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Academic Procrastination Model Among Mahasantri: Structural Equation Modeling Analysis

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Abstract
This study examines the formation of academic procrastination in the absence of the influence of peers. This study employed a correlational quantitative approach involving a sample of 425 mahasantri, selected through the cluster random sampling technique. This study used four instruments. The Academic Procrastination Scale (α = 0.971) was employed to assess academic procrastination, the Self-Regulated Learning Questionnaire (α = 0.937) was utilized to evaluate self-regulated learning, the Positive Peer Influence Inventory (α = 0.882) was utilized to assess peer influence, and the General Self-Efficacy Scale (α = 0.788) was utilized to assess self-efficacy. The data were analyzed using structural equation modeling with AMOS. The results showed chi square value = 131.924 (p <0.05), GFI = 0.968, AGFI = 0.952, CFI = 0.994, TLI = 0.992, RMSEA = 0.030 and NFI = 0.981.

Keywords: Academic Procrastination, Peers's Influence, Self Efficacy, Self-Regulated Learning, Structural Equation Modeling

Model Prokrastinasi Akademik Pada Mahasantri: Analisis Struktural Equation Modelling

Abstrak
Penelitian ini bertujuan untuk menguji terbentuknya prokrastinasi akademik ditinjau dari f pengaruh teman sebaya dan efikasi diri dan regulasi diri dalam belajar. Pada penelitian ini menggunakan pendekatan kuantitatif korelasional dengan sampel 425 mahasantri dan menggunakan teknik Cluster Random Sampling. Prokrastinasi akademik diukur dengan Academic Procrastination Scale (α=0,971), regulasi diri dalam belajar diukur dengan Self-regulated Learning Questionnaire (α=0,937), Pengaruh teman sebaya diukur dengan Positive Peer Influence Inventory (α=0,882) dan efikasi diri diukur dengan General Self Efficacy (α=0,788). Teknik analisis data menggunakan Structural Equation Modelling dengan AMOS. Hasil penelitian menunjukkan nilai chi square = 131,924 (p < 0,05), GFI = 0,968, AGFI = 0,952, CFI = 0,994, TLI = 0,992, RMSEA = 0,030 dan NFI = 0,981.

Kata kunci: Prokrastinasi Akademik, Pengaruh Teman Sebaya, Efikasi Diri, Regulasi Diri Dalam Belajar, Pemodelan Persamaan Struktural

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A. Introduction

The 'overnight speedy system' denotes the completion of an assignment on the day before the scheduled collection date. This phenomenon has been observed among students, with the most detrimental consequence being the delayed graduation of students. Besides, if left unaddressed, it can result in students being compelled to withdraw from college, ultimately leading to an extended period of education beyond the standard duration.[1, 2] According to OECD data in 2007, the average college dropout rate across 18 countries was around 30%[3]. It was found that in Germany, students typically drop out after 2 or 3 semesters[4] and while at Catalan universities, students tend to drop out after about 1.5 years of study.[5] Data from several universities in Spain for the academic year 2019/2020 reported that the dropout rate for undergraduate programs was estimated to be 26% of the student population, consisting of 13.5% first-year students and the remaining 12.5% being students who opted to discontinue their studies without obtaining a university degree.[6] This pertains to the regulation set forth in the Decree of Ministry Education No. 49 of 2014 concerning the National Standard of Higher Education, which outlines the maximum duration of first-level education at five years. As indicated by data from the Ministry of Education and Culture, the population of students who have ceased their studies at the college level can be divided into two categories: those who have formally dropped out from their programs of study and those who have resigned from their institutions.[7] In 2022, the dropout rate among

[1] Lukluk Nurmufida Chusnul Chotimah, "Pengaruh Self Regulated Learning Dan Pola Asuh Orang Tua Terhadap Prokrastinasi Akademik Mahasiswa" 5, no. 1 (2020): 55–65.
[2] Miftahul Jannah dan Tamsil Muis, "Prokrastinasi Akademik (Perilaku Penundaan Akademik) Mahasiswa Fakultas Ilmu Pendidikan Universitas Negeri Surabaya," *Jurnal BK UNESA* 4, no. 3 (2014): 1–8, https://ejournal.unesa.ac.id/index.php/jurnal-bk-unesa/article/view/9055.
[3] Oecd Indicators, "Education at a Glance OECD INDICATORS ORGANISATION FOR ECONOMIC CO-OPERATION," *Education* 49, no. 6 (2009): 574–83, http://www.oecd-ilibrary.org/education/education-at-a-glance-2009_eag-2009-en.
[4] Ulrich Heublein, "Student Drop-out from German Higher Education Institutions," *European Journal of Education* 49, no. 4 (2014): 497–513, https://doi.org/10.1111/ejed.12097.
[5] Joaquín Gairín et al., "Student dropout rates in Catalan universities: Profile and motives for disengagement," *Quality in Higher Education* 20, no. 2 (2014): 165–82, https://doi.org/10.1080/13538322.2014.925230.
[6] Secretaría General de Universidades, "Datos y cifras del Sistema Universitario Español. Publicación 2021-2022," *Datos y cifras*, 2022, 1–132, https://www.universidades.gob.es/stfls/universidades/Estadisticas/ficheros/DyC_2021_22.pdf.
[7] Kemendikbud, (2020), p. 21

Indonesian college students reached 4.02%, with a total of 375,134, out of a total of 9,320,410 registered students. In 2022, the Directorate General of Higher Education observed that there were 4,522 higher education institutions distributed across 34 provinces in Indonesia, with 9.32 million students enrolled in these institutions.[8]

In terms of statistical data, East Java has the highest number of college dropouts in 2022, reaching 55,667 students, representing 4.91% of the total number of students enrolled in higher education institutions in the region. The lowest rate was observed in North Kalimantan, with 502 students (3.53%) leaving their studies. The data indicates that students dropping out of college has become increasingly prevalent[9]. Some students terminate their studies each year or are compelled to leave the campus for various reasons. Dropout or dropping out of college is a multi-causal procedural event.[10] A study conducted by Patrzek et al. through qualitative interviews with several university counselors shows that dropout as a consequence of academic procrastination is not uncommon but rather frequent among students[11]. Learning behaviors that lack effective functionality, leading to academic procrastination, are one of the predictors of students dropping out of college[12]. Students who drop out of college leave the university without earning a degree[13] and those who drop out are at greater risk, including higher unemployment rates, lower income, lower subjective socioeconomic status (SES), and potentially lower mental health compared to their peers who graduate[14]. Dropouts tend to have a higher risk of unemployment, lower income, lower subjective SES, and worse mental

