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College Students vs. Online Gaming: Academic Procrastination, Conscientiousness and Self-regulated Learning

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Abstract

As part of the education community, students are expected to achieve academic goals. However, they often engage in academic procrastination due to distractions such as online gaming. The purpose of this study was to empirically determine the extent to which conscientiousness and self-regulated learning predict the academic procrastination of students who play online games. The participants ($N = 119$) were undergraduate students aged 18–25 years who actively played online games for at least 10 hours a week.

The research instruments used were Schouwenburg's Academic Procrastination Scale, the NEO Five-Factor Inventory-3 (conscientiousness items), and Fitriani's Self-Regulated Learning Scale. The results showed that conscientiousness and self-regulated learning contribute significantly to the reduction of academic procrastination among students ($F = 319.702$, $p < .01$, $R^2 = .846$), indicating that self-control and conscientiousness play a crucial role in student learning behavior.

Education is a structured and systematic process of acquiring knowledge and skills across various disciplines. After completing high school, individuals may continue on to higher education, transitioning from high school students to university students. According to Article 13, Paragraph 1 of Law No. 12/2012, university students are a part of the academic community who have reached adulthood and have the self-awareness to grow their abilities in higher education institutions, aiming at becoming experts in their chosen fields.

As technology becomes increasingly sophisticated, many aspects of human life have also changed. The emergence of online games is one result of technological development. These are audiovisual games that can be played simultaneously by many individuals over the internet (Beck & Wade, 2007). According to a survey conducted in Indonesia in April 2022, 63% of Indonesians had played online games (Statista, 2022). Additionally, in 2019, Lenovo reported that gamers typically spend 7.5 hours playing video games each week, with 28% of them playing more than 10 hours weekly (Hariyanto, 2019).

Burka and Yuen (2008) argue that online games can have both positive and negative effects on students. However, negative impacts are more likely to occur if online gaming is not managed properly. Kurniasanti et al. (2019), an addiction expert, shared a story of a parent whose college student child was at risk of expulsion because they were reluctant to spend time studying and preferred to play online games. Novrialdy (2019) also found that online games can cause students to delay completing their assignments. Kurniawan (2017), who conducted interviews with counseling students at a university in Yogyakarta, likewise observed that online gaming can lead students to put off working on their college assignments. Delaying assignments until the deadline typically results in suboptimal quality (Pychyl et al., 2000).

The behavior of delaying a task is called procrastination (Knaus, 2010), and academic procrastination is when students delay working on or completing schoolwork. Burka and Yuen (2008) found that 75% of college students participate in academic procrastination. This is in line with research conducted by Solomon and Rothblum (1984) and Suhadianto and Pratitis (2020), who concluded that procrastination is often caused by laziness and reluctance to work. Ferrari and Díaz-Morales (2007)

explained that procrastination has a negative impact on students, causing them to lose valuable time without producing anything useful. Vosniadou (2020) added that this behavior is often associated with lowered learning performance, including low-quality submissions, unsatisfactory test scores, and a decline in overall academic achievement. In addition, there are a number of negative emotions that arise from academic procrastination, e.g., guilt, shame, and sadness. This can contribute to stress, anxiety and decreased emotional well-being (Shatz, 2023). Finally, Ragusa et al. (2023) found that the habit of delaying tasks hinders students' ability to effectively manage time and organize the learning process.

Academic procrastination can be influenced by several factors, one of which is personality. Lay and Brokenshire (1997) stated that conscientiousness plays an important role in influencing the tendency to procrastinate, while Schouwenburg and Lay (1995) explained that procrastination often reflects low levels of conscientiousness in students. Conscientiousness is one of the personality dimensions in the "Big Five" theory developed by Costa and McCrae (1992) and reflects discipline, accountability, and the ability to manage oneself to achieve goals. According to Scher and Osterman (2002), conscientiousness is the ability to control impulsive urges influenced by the social environment, specifically targeting behaviors related to goals and obligations. Individuals with the conscientiousness trait are generally meticulous, trustworthy, structured, and responsible (Lay, 1992).

