022) and procrastination in the workplace (Sharma, 1999; Sunarta et al., 2023b; Weymann, 1988). Qualitative studies found that job satisfaction is one of the reasons for procrastination behavior (Grunschel et al., 2013a). A study (Weymann, 1988) on 280 bank employees and supervisors found that job satisfaction is one of the factors that can influence procrastination behavior. Another study (Sunarta et al., 2023a) on 195 education staff at several universities in Yogyakarta found the influence of job satisfaction on procrastination behavior. The negative influence of job satisfaction on procrastination behavior was also found in a study by (Sharma, 1999) a study through interviews with 600 skilled workers (300 from the public sector and 300 from private sector organizations) which found that job satisfaction is one of the factors that can influence procrastination behavior.

H_3: Job satisfaction has a negative influence on procrastination.

Psychological Contract Fulfillment and Procrastination

In contrast to formal written employment contracts (Zenger et al., 2000), psychological contracts are informal, unwritten agreements between employees and the organization. Informal work relationship arrangements through psychological contracts often provide employees with autonomy to manage themselves and contribute optimally to the organization (Rousseau, 2015). Unwritten contracts in the form of promises or expectations (psychological) prioritize long-term relational relationships. Employees who feel that their psychological contract is fulfilled according to the pledges received will be encouraged to increase positive behavior and control negative behavior, such as procrastination. Previous studies (Cioca et al., 2020; Conway & Coyle-Shapiro, 2012; Katou & Budhwar, 2012) found that psychological contract fulfillment plays a vital role in performance, whereas if it is not fulfilled, it will have an impact on work deviations (Cioca et al., 2020). Based on this, it shows that fulfilling a psychological contract can control procrastination behavior. Psychological contracts provide autonomy (Pestana et al., 2020), self-regulation (Grunschel et al., 2013b; Prem et al., 2018; van Eerde & Klingsieck, 2018), and utilizing free time (Pestana et al., 2020). If the psychological contract is fulfilled, it will be able to control procrastination behavior. Conversely, violation of the psychological contract will have a positive effect on employee procrastination behavior in the workplace (Aydin, 2023). Another study (Abbas & Hasnawia, 2020) on staff at an Iraqi university found that violation of the psychological contract had an effect on emotional exhaustion among employees, thus encouraging the emergence of procrastination behavior.
H_4: Psychological contract fulfillment has a negative influence on procrastination.

Achievement Motivation and Organizational Commitment

Achievement motivation is a person's drive to achieve goals successfully (Deshpandé et al., 2013; Smith, 2015; Story et al., 2018). Employees with high achievement motivation will increase their commitment to work and the organization. Achievement motivation is an individual's ability to develop skills and behavior to utilize their best potential. Employees with high achievement motivation will voluntarily encourage involvement in work and become members of the organization in the long term. A study of 200 teachers in Jakarta found the influence of achievement motivation on organizational commitment (Nurochim, 2020). A study of 300 non-structural employees of public organizations also found the influence of achievement motivation on organizational commitment (Nurjaman et al., 2022). Likewise, a study of 223 employees of multinational companies in Nigeria found the influence of intrinsic motivation on organizational commitment (Bravo et al., 2019). The influence of achievement motivation on commitment was also found in employees of public organizations in Kutai Kartanegara Regency (Kristiani et al., 2021).
H_5: Achievement motivation has a positive influence on organizational commitment.

Job Satisfaction and Organizational Commitment

Employees who are satisfied with their work results will increase their commitment to work and the organization. Employee job satisfaction concerns salary and incentives, growth and career opportunities, leadership and supervision styles, work groups and social relations between employees, and satisfaction with physical and psychological working conditions. Although job satisfaction and organizational commitment are attitudinal dimensions, they are different. Job satisfaction is related to attitudes toward objective working conditions, while organizational commitment is related to general attitudes toward the organization. Job satisfaction is linked to various outputs, such as employee performance, turnover intention, and organizational commitment. Previous studies also found that job satisfaction positively impacts organizational commitment (Kristiani et al., 2021; Lee & Kim, 2023).
H_6: Job satisfaction has a positive influence on organizational commitment.