[8] Badan Pusat Statistik Indonesia, "Statistik Pendidikan Indonesia 2022," *Badan Pusat Statistik*, no. February (2022): 1–353.
[9] Badan Pusat Statistik Indonesia.
[10] Irmela Blüthmann, Steffen Lepa, dan Felicitas Thiel, "Studienabbruch und -wechsel in den neuen bachelorstudiengängen: Untersuchung und analyse von abbruchgründen," *Zeitschrift fur Erziehungswissenschaft* 11, no. 3 (2008): 406–29, https://doi.org/10.1007/s11618-008-0038-y.
[11] Justine Patrzek, Carola Grunschel, dan Stefan Fries, "Academic Procrastination: The Perspective of University Counsellors," *International Journal for the Advancement of Counselling* 34, no. 3 (2012): 185–201, https://doi.org/10.1007/s10447-012-9150-z.
[12] Michael Schneider dan Franzis Preckel, "Variables associated with achievement in higher education: A systematic review of meta-analyses.," *Psychological Bulletin* (Schneider, Michael: Psychology Department, University of Trier, Division I,, Trier, Germany, 54286, m.schneider@uni-trier.de: American Psychological Association, 2017), https://doi.org/10.1037/bul0000098.
[13] Linda Serra Hagedorn, "How to define retention," *College student retention formula for student success*, 2005, 90–105.
[14] Rhys Davies dan Peter Elias, *Dropping out: A study of early leavers from higher education* (Department for Education and Skills London, 2003).

health compared to graduates. Dropout is influenced by various factors, such as individual, institutional, and social factors, making it multifactorial[15]. The data suggests that dropping out of college has become common for students, because every year there are definitely students who decide to drop out of college or are expelled from campus for other reasons[16]. According to observations from researchers, one of the factors causing students to be expelled from campus is because of delays in completing college assignments or final assignments that have exceeded the maximum study period at the undergraduate level. In addition, individuals feel less confident in their abilities, individuals also behave procrastinating in completing college assignments or final assignments. Based on the results of interviews with several students who have dropped out of campus, one of the behaviors of procrastination is a dominant factor in completing college assignments or final assignments. Individuals prioritize other things or activities too much. In addition, individuals cannot also manage time to work on and complete assignments so that they spend more time hanging out and playing with friends than doing assignments. When students cannot use their time well and always delay time by doing other activities, their time is wasted in vain. The impact is that assignments are neglected and assignment completion is not optimal, so that it has the potential to cause failure or hinder a student from achieving graduation. The failure or success of an individual is not actually caused by the intelligence aspect alone, but the intensity of procrastination is also the main cause in completing academic tasks.Academic procrastination can be defined as a person's inclination to postpone the initiation, completion, and conclusion of academic activities. If the postponement involves essential tasks and is repeated with the intention of causing feelings of discomfort, it can be classified as an act of procrastination.[17]

The study of academic procrastination commenced in the 1980s, driven by the pervasiveness of this phenomenon among college students.[18] Subsequently,

[15] Francisco Javier García-prieto et al., "re pr no t p ee pr int no t p r r ed," 1954.
[16] Badan Pusat Statistik Indonesia, "Statistik Pendidikan Indonesia 2022."
[17]Laura J. Solomon dan Esther D. Rothblum, "Academic procrastination: Frequency and cognitive-behavioral correlates.," *Journal of Counseling Psychology* 31, no. 4 (1984): 503–9, https://doi.org/10.1037//0022-0167.31.4.503.
[18]Solomon dan Rothblum. *Op.cit.*, p. 15

Solomon and Rothblum investigated the underlying motives behind procrastination among 342 college students in the United States. Their findings revealed that fear of failure and dislike of the task were the primary motivators for this behavior. Procrastination has also been the subject of investigation across a range of cultural contexts, with findings suggesting the potential for cultural differences. The findings of Mann, et. al Indicated that East Asian students (such as Japanese, Taiwanese, and Hong Kong students) exhibited higher levels of academic procrastination compared to their Western counterparts (such as US, Australian, and New Zealand students).[19] Additional discrepancies emerge due to the procrastination profiles delineated by Özberk and Kurtça, whereby Turkish and international students (Albanian, Bosnian, Herzegovinian, and Greek) discerned disparate profiles in both groups with regard to general and academic procrastination characteristics.[20] A meta-analysis conducted by Steel Revealed that approximately 88% of research on general procrastination was conducted in the North American context (USA and Canada), with no significant differences between the two countries identified in the results.[21]

In the Indonesian context, a study reported that students in Surabaya exhibited moderate procrastination behavior at a rate of 74%, while 13.4% demonstrated high levels of procrastination and 12.6% exhibited low levels of procrastination.[22] Moreover, the underlying causes of procrastination behavior among students in Makassar have also been revealed, with 41.3% of students engaging in other activities that are perceived as more enjoyable, while 53.47% exhibit delays in completing assignments.[23] A number of studies have identified other various factors associated with delaying behavior in students. Those who engage in such behavior tend to perceive it as a habitual response, which can be