Students who lack conscientiousness often procrastinate, neglect their academic responsibilities, and do not have clear study plans (Surijah & Sia, 2007). They may be unable to complete assignments for straightforward reasons like the tasks being too difficult, or even irrational reasons, such as feeling more challenged by online games than their assignments. Several studies have shown that conscientiousness has a significant negative correlation with academic procrastination (gwi Lee et al., 2006; Khosla, 2021; Morris & Fritz, 2014; Surijah & Sia, 2007; Swaraswati et al., 2017).

Another variable that can influence academic procrastination is self-regulated learning (Hong et al., 2021; Maraba & Bulut, 2022; Park & Sperling, 2012; Rakes & Dunn, 2010). In students, self-regulated learning is showcased by setting learning goals, having the motivation to achieve them, planning learning activities, and monitoring and controlling the learning process (Pintrich, 2004). Cheng (2011) stated that students must have appropriate strategies during the learning process, evaluate their progress periodically, and manage distractions so that learning becomes effective and efficient.

Zimmerman (1989) noted that self-regulation skills are not limited to the academic context, but are a way for all individuals to plan, organize, and achieve their own development goals. According to Montalvo and Torres (2004), students with self-regulated learning skills exhibit several characteristics, including understanding and being able to use strategies like organization, elaboration, and repetition. In addition, they can plan, control, and direct their own mental processes. Having motivational beliefs and adaptive emotions also enables individuals to plan, manage time, and complete tasks diligently, as well as apply disciplinary strategies to learning.

Several studies have found a significant negative relationship between self-regulated learning and academic procrastination (Motie et al., 2012; Noviyanti et al., 2019; San et al., 2016; Santika & Sawitri, 2016). Academic procrastination has also been associated with an inability to regulate oneself (Park & Sperling, 2012). This indicates that students' ability to regulate their own learning can help them overcome academic procrastination. Thus, it can be concluded that academic procrastination among students who play online games can be avoided if they develop the personality trait of conscientiousness and plan a self-regulated learning process.

The novelty of this study lies in its participants, namely students who actively play online games. Online gaming can have an impact on academic activities, making research on this relationship important to conduct. Based on the above findings, the researchers proposed three hypotheses: 1) conscientiousness predicts academic procrastination among students who play online games; 2) self-regulated learning predicts academic procrastination among students who play online games, and 3) conscientiousness and self-regulated learning simultaneously predict academic procrastination among students who play online games.

Method

Research Participants

This study employed a quantitative method with a purposive sampling technique to ensure that participants met criteria relevant to the phenomenon under investigation. All participants were undergraduate students, aged 18 to 25 years old, who actively played online games for an average of 10 hours a week. In total, 119 university students met the sample criteria; their average age was 21.5 years ($SD = 2.273$) and 57.1% were male. The research questionnaire was distributed via Google Forms.

Instruments

Content validity was assessed based on Azwar (1997) expert judgment method, in which an expert (in this case, the supervising lecturer) provides suggestions or inputs to ensure the accuracy and relevance of all items in the research scale. The scale itself was tiered with modifications to the answer choices, based on Likert's summated ratings principle. In this study, participants were asked to choose one of five answer options: Very Appropriate, Appropriate, Neutral, Inappropriate, or Very Inappropriate. The item discrimination power and instrument reliability tests were analyzed using the Statistical Package for the Social Sciences (SPSS) ver. 24 for Windows.

Academic Procrastination Scale

The researchers used the academic procrastination scale developed by Schouwenburg (1995), which consists of 25

items. This scale was adapted by researchers based on aspects of procrastination, namely a delay in starting or completing tasks, tardiness or slowness in performing them, a time gap between plans and actual performance, and engaging in other activities that are considered more enjoyable than the target tasks. It was translated from the original English into Indonesian, and the items were adjusted to make them easier for participants to understand. Based on the results of the item discrimination test, it was found that of the 25 items, 24 were considered good, with coefficients ranging from .380 to .955. In addition, the scale was found to have good reliability (α=.986).