Psychological Contract Fulfillment and Organizational Commitment

Psychological contract fulfillment by the organization towards employees will increase commitment to work and the organization. A study (Cioca et al., 2020) of 308 respondents found that

psychological contract violations influence organizational commitment. Likewise, a cross-sectional survey research (Amedzro ST-Hilaire & de la Robertie, 2018) of 484 employees in the customer service division of an energy company found a relationship between psychological contract violation and organizational commitment. Another study (Choi et al., 2014) of 145 employees in the banking sector in Albania has found a relationship between psychological contract violation and organizational commitment. Another study of 106 employees from 6 micro banks in Nigeria also found the influence of psychological contract fulfillment on employee commitment (Don-Baridam, 2022). Another study of 202 manufacturing and retail employees in China also found a negative influence of psychological contract violation on organizational commitment (Aydin, 2023). The findings of these studies further strengthen the idea that psychological contract fulfillment does not directly influence procrastination but rather through organizational commitment.

H_7: Psychological contract fulfillment has a positive influence on organizational commitment.

Achievement Motivation on Procrastination through Organizational Commitment

Based on SET, employee motivation in long-term relationships with organizations is not only based on personal interests but also the transformation of motivation for the common good (Ahmad et al., 2023). In socio-educational organizations, personal dedication refers to an individual's desire to maintain or increase commitment to maintaining the quality of their relationships for the common good. Employees with high achievement motivation will increase their commitment to work and the organization. Achievement motivation is an individual's ability to develop skills and behavior to utilize their best potential. Employees with high achievement motivation will voluntarily encourage involvement in work and become members of the organization in the long term.

Previous studies (Kristiani et al., 2021; Nurjaman et al., 2022; Nurochim, 2020) showed that people with higher achievement motivation tend to have higher organizational commitment. Another group of studies (Chen & Han, 2017; Rosário et al., 2009) found the effect of organizational commitment on procrastination. Based on the two groups of studies, it can be concluded that achievement motivation has a positive effect on organizational commitment, while organizational commitment can control negative behaviors such as procrastination.

H_8: Achievement motivation has an indirect influence on procrastination but through organizational commitment.

Job Satisfaction on Procrastination through Organizational Commitment

Based on SET (Ahmad et al., 2023), the level of interdependence in a relationship is determined by the level of satisfaction with the relationship and the perception of the quality of the relationship alternatives. At a deeper level of relationship, the job satisfaction felt by individuals in employee-organization relationships is not only determined by short-term satisfaction for themselves but also by a commitment to achieving common goals and interests. In economic and exchange theory, this transformation produces an exchange market where each party is committed to maximizing common outcomes or goals, and avoiding counterproductive behavior such as procrastination. Empirically, the relationship between job satisfaction, organizational commitment and procrastination behavior has been presented in previous studies. Several previous studies (Arnoux-Nicolas et al., 2016; Kristiani et al., 2021; Lee & Kim, 2023) tested the direct influence of job satisfaction on organizational commitment. Another group of studies (Chen & Han, 2017; Rosário et al., 2009) found the influence of organizational commitment on procrastination. Based on these two study groups, it can be concluded that job satisfaction can not only directly influence procrastination behavior (Grunschel et al., 2013b; Scheunemann et al., 2022; Sharma, 1999; Sunarta et al., 2023b; Weymann, 1988) but also through organizational commitment.

H_9: Job satisfaction has an indirect influence on procrastination but through organizational commitment.