[19]Leon Mann et al., "Cross-cultural differences in self-reported decision-making style and confidence," *International Journal of Psychology* 33, no. 5 (1998): 325–35, https://doi.org/10.1080/002075998400213.
[20]Eren Halil ÖZBERK dan Tuğba TÜRK KURTÇA, "Profiles of Academic Procrastination in Higher Education: A Cross-Cultural Study Using Latent Profile Analysis," *International Journal of Psychology and Educational Studies* 8, no. 3 (2022): 150–60, https://doi.org/10.52380/ijpes.2021.8.3.465.
[21]Piers Steel, "The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure.," *Psychological bulletin* 133, no. 1 (2007): 65.
[22]Astri Haryanti dan Rudi Santoso, "Prokrastinasi Akademik pada Mahasiswa yang Aktif Berorganisasi," *Sukma: Jurnal Penelitian Psikologi* 1, no. 1 (2020): 41–47, http://jurnal.untag-sby.ac.id/index.php/sukma/article/view/3592.
[23]Abdul Saman, "Analisis Prokrastinasi Akademik Mahasiswa (Studi Pada Mahasiswa Jurusan Psikologi Pendidikan Dan Bimbingan Fakultas Ilmu Pendidikan)," *Jurnal Psikologi Pendidikan & Konseling* 3, no. 2 (2017): 55–62.

challenging to modify. This highlights the difficulty individuals may face in controlling their actions and the potential for delaying behavior to become a deeply ingrained habit.[24] The findings from Negara On undergraduate and postgraduate students at state universities in Indonesia indicate that the majority of both undergraduate and postgraduate students exhibited moderate academic procrastination, reaching 25.6% and 33.3%, respectively.[25] Moreover, the study from Suhadianto on 500 Indonesian students indicated that 73% of students postponed the task of composing papers, 76.8% of students delayed reading books or references, 61.8% of students postponed studying, 54.4% of students delayed completing academic administration, and 56.8% of students postponed arriving to class.[26]

This study employs the social cognitive theory (SCT) paradigm to examine academic procrastination behavior, following Bandura's perspective that human behavior may be conceptualized as a form of response to a stimulus that can be predicted and modified.[27] The social cognitive perspective posits that human behavior can be shaped by a triadic reciprocal causation model, whereby human behavior is a function of environmental, personal, and behavioral interactions. The term "reciprocal" is used to indicate interactions that are triadic rather than one-way. Accordingly, human behavior occurs due to continuous interaction between personal factors and environmental factors. In this study, the variable of peer influence is used as a representative of environmental factors, where peers have a greater capacity to engage in activities together, both on campus and at the boarding school. The variable of self-efficacy was selected as a personal factor that is expected to influence academic procrastination, as self-assessment of abilities can determine an individual's academic procrastination behavior. Meanwhile, the variable of self-

[24]Khosla Harshita, "Academic Procrastination and Personality Traits in College Students," *The International Journal of Indian Psychology* 09, no. 02 (2021), https://doi.org/10.25215/0902.129.
[25] Panji Patria Negara, "Hubungan antara usia, jenis kelamin, impulsiveness, mood, timing of rewards and punishments, dan task aversiveness dengan prokrastinasi akademik mahasiswa" (Universitas Gadjah Mada, 2013).
[26] Suhadianto et al., "Stop Academic Procrastination During Covid 19: Academic Procrastination Reduces Subjective Well-Being," *KnE Social Sciences* 2020 (2021): 312–25, https://doi.org/10.18502/kss.v4i15.8220.
[27] Albert Bandura, "Self-efficacy: toward a unifying theory of behavioral change.," *Psychological review* 84, no. 2 (1977): 191.

regulated learning is employed to address the empirical gap in the academic procrastination predictor. This is because self-regulated learning has never been examined as a mediator in previous studies with exogenous variables, namely peer influence and self-efficacy. Additionally, self-regulated learning is identified as a personal factor from social cognitive theory. The variable is employed as a mediator, with the assumption that the influence of peers and self-efficacy on academic procrastination can be exerted through the individual's capacity to self-regulate their learning metacognitively.

In addition, peer interaction has been demonstrated to exert a profound influence on the development of one's personality.[28] During the development phase, individuals benefit from the presence and togetherness of peers to a greater extent than they attain from the influence of parents. Besides, aside from parents, peers play a crucial role in an individual's social development, providing stimulation, companionship, support, and opportunities for affection[29] also posits that peers play a role in regulating social behavior, facilitating interaction with others, and fostering the development of individual skills in accordance with age-appropriate milestones. The quality of one's friendship environment has been shown to exert a significant influence on academic performance. When an individual's friendship environment is conducive, they are less likely to encounter obstacles in the learning process. Conversely, when the friendship environment is less supportive, individuals may face greater challenges in their academic endeavors.[30] Self-efficacy has been identified as a significant predictor of academic procrastination[31] posited that self-efficacy is a combination of self-confidence, independence, and belief in one's own abilities.[32] In the context of education, self-efficacy represents a pivotal element in

[28]S Villy Mayang, "Hubungan Locus Of Control Internal dan Interaksi Teman Sebaya terhadap Prokrastinasi Akademik Mengerjakan Tugas pada Siswa," in *Prosiding Seminar Nasional Magister Psikologi Universitas Ahmad Dahlan*, vol. 1, 2019, 522–28.
[29]J W Santrock, "Life-span development edisi ketigabelas jilid 1. Amerika" (New York: McGraw-Hill, 2012).
[30]Mei Mita Bella dan Luluk Widya Ratna, "Perilaku Malas Belajar Mahasiswa Di Lingkungan Kampus Universitas Trunojoyo Madura," *Competence : Journal of Management Studies* 12, no. 2 (2019): 280–303, https://doi.org/10.21107/kompetensi.v12i2.4963.
[31] Carol L. Skay Laurel A. Haycock, Patricia McCarthy, "Procrastination in College Students: The Role of Self-Efficacy and Anxiety," *JOURNAL OF COUNSELING & DEVELOPMENT* 76 (1998): 317–24, https://doi.org/10.1007/978-3-319-55595-9_3.
[32]Albert Bandura, "Regulation of cognitive processes through perceived self-efficacy.," *Developmental Psychology* 25, no. 5 (1989): 729–35, https://doi.org/10.1037//0012-1649.25.5.729.

an individual's success, influencing their decisions and actions in pursuit of academic excellence[33] identified a significant negative correlation between self-efficacy and academic procrastination.[34] Their findings indicated that individuals with low self-efficacy tend to engage in more severe academic procrastination behaviors also proposed that academic procrastination is associated with low self-efficacy.[35]