Conscientiousness Scale

The research instrument used to measure conscientiousness in this study was the 12-item conscientiousness subscale of the NEO Five-Factor Inventory-3 (NEO-FFI-3), which was developed by Costa and McCrae (1992) based on the aspects of conscientiousness they had identified. These include the abilities to perform tasks competently, organize, uphold life principles, self-regulate, maintain the motivation to achieve goals, and think before acting. The scale was adapted by the researchers, then translated from the original English into Indonesian and adjusted so that participants could easily understand the items. Item discrimination testing found that all 12 items were good, with coefficients ranging from .908 to .962. The scale was also found to have good reliability (α=.991).

Self-regulated Learning Scale

This study used the self-regulated learning scale developed by Fitraini (2016), which comprises 16 items based on the aspects of self-regulated learning proposed by Zimmerman (1989), namely metacognition, motivation, and behavior. This scale was adapted by the researchers, who then adjusted the items to make them easier to comprehend. As shown by the item discrimination test, 15 out of 16 items were considered good, with coefficients ranging from .505 to .921. The scale also displayed good reliability (α=.973).

Research Procedure

Data collection was conducted through a Google Form and the link to the form was broadcast on several social media platforms, including Line, WhatsApp, Twitter, and Instagram. In addition, the researchers requested assistance from acquaintances and relatives to share the questionnaire link with prospective participants who met the research criteria.

Data Analysis Technique

The multiple linear regression technique was used to conduct data analysis in this study on Statistical Package for the Social Sciences (SPSS) ver. 24 for Windows software.

Results

The demographic data collected from the participants comprised gender, age, and average duration of online gaming. These data are shown in Table 1.

Table 1
Participants' Demographic Data

Variable	*N*	Percentage (%)
Gender		
Male	68	57.1%
Female	51	42.9%
Age		
18–21 years	59	49.6%
22–25 years	60	50.4%
Average Weekly Duration of Online Gaming		
10–15 hours	56	47.1%
15–20 hours	34	28.6%
$\geq$ 20 hours	29	24.4%

As seen in Table 1, the majority of participants were male students, and most were 22 to 25 years old at the time of the study. The average duration of online gaming among participants was between 10 and 15 hours a week.

Linearity testing showed that both conscientiousness and self-regulated learning have linear relationships with academic procrastination. The results of the linearity test are presented in Table 2.

Table 2
Linearity Test Results

Variables	*p*	Description
Conscientiousness - Academic Procrastination	$<$ .01	Linear
Self-regulated Learning - Academic Procrastination	$<$ .01	Linear

The research hypotheses were tested using multiple regression analysis to examine the examine the influence of conscientiousness and self-regulated learning on academic procrastination among university students who play online games. The results for each independent variable are presented in Table 3.

Table 3
Results of Hypothesis Testing for Conscientiousness and Self-regulated Learning

Variable	B	Std. Error	β	*t*	*p*
(Constant)	157.065	4.362	—	36.005	.000
Conscientiousness (X1)	-.646	.187	-.212	-3.447	.001
Self-regulated Learning (X2)	-1.357	.113	-.741	-12.043	.000

The findings were that conscientiousness significantly predicts academic procrastination (t=-3.447; $p < .05$; β = -.212), contributing to its reduction by 21.2%. Self-regulated learning was also found to significantly predict

academic procrastination (t=-12.043; $p < .05$; β = -.741) with a reduction of 74.1%.

Furthermore, the multiple regression analysis found that conscientiousness and self-regulated learning also simultaneously predict academic procrastination (F=319.702; $p < .01$; $R^2 = .846$). This result indicates that conscientiousness and self-regulated learning jointly account for 84.6% of the variance in academic procrastination.

Discussion

The purpose of this study was to empirically examine the extent to which conscientiousness and self-regulated learning correlate with academic procrastination in students who play online games. The results showed that conscientiousness predicts academic procrastination in this population: namely, among students who play online games, those who possess the personality trait of conscientiousness are less likely to engage in academic procrastination or task-delaying behavior than those who do not.

According to the study's findings, some students who play online games engage in academic procrastination, which indicates a lack of motivation to complete assignments. Students' failure to take concrete action and inability to showcase their skills cause them to delay their schoolwork (Gracelyta & Harlina, 2021). This is due to poor time management, low intention to complete assignments, and anxiety as the deadline approaches. Such behavior is in line with the findings of (Saman, 2017), who described several contribution of academic procrastination, including the belief that tasks can be done later, the desire to wait for the results of friends' work, and perceived incompatibility with lecturers. Irrational reasons, such as being more interested in playing online games than working on assignments, were also observed, indicating that the culture of procrastination is still rampant among students.