Psychological Contract Fulfillment on Procrastination through Organizational Commitment

Based on SET, the exchange of resources between employees and organizations is not only material resources, but also immaterial resources such as in the form of trust, emotional relationships, trust,

promises, hopes (Ahmad et al., 2023). Psychological contracts are useful for providing autonomy, trust for self-regulation. Employees who fulfill the psychological contract will increase their commitment to work and the organization. Furthermore, employees with high commitment will try to behave productively to achieve common goals and avoid negative behaviors such as procrastination behavior. Empirically, several studies (Don-Baridam, 2022; Restubog et al., 2006) have found that psychological contract fulfillment contributes significantly to increasing employee commitment. A study (Don-Baridam, 2022) on 106 employees from 6 microfinance banks in Nigeria found that. Another study (Restubog et al., 2006) on 300 IT employees in 8 private organizations in the Philippines reported that employee experience of contract breach can reduce employee affective commitment. Several other study groups (Chen & Han, 2017; Rosário et al., 2009) reported a significant effect of organizational commitment on procrastination. This shows that psychological contract fulfillment can not only directly influence procrastination behavior (Abbas & Hasnawia, 2020; Aydin, 2023) but can also indirectly influence procrastination through organizational commitment.

H_{10}: Psychological contract fulfillment has an indirect influence on procrastination but through organizational commitment.

Research Methods

This research uses the quantitative approach through survey design. The study was conducted through a case study approach at one of the state universities in Yogyakarta, Indonesia. The object of the case study was taken by considering the findings of the projrastination behavior of previous studies (Sunarta et al., 2023a). Another consideration is that one of the researchers works at the institution, so that they can understand the object of study more deeply. Research data was collected through questionnaires distributed to 126 academic staff at one of the state universities in Yogyakarta, Indonesia. A pilot study to assess the survey tool was conducted in July 2023. A total of 30 questionnaires were distributed to educational staff at Yogyakarta State University outside the research sample. During this process, we were able to change the questionnaire according to respondent input. For example, we changed the words "...making a scapegoat..." to "…looking for justification to delay work." to make it easier for respondents to understand. Samples were taken using simple random sampling with the assumption of a homogeneous population. This research consists of three independent variables, one mediating variable, and one dependent variable. The independent variables are (1) achievement motivation, (2) job satisfaction, and (3) psychological contract fulfillment, while the mediating variable is organizational commitment, and the dependent variable is procrastination behavior.

Procrastination was measured through questionnaires to employees with indicators adapted from previous research (Ferrari et al., 2009), namely procrastination to start or complete tasks, delays in completing tasks, time gaps between plans and actual performance, and other more enjoyable activities. Likewise, the instrument used to measure the procrastination construct was adapted from the modified (Özer et al., 2013) Tuckman scale (Tuckman, 1991). Several indicators used for the reliability value of statement items on the procrastination scale questionnaire have an Cronbach's alpha of 0.812.

Achievement motivation was measured through questionnaires to employees with four indicators adapted by previous research (Deshpandé et al., 2013). Questionnaire items relate to motivation to complete tasks on time, work according to set targets, and contribute according to potential and abilities. The reliability value of the statement items on the achievement motivation scale questionnaire has an Cronbach's alpha value of 0.760.

Job satisfaction is a comparison of the fulfillment of goals and expectations. The instrument used to measure satisfaction was adapted from a modified Spector (Dhamija et al., 2019). The reliability value of the statement items on the job satisfaction scale questionnaire has an Cronbach's alpha value of 0.810.

Organizational commitment was measured through questionnaires to employees with 14 indicators adapted developed by previous research (Sungu et al., 2019; Yu et al., 2014) which states that organizational commitment is a person's relatively strong identification and involvement with the organization. Questionnaire items related to questions include employee identification and

participation in an organization, commitment to continue serving the organization, and feelings such as responsibility, loyalty, or moral obligation to the organization. The reliability value of the statement items on the organizational commitment scale questionnaire has an Cronbach's alpha value of 0.965.