Procrastination among students is caused by a lack of effective self-regulated learning[36]. Self-regulated learning is not an inherent ability; rather, it is a process that individuals can learn to employ independently to facilitate their own academic development. This process encompasses three key stages, namely planning, organizing, and setting goals.[37] In addition to these three factors, individuals are expected to possess an appropriate learning strategy that will facilitate the learning process. Students who exhibit deficiencies in self-regulated learning typically demonstrate a lack of planning and exert minimal effort in pursuing the learning process. Further, students who lack plans and effort in learning are more likely to abandon their studies if they encounter difficulties or fail to complete assignments. This lack of engagement and self-regulated learning can result in suboptimal outcomes. Conversely, students who possess self-regulated learning are able to plan, organize, instruct themselves, monitor, and evaluate their learning process effectively.[38]

In this study, the variable of self-regulated learning is identified as a mediator based on the findings of previous academic studies. For instance, demonstrated that

[33]Kayhan Bozgun dan Kemal Baytemir, "Academic Self Efficacy and Dispositional Hope as Predictors of Academic Procrastination: The Mediating Effect of Academic Intrinsic Motivation," *Participatory Educational Research* 9, no. 3 (2021): 296–314, https://doi.org/10.17275/per.22.67.9.3.

[34]Joseph R. Ferrari, James T. Parker, dan Carolyn B. Ware, "Academic procrastination: Personality correlates with Myers-Briggs types, self-efficacy, and academic locus of control," *Journal of Social Behavior and Personality* 7, no. 3 (1992): 495–502.

[35]Shoni R. Edwards, "Self-efficacy as a mediator in the relationship between self-oriented perfectionism and academic procrastination," 2008.

[36]Allafannisa Maghfiroh, Ati Sumiati, dan Sri Zulaihati, "Pengaruh Self-Regulated Learning, Lingkungan Teman Sebaya, Dan Task Aversiveness Terhadap Prokrastinasi Akademik Pada Mahasiswa S1 Program Studi Kependidikan 2018 Fakultas Ekonomi Universitas Negeri Jakarta," *Indonesian Journal of Economy, Business, Entrepreneurship, and Finance* 2, no. 1 (2022): 65–75, https://doi.org/10.53067/ijebef.

[37]Chusnul Chotimah, "Pengaruh Self Regulated Learning Dan Pola Asuh Orang Tua Terhadap Prokrastinasi Akademik Mahasiswa."

[38]Fitria Savira, "Hubungan Self-Regulated Learning dengan Prokrastinasi Akademik pada Siswa Akselerasi," *Psikoborneo: Jurnal Ilmiah Psikologi* 2, no. 1 (2014): 60–66.

self-regulated learning is a crucial factor for achieving success in diverse learning environments.[39] Consequently, self-regulation is a comprehensive and holistic approach to learning.[40] Other research indicates that self-regulated learning functions as a mediator in numerous contexts pertaining to learning outcomes and learning satisfaction.[41] The research conducted by Barnard-Brak et al., regarding the mediating role of self-regulated learning revealed that self-regulation behavior in online learning serves as a mediator between perceptions of online courses and academic achievement.[42] As evidenced by the preceding research descriptions, self-regulated learning in learning plays a role in mediating numerous research variables within the academic domain. Consequently, in this study, identification of self-regulated learning as a mediator is anticipated to reinforce the indirect relationship between several exogenous and endogenous variables.

In Indonesia, numerous studies have been conducted in recent years examining academic procrastination among students. However, there is still a need for further research to identify the underlying factors that contribute to students' tendency to procrastinate academically. Besides, the majority of the samples involved in previous studies were general students. However, in this study, the participants were selected from students who predominantly live in Islamic dormitories and boarding schools. For the purposes of this study, the term "mahasantri" will be used to refer to these students. Jombang is one of the cities in Indonesia, popular as a city with a significant student population, with 216 boarding schools registered in the Emis (educational data system from the Ministry of Religion of Jombang) in 2023.[43] Given the high level of activity and the dense

[39]Thomas Lehmann, Inka Hähnlein, dan Dirk Ifenthaler, "Cognitive, metacognitive and motivational perspectives on preflection in self-regulated online learning," *Computers in Human Behavior* 32 (2014): 313–23, https://doi.org/10.1016/j.chb.2013.07.051.
[40]Ernesto Panadero, Anders Jonsson, dan Juan Botella, "Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses," *Educational Research Review* 22 (2017): 74–98, https://doi.org/10.1016/j.edurev.2017.08.004.
[41]Chee Leong Lim et al., "Self-regulated learning as a mediator in the relationship between peer learning and online learning satisfaction," *Malaysian Journal of Learning and Instruction* 17, no. 1 (2020): 51–75,
[42]Lucy Barnard-Brak, Valerie Osland Paton, dan William Y. Lan, "Self-regulation across time of first-generation online learners," *ALT-J: Research in Learning Technology* 18, no. 1 (2010): 61–70, https://doi.org/10.1080/09687761003657572.
[43]BPS, "Data Pondok Pesantren di Kab. Jombang," *Badan Pusat Statistik*, 2023, https://jombangkab.bps.go.id/statictable/2018/05/23/234/data-pondok-pesantren-di-kab-jombang-2017.html diakses pada tanggal 30-Oct-23.

schedule of students residing in dormitories and boarding schools, it is unsurprising that academic procrastination is a prevalent phenomenon among this demographic.[44]

Normatively, it is explained that a student has the duty and responsibility to act as an agent of change, both for themselves and for others. Furthermore, students are obliged to study and complete the assigned lecture tasks distributed by their instructors. Meanwhile, among mahasantri, interaction results in a melding of the identity they wish to project as a santri with their identity as a student, creating a position that is situated between the santri and student categories. The condition of conflicting identities will result in the formation of a hybrid or mixed identity.[45] Furthermore, this dual identity gives rise to role conflict between students and santri. Role conflict, as defined by Greenhaus dan Beutell (dalam Asdalifa, 2021) represents the inability to balance two or more roles, resulting in pressure when attempting to fulfill the responsibilities associated with each role. Further, students who experience role conflict tend to be less able to complete college activities and other activities. Role conflict occurs due to the overlap in time between two or more roles, a lack of focus on carrying out two or more roles, and pressure in one role that affects performance in other roles.