Psychological contract fulfillment is measured through questionnaires for employees adapted from previous research (Rousseau, 2008). Questionnaire items related to questions regarding employee fulfillment of promises and expectations regarding unwritten agreements between employees and managers. The reliability value of the statement items on the psychological contract fulfillment scale questionnaire has an Cronbach's alpha value of 0.909. In measuring the variables of psychological contract fulfillment, achievement motivation, and employee performance, respondents filled out a questionnaire using a 1-5 point Likert scale.

This research data was analyzed using the structural equation modeling (SEM) PLS software model. PLS is an alternative approach that moves from an SEM approach based on covariance to one based on variance. Predictive measures with non-parametric properties are used to evaluate PLS models. The PLS evaluation model is carried out by assessing the outer and inner models. The measurement model (outer model) test is based on loading factor parameters, convergent validity, discriminant validity, and reliability tests. An indicator with a loading factor greater than 0.70 is determined to have good convergent validity in reflective latency. However, for models in development, a loading factor of 0.50-0.60 may be acceptable. The hypothesis test uses calculation results from SEM (structural model), namely the significance level (ϱ) (α <0.01 = very significant, α <0.05 = significant, α <0.10 = quite significant).

Results and Discussion

As shown in Table 1, there were male respondents (52.38%) a little more than female (47.62%). Most of the respondents of education personnel spread across all faculties and work units in the Yogyakarta State University environment have a bachelor's degree (56.35%), and many have postgraduate education (10.32%). The second highest level of education is at the high school level (22.22%) and diploma level (11.11%).

Table 1. Respondents Profile

Descriptions	Categories	Frequency (n=126)	Percentage (%)
Gender	Male	93	73.81
	Female	33	26.19
	Total	126	100.00
Education	Elementary School	21	16.67
	Junior High School	5	3.97
	High School	38	30.16
	Bachelor's Degree	15	11.90
	Master Degree	47	37.30
	Total	126	100.00
Age (years old)	20 – 30	37	29.37
	31 – 40	55	43.65
	41 – 50	30	23.81
	>51	4	3.17
	Total	126	100.00
Work Experience (years)	5 – 10	70	55.56
	11 – 15	43	34.13
	16 – 20	12	9.52
	21 – 25	1	0.79
	Total	126	100.00
Work Unit/Faculty	Economics and Business	45	35.71
	Engineering	15	11.90
	Mathematics and Natural Sciences	25	19.84
	Sport Science	24	19.05
	Languages, Arts, and Culture	17	13.49
	Total	126	100.00

Source: Data processing (2023)

Furthermore, if viewed from the age as shown in Table 1, most respondents have an age between between 51-60 years old (48.41%), between 41-50 years old (34.13%), followed by respondents aged 31-40 years old (17.46%). In detail, respondents who have a work experience of between 25-30 years are the most (40.48%) and a work experience of 11-20 years (33.33%). Then respondents who have a work experience of 31-40 years (18.25%), and finally respondents who have a work period of less than 10 years (7.94%). Data on respondent characteristics seen from the work period side shows that the work period is relatively linear, the least is those who have a work period of less than 10 years and the most is between 25-30 years. Although those who have a work period of more than 30 years are also relatively large, they are still below the number of respondents who have a work period of between 25-30 years. The research respondents came from faculties and work units within the Yogyakarta State University. Most of the respondents (Table 1) came from the Faculty of Economics and Business (35.71%), followed by respondents from the Faculty of Engineering (11.90%), Mathematics and Natural Sciences (19.84%), Faculty of Sport Science (19.05%), and Languages, Arts, and Culture (13.49%).

Table 2. Loading Factor

	AM	JS	PCF	OC	PB
AM1	0.936				
AM2	0.933				
AM3	0.937				
AM4	0.844				
AM5	0.809				
AM6	0.907				
AM7	0.924				
AM8	0.904				
AM9	0.931				
JS1		0.834			
JS2		0.849			
JS3		0.857			
JS4		0.847			
JS5		0.777			
JS7		0.831			
JS8		0.887			
JS9		0.824			
PCF1			0.840		
PCF2			0.850		
PCF3			0.818		
PCF4			0.831		
PCF5			0.862		
PCF6			0.861		
PCF7			0.879		
PCF8			0.884		
OC10				0.816	
OC11				0.771	
OC12				0.854	
OC14				0.719	
OC3				0.752	
OC4				0.782	
OC5				0.748	
OC9				0.738	
PB1					0.713
PB2					0.881
PB3					0.805
PB4					0.923
PB5					0.895
PB6					0.834

Source: Data processing (2023)
Note. AM = Achievement motivation; JS = Job satisfaction; PCF = Psychological contract fulfillment; OC = Organizational commitment; PB =Procrastination behavior.

Indicators have high validity in measuring constructs if the correlation value to the construct (loading factor) is >0.70 (Hair et al., 2017). Several indicators with a loading factor <0.7 were removed from the model. The results of testing the improved measurement model (outer model) (Table 2) show that the loading factor value for all constructs is >0.7, so it has high validity in measuring the constructs. Based on Table 3, the results of discriminant validity testing show that the requirements for discriminant validity have been met because all variables have a root value of AVE > correlation between variables. These findings explain that the discriminant validity analysis has been confirmed. Therefore, the analysis continues to the SEM Full Model test.

The AVE test will be carried out. Table 3 shows that all latent variables have an AVE value greater than 0.5, so all constructs are valid. This indicates that the indicators that form the latent construct have good convergent validity when seen from the average variance extracted value. Based on Table 4, it can be seen that all latent constructs have Cronbach's alpha and composite reliability values of more than 0.70. This indicates that all latent constructs are reliable.

Table 3. Discriminant Validity Test – Fornell-Larcker Criterion

	AM	JS	OC	PB	PCF
AM	**0.904**				
JS	0.629	**0.839**			
OC	0.716	0.759	**0.774**		
PB	-0.661	-0.49	-0.648	**0.845**	
PCF	0.575	0.634	0.747	-0.555	**0.853**

Source: Data processing (2023)
Note. The diagonal value in bold is the square root of AVE (√AVE), and the value below the diagonal is the correlation between constructs.
AM = Achievement motivation; JS = Job satisfaction; PCF = Psychological contract fulfillment; OC = Organizational commitment; PB =Procrastination behavior.

Table 4. Construct Reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AM	0.972	0.972	0.976	0.817
JS	0.940	0.941	0.950	0.704
PCF	0.947	0.951	0.955	0.728
OC	0.904	0.905	0.922	0.599
PB	0.918	0.930	0.937	0.713

Source: Data processing (2023)
Note. AM = Achievement motivation; JS = Job satisfaction; PCF = Psychological contract fulfillment; OC = Organizational commitment; PB =Procrastination behavior.

Table 5. Summary of Direct Influences

	OC		PB	
	β Coefficient	p-value	β Coefficient	p-value
AM	0.291	0.000	-0.412	0.001
JS	0.349	0.000	0.111	0.329
PCF	0.358	0.000	-0.141	0.169
OC			-0.332	0.032
R-Square	0.741		0.512	
F-Square	2.861		1.049	
Q-Square			0.873	

Source: Data processing (2023)
Note. AM = Achievement motivation; JS = Job satisfaction; PCF = Psychological contract fulfillment; OC = Organizational commitment; PB =Procrastination behavior.