A study revealed that academic procrastination among students at the Islamic boarding school Ma'had Aly Tebuireng Jombang, Indonesia, was observed to manifest at a moderate level, with a prevalence of 62%.[46] Additionally, the findings of Prananta study focusing on academic procrastination behaviors among mahasantri in Yogyakarta, Indonesia, revealed a prevalence of high-risk behaviors at 20.9%, moderate-risk behaviors at 59.3%, and low-risk behaviors at 26.2%.[47] The phenomenon of academic procrastination has also been observed among

[44]Nurul Fitrian Eko Saputro dan Ririh Agung, "Efektivitas Bimbingan Manajemen Waktu Dalam Upaya Mengurangi Perilaku Prokrastinasi Akademik Santri Pondok Pesantren Inayatullah Yogyakarta [the Effectiveness of Time Management Guidance in an Effort To Reduce the Behavior of Academic Procrastination of S," *Acta Islamica Counsenesia: Counselling Research and Applications* 2, no. 2 (2022): 111–20, https://doi.org/10.59027/aiccra.v2i2.232.
[45]Satrio Dwi Haryono, "Identitas Hibrid Santri Mahasiswa" 02, no. 2 (2023): 132–48.
[46]Armeda Trisdianawati, "Hubungan dukungan sosial teman sebaya dengan prokrastinasi akademik pada mahasantri organsisasi" 15, no. 2 (2016): 1–23.
[47]Dian Yudhawati Aven Ongki Prananta, "The Effect Of Adversity Quotient On Procrastination" 000 (2000).

mahasantri at the Islamic boarding school Ma'had Al Jami'ah IAIN Kerinci, Indonesia, due to their inability to submit assignments by the specified deadline. This is attributed to the numerous tasks they are required to complete without effective time management. In addition to their daytime studies, they also engage in nighttime studies, which further increases their academic workload. Consequently, they are unable to complete their assignments in a timely manner, as evidenced by the collection of late assignments.[48] Following those studies, it is evident that academic procrastination is also prevalent among mahasantri. Furthermore, the academic demands placed upon mahasantri, particularly the tasks assigned in lectures, often have short deadlines and require the management of time between activities at boarding schools and the completion of college assignments. Consequently, it is understandable that these mahasantri may engage in behaviors that delay the completion of their college assignments.

This study seeks to develop a theoretical model that identifies the predictors of academic procrastination among mahasantri. It is crucial to understand these predictors that contribute to the development of academic procrastination in students, as this knowledge can inform strategies to enhance their ability to anticipate the influence of peers and cultivate confidence in their abilities. Additionally, it can facilitate more effective organization of the learning process, enabling students to assume responsibility for their obligations and prioritize tasks.

B. Research Methods

Research Design

This study employed a correlational quantitative approach with a survey method to empirically examine the influence of peers and self-efficacy on academic procrastination through self-regulated learning. Technical data analysis was conducted using Structural Equation Modeling (SEM) with AMOS version 26.

Participants

The study population consisted of all students enrolled in private universities in Jombang, Indonesia with the basis of Islamic boarding school, amounting to a total

[48]D. Juliawati dan H. Yandri, "Prokrastinasi Akademik Mahasantri Ma'had Al Jami'ah IAIN Kerinci," *Jurnal Fokus Konseling* 4, no. 1 (2018): 19–26, https://ejournal.umpri.ac.id/index.php/fokus/article/view/485.

of 14,031 students. Meanwhile, the number of samples was determined based on the number of item indicators multiplied by a factor of 5 to 10.[49] In light of these considerations, the number of samples in the study was determined to be the number of item indicators multiplied by 5, which equaled 425. The sample selection technique employed was cluster random sampling, and the sample criteria were students who are *mahasantri* and reside in a islamic boarding school.

No.	University	Number of samples
1.	Universitas Hasyim Asy'ari	65
2.	Universitas Darul Ulum Jombang	60
3.	Universitas Wahab Hasbullah	60
4.	Universitas Pesantren Tinggi Darul Ulum	60
5.	IAI Bani Fattah Tambakberas Jombang	60
6.	STAI At-Tahdzib Ngoro Jombang	60
7.	STIT Al-Urwatul Wutsqo Jombang	60
Total		**425**

Instruments

In this study, all instruments employed a self-report model comprising statements, where respondents were instructed to provide answers in accordance with the conditions they had experienced. Likert scale points 1-5 were employed to elicit responses from respondents. However, unfavorable item answers were assigned inverse score results, in contrast to the scoring of favorable item answers. The Academic Procrastination Scale (APS), developed by McCloskey and Scielzo was used to measure academic procrastination.[50] The APS comprises six aspects, namely psychological beliefs about ability (e.g., "I am aware that I am required to complete my coursework, yet I do not do so"), distraction (e.g., "When I should be engaged in my coursework, my attention is easily diverted by more appealing alternatives"), social factors (e.g., "I converse with friends more often than I do coursework"), time management (e.g., "I don't take the time to review and correct my assignments"), personal initiative (e.g., "When I don't understand something, I usually just find out the night before the exam"), laziness (e.g., "I put off doing assignments until the last

[49]Siswoyo Haryono, "Metode SEM Untuk Penelitian Manajemen dengan AMOS 22.00, LISREL 8.80 dan Smart PLS 3.0," *Journal of Physics A: Mathematical and Theoretical*, 2016, 450.
[50]Justin McCloskey dan Shannon Amerilda Scielzo, "Finally!: The Development and Validation of the Academic Procrastination Scale," *Manuscript submitted for publication*, no. March (2015): 1–38, https://doi.org/10.13140/RG.2.2.23164.64640.

day of submission"). The results of the Confirmatory Factor Analysis (CFA) test demonstrated that the chi-square value (χ^2) was 133.556 (p > 0,05). Additionally, the Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) were 0.948 and 0.923, respectively, exceeding the 0.80 threshold. The index of fit (I) and the Tucker–Lewis index (TLI) were both greater than 0.90, while the root-mean-square error of approximation (RMSEA) was smaller than 0.08. Therefore, it can be stated that this scale has good goodness of fit. The loading factor of the APS scale items ranged from 0.590 to 1.000.