The inner model evaluation (Table 5) analyzes the results of the relationship between constructs. The R-Square value for the procrastination behavior (PB) variable is 0.512, which

means that the independent variable contributes an influence of 51.2% to procrastination behavior (PB). In comparison, the remaining 48.8% is the influence of other unobserved factors. The R-Square value for the organizational commitment (OC) variable is 0.741, which means that the independent variable contributes an influence of 74.1% to organizational commitment (OC). In comparison, the remaining 25.9% is the influence of other unobserved factors. The F-Square value shows the magnitude of the influence between variables with effect size. The F-Square value of 2.861 and 1.049 (>0.35) indicates that the magnitude of the influence is large. The Q-Square value of 0.873 or greater than 0 (zero) means that the model has adequate predictive relevance value.
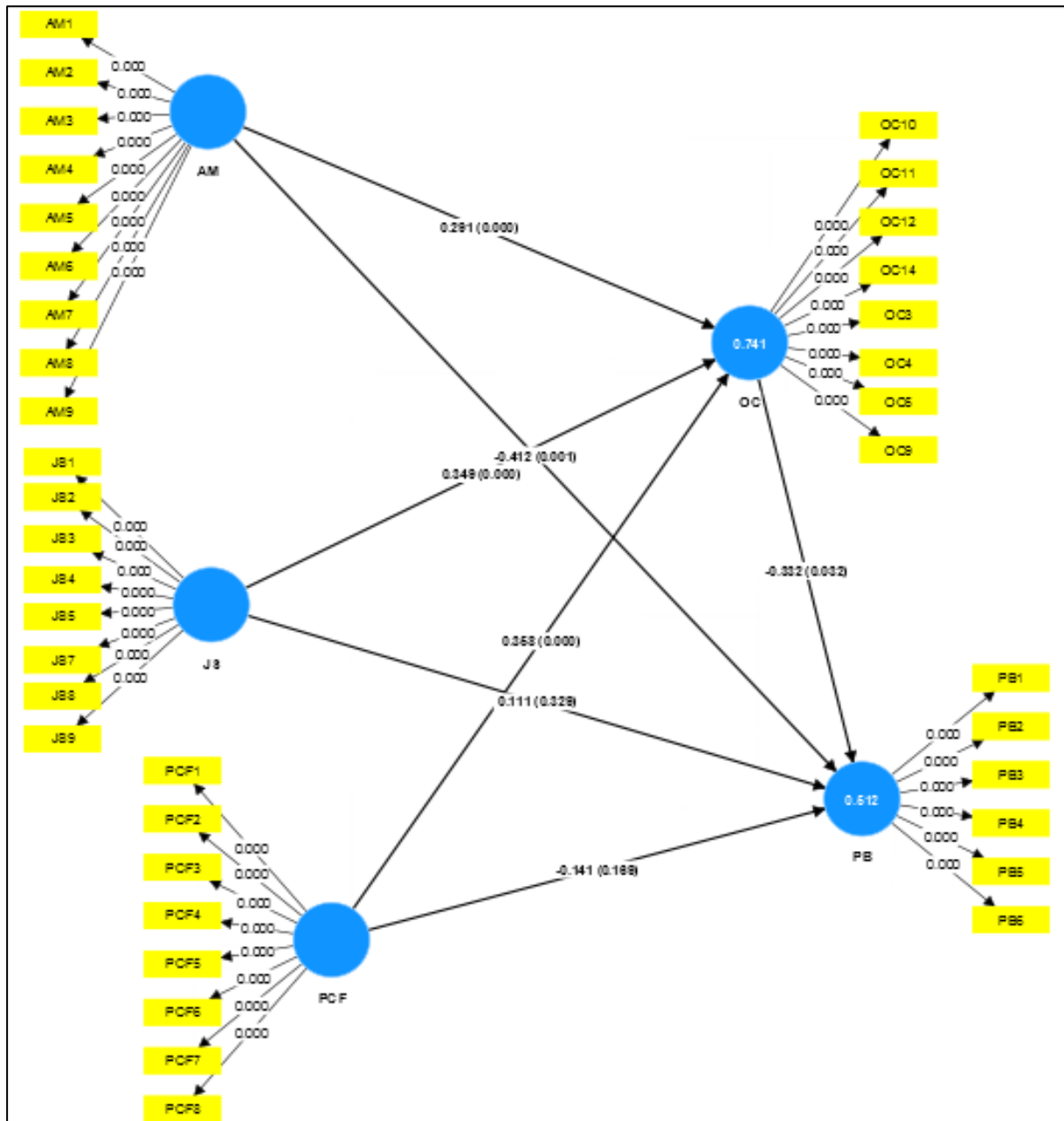
Figure 2. Significance Value (path coefficient; p-value)
Source: Data processing output using SmartPLS (2023)

Based on Table 6, as many as 8 out of 10 hypotheses were accepted, 2 hypotheses were rejected. AM has a direct effect on PB and indirectly on PB through OC. JS does not have a direct effect on PB but has an indirect effect on PB through OC. PCF does not have a direct effect on PB but has an indirect effect on PB through OC.

Table 6. Summary of Hypothesis Testing

	β Coefficient	p-value	Mediation indirect effect 95% confidence interval		Conclusion
			Lower	Upper	
OC → PB	-0.332	0.032**			H1 Accepted
AM → PB	-0.412	0.001***			H2 Accepted
JS → PB	0.111	0.329			H3 Rejected
PCF → PB	-0.141	0.169			H4 Rejected
AM → OC	0.291	0.000***			H5 Accepted
JS → OC	0.349	0.000***			H6 Accepted
PCF → OC	0.358	0.000***			H7 Accepted
AM → OC → PB	-0.096	0.080*	-0.534	0.341	H8 Accepted
JS → OC → PB	-0.116	0.039**	-0.589	0.358	H9 Accepted
PCF → OC → PB	-0.119	0.054*	-0.600	0.363	H10 Accepted

Source: Data processing (2023)
Note. AM = Achievement motivation; JS = Job satisfaction; PCF = Psychological contract fulfillment; OC = Organizational commitment; PB = Procrastination behavior.
*p<0.10; **p<0.05; ***p<0.01.

Discussion

Universities are socio-educational organizations. University academic staff are more oriented towards long-term relationships. This does not only happen to permanent employees, but also to contract employees who also hope to be accepted as permanent employees. In this context, long-term relationships depend not only on the characteristics of employees and organizations but also on the interdependence that develops between the two parties. Most social relationships in university organizations are also based on unspecified obligations. Employee commitment becomes important as one of the pillars in the context of SET. The research results show that organizational commitment negatively influences procrastination (β = -.332; p <0.05). The results of this study support previous studies (Chen & Han, 2017; Rosário et al., 2009) who found that organizational commitment has been proven to be able to control counterproductive behavior such as procrastination. Employees with high organizational commitment will try to start work early, produce the best performance, and avoid the potential risks of delaying the work. These results support previous studies that organizational commitment can be used to control negative behaviors such as procrastination. Based on SET, individuals with high commitment will believe that a relationship will last in the future. These individuals tend to behave in ways that do not always benefit themselves but will improve the quality of the relationship in the long term.

Achievement motivation has a dominant influence in controlling procrastination behavior. This shows that procrastination behavior can be avoided by prioritizing control from the individual's internal. The research results also reveal that achievement motivation has a negative influence on procrastination, both directly (β = -.412; p <0.01) and mediated through organizational commitment (β = -.096; p <0.10). The results also support previous research (Bäulke et al., 2021; Gurumoorthy & Kumar, 2020; Li et al., 2021; Lina et al., 2023), which shows a negative influence of achievement motivation on procrastination. An employee with high achievement motivation can control procrastination. Achievement motivation is not only personal motivation to achieve but also dedication to the achievement and goals of employees and the organization (Ahmad et al., 2023). Procrastination can be avoided if someone has achievement motivation and a high commitment to work and the organization. Individuals with high achievement motivation and commitment to work and the organization will try to do their duties on time, start working early, produce the best and highest-quality work, and not take the risk of failure in meeting the required quality and completion time beyond the specified deadline.