The measurement of self-regulated learning variables was adapted from the Academic Self-Regulated Learning Questionnaire (ASLQ), developed by Nambiar, et al.,.[51] The scale comprised 36 items and was organized into three domains that align with Zimmerman's cyclical model,[52] namely thinking (e.g., "If needed, I make changes to plans to improve learning"), performance control (e.g., "I prepare lecture materials before starting to study"), and self-reflection (e.g., "When studying, I utilize various sources of information"). The results of the Confirmatory Factor Analysis (CFA) test yielded a chi-square value of 167.630 (p > 0.05), a Goodness of Fit Index (GFI) value of 0.936, and an Adjusted Goodness of Fit Index (AGFI) value of 0.916, all of which were greater than 0.8, indicating an acceptable fit to the data. The model demonstrated a good fit, with a CFI and TLI value greater than 0.90 and an RMSEA value smaller than 0.08. The loading factor of the ASLQ scale items ranged from 0.604 to 0.716, indicating a satisfactory level of internal consistency.

The scale for measuring peer influence was adapted from the Positive Peer Influence Inventory (PPII) scale, which was developed by McConchie.[53] This PPII scale consisted of 14 items that could be grouped into two aspects, including aspects of relationship quality and the level of influence of friends on attitudes and beliefs. The first aspect included items such as "The opinion of my best friend is important

[51]Deepika Nambiar, Johnson Alex, dan Dan Isaac Pothiyil, "Development and Validation of Academic Self-regulated Learning Questionnaire (ASLQ)," *International Journal of Behavavioral Sciences* 16, no. 2 (2022): 89–95.
[52]Barry J. Zimmerman, "A Social Cognitive View of Self-Regulated Academic Learning," *Journal of Educational Psychology* 81, no. 3 (1989): 329–39, https://doi.org/10.1037/0022-0663.81.3.329.
[53]James McConchie et al., "With a little help from my friends: Development and validation of the positive peer influence inventory," *Applied Developmental Science* 26, no. 1 (2022): 74–93, https://doi.org/10.1080/10888691.2019.1693272.

to me," while the second aspect included items such as "I go to my best friend when making important decisions." The results of the Confirmatory Factor Analysis (CFA) test demonstrated that the chi-square value was 19.992 ($p > 0.05$), the Goodness of Fit Index (GFI) was 0.980, and the Adjusted Goodness of Fit Index (AGFI) was 0.958, both of which exceeded the 0.80 threshold. The CFI and TLI values exceeded 0.90, indicating a good fit for the model. The RMSEA value was below 0.08, further supporting the model's fit. The loading factor of the PPII scale items ranged from 0.630 to 0.745, providing additional evidence of the scale's reliability.

The scale utilized to assess self-efficacy was the General Self-Efficacy (GSE), which was adapted from the original scale developed by Schawarzer.[54] The instrument comprised 10 items, such as "I can always solve difficult problems if I try hard," "I can solve most problems if I put in the necessary effort," and "No matter what comes my way, I am usually able to handle it." The results of the Confirmatory Factor Analysis (CFA) test yielded a chi-square value of 4.014 ($p > 0.05$), a Goodness of Fit Index (GFI) of 0.994, and an Adjusted Goodness of Fit Index (AGFI) of 0.9774, both of which were greater than 0.80. Additionally, the Comparative Fit Index (CFI) was 1.000, indicating an excellent fit between the hypothesized model and the observed data. The CFI, TLI, and RMSEA all exceeded the 0.90 and 0.08 benchmarks, respectively, indicating a satisfactory fit model. Besides, the GSE scale items exhibited loading factors ranging from 0.554 to 0.755.

Data Analysis Technique

In this study, hypothesis testing was performed using structural equation modeling (SEM) with the AMOS version 26 application. SEM integrates factor and path analysis, enabling researchers to simultaneously assess the relationship between multiple exogenous variables and numerous endogenous variables. This approach facilitates the evaluation of the proposed theoretical model's alignment with empirical data in the field.[55]

[54]Ralf Schwarzer dan Matthias Jerusalem, "The general self-efficacy scale (GSE)," *Dostupné z: http://userpage. fu-berlin. de/~ health/engscal. htm*, 2010.
[55]Dante M. Pirouz, "An Overview of Partial Least Squares," *SSRN Electronic Journal*, 2006, 1–16, https://doi.org/10.2139/ssrn.1631359.

C. RESULTS AND DISCUSSION

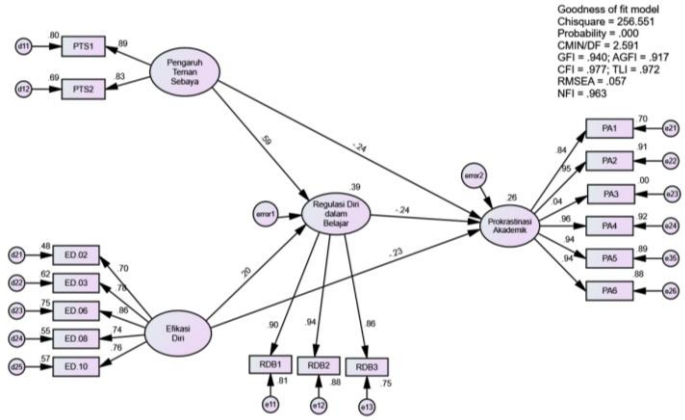
Results

The objective of this study is to ascertain whether the theoretical model of academic procrastination, which posits that peer influence and self-efficacy through self-regulated learning are the key factors. The model fit results depicted in Picture 1 do not align with the chi-square results presented in the subsequent section. The obtained chi-square value was 256.551 ($p < 0.05$), and the goodness of fit indices included GFI = 0.940, AGFI = 0.917, CFI = 0.977, TLI = 0.972, RMSEA = 0.057, and NFI = 0.963. The overall model fit, as indicated by various model fit indices, suggests that the model is reasonably well-fitting. Hair et. al. elucidated that the chi-square value, one of the statistics employed to assess model fit, must be interpreted in light of several considerations.[56] In general, a chi-square value with p greater than 0.05 indicates a good fit for the model. However, numerous factors can influence the outcome of the chi-square significance test. An insignificant chi-square value does not immediately categorize the model as having a good fit.