Job satisfaction does not have a direct influence on procrastination (β = .111; p >0.10); however, it influences procrastination through organizational commitment (β = -.116; p <0.05). The difference between the findings of this study and previous studies (Grunschel et al., 2013b; Scheunemann et al., 2022; Sharma, 1999; Sunarta et al., 2023b; Weymann, 1988) may be due to the

role of organizational commitment. Job satisfaction is volatile. In the other hand, commitment is one of the pillars of SET that requires the parties to demonstrate compliance with certain rules that are more long-term oriented (Ahmad et al., 2023). Focusing on the present will place great emphasis on current positive and negative exchanges as a basis for evaluating the relationship. The main characteristic of commitment is the intention to be together in the future, to have a long-term relationship. Committing to a relationship for the long term has a strong influence on individual relationship behavior, encouraging actions that serve the mutual best interests rather than short-term self-interest. The relationship is evaluated over a long period of time, not just based on what happens here and now.

Psychological contract fulfillment also does not have a direct influence on procrastination ($\beta = -.141$; $p > 0.10$); instead, it is mediated by organizational commitment ($\beta = -.119$; $p < 0.10$). The finding of an indirect influence of psychological contract fulfillment on procrastination supports previous research. These results also support previous studies on the importance of OC in maintaining long-term rather than short-term relationships. In the context of university institutions, staff often engage in psychological contracts with organizations or agencies for long-term relationships rather than short-term ones. If the psychological contract is fulfilled, it will encourage higher commitment, as well as control negative behaviors such as procrastination (Rousseau, 1989, 2004). Personal dedication refers to an individual's desire to maintain or improve the quality of their relationship for the sake of the common good. This is evidenced by the desire (and associated behaviors) not only to continue the relationship, but also to improve it, sacrifice for the relationship, invest in it, link personal goals to the relationship, and seek well-being, not just personal well-being.

Implication and Conclusion

In conclusion, achievement motivation and organizational commitment have a dominant role in controlling procrastination behavior in the university context. Procrastination behavior can be avoided if employees have high achievement motivation and organizational commitment. Job satisfaction and fulfillment of psychological contracts do not have a direct negative effect on procrastination behavior through organizational commitment. Job satisfaction and fulfillment of psychological contracts can be used to control procrastination behavior through organizational commitment.

The results of this study provide theoretical implications of the determinants of procrastination behavior in the university context. In the university context, achievement motivation and organizational commitment have a dominant influence in controlling procrastination behavior. The results of this study provide managerial implications in controlling employee procrastination behavior in the workplace through achievement motivation as an individual internal controller, as well as maintaining employee commitment in the employee's long-term relationship with the organization. Managerial implications based on this research indicate that procrastination at work can be controlled through internal factors within the individual and external factors. Internal factors are developed by encouraging achievement motivation and employee commitment to the organization. All top-level leaders and managers always need to provide encouragement, opportunity, and autonomy for employees to foster achievement motivation, which will encourage employees to make better contributions and perform better at the individual and organizational levels. Furthermore, employee commitment to the organization can be achieved by developing employee satisfaction with the supervision system, reward system, performance appraisal system, and informal relationships such as psychological contracts to provide employee autonomy.

This research has several limitations. First, procrastination is only assessed based on self-reports, which the employees themselves evaluate. This creates weaknesses due to the subjectivity of respondents in assessing procrastination. Measuring procrastination uses evaluation by superiors, which still has limited methods and instruments, making it a challenge for future research. Second, this research uses a survey approach by applying a cross-sectional design, which has a weakness in terms of time, so the factors of technological development and changes in the economic, social, and cultural environment are very determining. Considering these assumptions,

it is crucial for future research to pay attention to factors such as technological development, social change, and organizational culture. Third, this research is a case study research in the context of a university. The research model related to the determinants of procrastination behavior can be different in different research contexts. Further research is needed to explore the determinants of procrastination behavior in other contexts, such as in public service organizations or profit-oriented organizations. Fourth, the coefficient of determination of 51.2% indicates that other factors outside the model and SET can be further explored, such as the role of trust and loyalty.

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