In one instance, a parsimonious model with a modest sample size may yield an insignificant chi-squared statistic, despite the model failing to meet other criteria of validity and feasibility. Similarly, additional considerations are associated with the application of the $\chi 2$ test to larger sample sizes and a substantial number of indicator variables. As a result, contemporary models are more intricate and encompass sample sizes that render the $\chi 2$ significance test an inadequate goodness-of-fit (GOF) measure, failing to distinguish between superior and inferior models. Therefore, regardless of the $\chi 2$ outcome, researchers must always supplement it with additional GOF indices. However, the $\chi 2$ value and the degrees of freedom of the model must be consistently reported. To enhance the model fit index, particularly in reducing the chi-square value, the hypothesis model was modified by incorporating the correlation between peer influence and self-efficacy

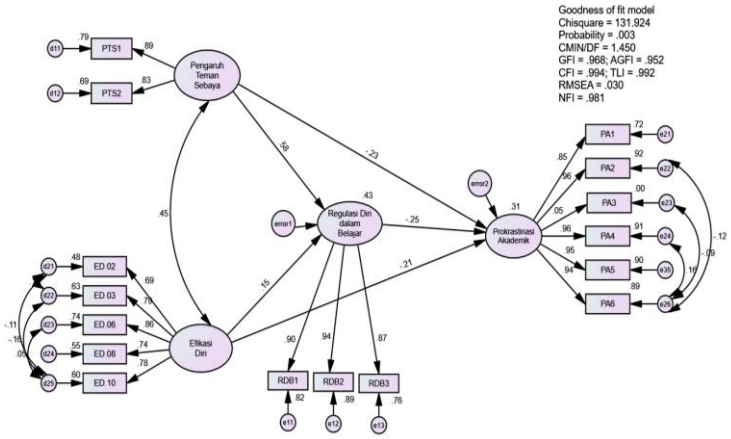
[56]R. Hair, J., Black, W., Babin, B., & Anderson, *on Multivariate Data Analysis Joseph F . Hair Jr . William C . Black Eight Edition.*, *International Journal of Multivariate Data Analysis*, vol. 1, 2018.

variables and a number of error correlations based on the results of the calculation of modification indices.



Picture 1. Results of Model Test

The model was subsequently modified, as presented in Picture 2. The resulting value was 131.924 ($p < 0.05$). Additionally, the GFI, AGFI, CFI, TLI, RMSEA, and NFI were calculated and yielded the following values: 0.968, 0.952, 0.994, 0.992, 0.030, and 0.981, respectively. The results of the chi-square test indicate a statistically significant discrepancy ($p < 0.05$) between the data covariance matrix and the covariance matrix of the model.



Picture 2. Results of Test on Modified Model

The relatively low PA3 loading factor of 0.05 is believed to be a contributing factor to this outcome. However, as indicated by the various model fit indices, the model fit is deemed to be satisfactory in general. Hair et. al. elucidated that the chi-square value, a statistic employed to assess model fit, must be interpreted in light of

several considerations.[57] Furthermore, the chi-square is susceptible to a high degree of variability when applied to a large number of samples. A comprehensive overview of the modified model test results can be found in Table 6.

Table 1. Results of Test on Modified Model of Academic Procrastination

Index	Goodness of Fit	Criteria	Description
Chi-square	131,924 *(p-value* = 0,003)	*p-value* > alpha 5%	**Not Feasible**
CMIN/ DF	1.450	≤ 3.00	**Feasible**
RMSEA	0.030	≤ 0.08	**Feasible**
TLI	0.992	≥ 0.95	**Feasible**
CFI	0.994	≥ 0.95	**Feasible**
GFI	0.968	≥ 0.90	**Feasible**
AGFI	0.952	≥ 0.90	**Feasible**

The data presented in Table 6 indicate that the chi-square value or p-value (P = 0.003) exceeds the 0.05 threshold, indicating an unfit criterion. This is because the data is statistically significant, indicating a discrepancy between the theoretical and empirical data. As Hair et al. have observed, a large sample size will make it more challenging for the model to achieve an insignificant goodness-of-fit index statistic.[58] Consequently, the chi-square or p-value is not the sole indicator of goodness-of-fit in a model. Rather, it is necessary to consider the value of other goodness-of-fit indicators. Meanwhile, the CMIN/DF value is within an acceptable range, with a value of 1.450 ≤ 3.00. The TLI value of 0.992 is within the acceptable range. Conversely, the RMSEA index, with a value of 0.030, is in accordance with the established criteria and can be considered a viable indicator. The CFI, GFI, and AGFI indices, with values of 0.994, 0.968, and 0.952, respectively, are in accordance with the criterion values of the CFI, GFI, and AGFI indices, thereby indicating that the overall SEM model can be accepted or the major hypothesis can be accepted. This implies that there is an influence of peers and self-efficacy on academic procrastination through self-regulated learning.

3.2 Discussion

The results of hypothesis testing indicated that there is a significant influence of peers and self-efficacy on academic procrastination through self-regulated learning. The identification of exogenous variables and mediators was founded upon

[57] Hair, J., Black, W., Babin, B., & Anderson.
[58]Hair, J., Black, W., Babin, B., & Anderson.

Bandura's social cognitive theory, which posits a causal model illustrated by the interaction of triadic reciprocal determinism. This model elucidates the mutual causation of behavior, cognition, and environmental influences, which operate as determinants of interactions that can influence each other. In greater detail, Bandura presents a model of triadic reciprocal determinism, which posits that three factors influence behavior, including the environment (E), the individual (P), and the behavior itself (B).[59] In this study, the social cognitive theory was employed as a theoretical foundation to elucidate the phenomenon of academic procrastination among the *mahasantri*. Researchers ascertained the impact of peers as an environmental factor, delineated the influence of self-efficacy and self-regulated learning as personal variables, and identified academic procrastination as a behavioral construct.

This finding is corroborated by Laursen and Veenstra, who posits that an individual who interacts with friends who are diligent, motivated, and have effective learning strategies is likely to adopt similar behaviors.[60] The objective of this study is to examine the impact of peer relationships on beliefs, attitudes, and behaviors, with a particular emphasis on the quality of these relationships and the extent to which they influence one another. As commonly understood, students enrolled in the same semester, pursuing the same academic program, and residing in the same locale are more likely to interact and form emotional bonds with one another. The degree of closeness and intensity of togetherness can exert an influence on the beliefs, attitudes, and behavior of an individual. Peer conformity, in contrast, represents a process through which individuals adjust their attitudes, behaviors, and values to align with the norms and expectations of their peer group.[61] This often occurs because of the desire to be accepted and valued, thus avoiding feelings of isolation within the group. Further, peer conformity can influence various aspects of an individual's life, including style of dress, choice of activities, academic decisions,

[59]Albert Bandura, "Human Agency in Social Cognitive Theory," *American Psychological Association*, 1989, 2–10, https://doi.org/0003-066X/89/$00.75.
[60]Brett Laursen dan René Veenstra, "Toward understanding the functions of peer influence: A summary and synthesis of recent empirical research," *Journal of Research on Adolescence*, 2021, https://doi.org/10.1111/jora.12606.
[61]R A Baron dan D Byrne, "Psikologi Sosial (terjemahan, jilid 2, ed 10)," *Jakarta: Erlangga*, 2005.

and social behavior. The influence of peers on the behavior of *mahasantri* occurs due to the effect of closeness to close friends who have the same characteristics, rather than due to coercion or to be accepted by the surrounding peer group.

Personal aspects were observed by self-efficacy and self-regulated learning, which serve as predictors of academic procrastination behavior.[62] The findings of this study indicate that self-efficacy exerts a negative and statistically significant influence on academic procrastination. Individuals with high self-efficacy tend to have confidence in their abilities and skills, enabling them to effectively navigate challenging situations and circumstances, including the ability to complete assignments in a timely and proficient manner[63] posited that there are discrepancies in self-efficacy between male and female *mahasantri*,[64] aligning with assertion that the advancement of abilities and competencies differs between genders.[65]

The findings that there is a negative relationship between self-regulated learning and academic procrastination, this indicates that individuals with self-regulated learning will show a lower tendency to perform behaviors that maintain it. This finding is in line with Bandura's statement that human behavior is often explained in terms of unidirectional cause and effect, where behavior is described as something that is shaped and controlled by environmental influences or driven by internal tendencies. Social cognitive theory explains psychosocial functions in terms of triadic reciprocal cause and effect.[66] This finding aligns with Bandura's assertion that human behavior is often explained in terms of unidirectional causation, whereby behavior is described as being shaped and controlled by environmental influences or driven by internal dispositions. Social cognitive theory elucidates psychosocial functioning in terms of triadic reciprocal causation.[67] This reciprocal causality model posits that internal personal factors, including cognitive,

[62]Laurel A. Haycock, Patricia McCarthy, "Procrastination in College Students: The Role of Self-Efficacy and Anxiety."
[63]Schwarzer dan Jerusalem, "The general self-efficacy scale (GSE)."
[64]Saputro dan Agung, "Efektivitas Bimbingan Manajemen Waktu Dalam Upaya Mengurangi Perilaku Prokrastinasi Akademik Santri Pondok Pesantren Inayatullah Yogyakarta [the Effectiveness of Time Management Guidance in an Effort To Reduce the Behavior of Academic Procrastination of S."
[65]Zimmerman, "A Social Cognitive View of Self-Regulated Academic Learning."
[66]Christopher A. Wolters, Sungjun Won, dan Maryam Hussain, "Examining the relations of time management and procrastination within a model of self-regulated learning," *Metacognition and Learning* 12, no. 3 (2017): 381–99, https://doi.org/10.1007/s11409-017-9174-1.
[67]Bandura, "Self-efficacy: toward a unifying theory of behavioral change."

affective, and biological events, behavioral patterns, and environmental events, operate as determining factors that interact and influence each other in two directions. In accordance with Bandura's theory, an individual's behavior is subject to influence from environmental factors, which may be observed and perceived, as well as from the components of personal characteristics. Environmental factors encompass the physical environment surrounding the individual, which has the potential to provide reinforcement stimuli, including individuals present in the social environment.[68] The concept of reciprocal determinism can be utilized to elucidate the behavioral patterns exhibited by *mahasantri*, which can be conceptualized as continuous reciprocity between cognitive, behavioral, and environmental factors. In the context of *mahasantri*, the environment exerts a significant influence on their behavior, particularly the influence of peers. However, this influence can also be moderated by other factors. Cognitive factors play a role in determining the level of self-efficacy and self-regulation abilities in learning, which can support the formation of *mahasantri* behavior in the influence of the environment in *pesantren* (Islamic boarding school). Similarly, the environment in the *pesantren* also exerts an influence on the formation of *mahasantri* behavior in the *pesantren* environment. Social cognitive theory elucidates the intricate relationship between academic procrastination, self-efficacy, and achievement in the context of learning.[69]

D. Conclusion

The results of hypothesis testing indicated a significant influence of peers and self-efficacy on academic procrastination through self-regulated learning. This implies that students who receive positive influence from their peers, possess good self-efficacy, and are supported by effective self-regulation skills in learning will also demonstrate a lower tendency to engage in academic procrastination. This study employed a survey methodology to examine academic procrastination among students, utilizing data collection techniques and online questionnaires to accommodate the large sample size. One limitation of the survey method is the

[68] Bandura, "Regulation of cognitive processes through perceived self-efficacy."
[69] Jill Janssen, "Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement Recommended Citation," *Georgia State University*, 2015, 5–15, https://scholarworks.gsu.edu/epse_diss/103.

tendency of respondents to select answers that align with their perceived social desirability, rather than reflecting their actual circumstances. Social desirability is a form of response bias that occurs when respondents answer self-report items not because they want to report their true state, but because they wish to protect their self-image and be perceived positively by society. One potential avenue for future researchers is the incorporation of an attention check between the items on the research instrument. This approach could help identify respondents who may have answered the items in a hasty manner without fully comprehending the statements presented to them. Consequently, it is anticipated that the resulting data will be more reliable and valid.

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