Lay (1992) explained that a lack of conscientiousness in students will lead to procrastination. Several other studies have likewise found that conscientiousness has a significant negative effect on academic procrastination in students (gwi Lee et al., 2006; Johnson & Bloom, 1995; Roberts et al., 2005; Surijah & Sia, 2007). Similar results were reported by Morris and Fritz (2014), whose research proved that academic procrastination is negatively correlated with conscientiousness.

Individual aspects of conscientiousness also influence procrastinatory behavior in students (Steel, 2007a). In terms of planning and time management, conscientious students will be more able to balance online gaming with their study activities so as not to neglect assignments. The motivation and goal aspect is characterized by a sense of responsibility toward academic tasks and the importance of completing tasks on time. This means that conscientious students who play online games are expected to feel responsible for still completing their college assignments in a timely manner.

Self-discipline and independence reflects students' ability to remain focused on their schoolwork despite distractions or temptations to procrastinate. Students with the trait of conscientiousness are expected to remain fully focused on completing their assignments despite playing online games.

Finally, the fourth aspect of conscientiousness concerns students' awareness of the negative consequences of delaying assignment completion. This means being aware that completing their college assignments is their responsibility as students, and understanding that procrastinating them will have a negative impact on their academic achievement, such as a decline in academic quality or even the loss of opportunities for self-improvement. In short, conscientiousness in students can help them balance their studies with extracurricular activities such as online gaming.

This study's second finding is that self-regulated learning predicts academic procrastination in students who play online games: that is, these students will be less likely to engage in academic procrastination when they have self-regulated learning skills. Students who play online games will complete their college assignments optimally if they are able to plan and implement strategies for doing so through disciplined learning and time management.

Every student should have the sense of responsibility to complete their academic tasks and the intention to do so immediately. However, those with a high level of academic procrastination lack the motivation to complete tasks on time (Ackerman & Gross, 2005). In this study, most participants reported a moderate level of procrastination, meaning that they delayed assignment completion and failed to motivate themselves to do the work. This is in line with Zimmerman (1989) elements of self-regulated learning behavior and motivation.

Noran (2000) said that students who fail to complete academic assignments are, in fact, aware that the assignments can be completed. They want to complete them and try to plan for and work on them. However, they instead procrastinate or spend time on unimportant activities or pleasures, such as playing online games. This behavior is related to the metacognition aspect of self-regulated learning proposed by Zimmerman (1989), which encompasses planning, organization, and monitoring.

The tendency to play online games among students is accompanied by low self-regulated learning, which is characterized by the lack of a regular study schedule, grade targets, and prioritization for studying over online gaming (Effendi, 2017). Furthermore, Balkis and Duru (2015) stated that academic procrastination can indicate how well students have developed their independent learning skills. The results Balkis and Duru's study, support Alfina (2014) research, which concluded that there is a significant negative relationship between independent learning and academic procrastination among students.

The present study also found that conscientiousness and self-regulated learning contributed 84.6% to the reduction of academic procrastination in students who play

online games. This indicates that organizing tasks, managing time, working hard, being diligent and motivated to achieve learning goals, planning learning strategies, and monitoring and evaluating learning can reduce procrastinatory behavior in this population.

At a basic level, the difference in conscientiousness and self-regulated learning among students can be seen from the way they plan and achieve their learning goals. Students with high conscientiousness and self-regulated learning will be more structured and disciplined in their studies, thus avoiding academic procrastination. According to Steel (2007b), procrastinatory behavior in students is often caused by a lack of self-regulation skills when studying. One of the reasons why students play online games is the challenge involved. The challenges in online games are interesting and trigger players' curiosity, so students who are accustomed to playing online games will want to continue doing so and find it difficult to stop (Burka & Yuen, 2008).

Cervone and Pervin (2013) stated that conscientiousness in students is expected to make them more disciplined in completing their coursework, as well as careful, thorough, punctual, organized, and focused on achieving their learning goals. Furthermore, self-regulated learning encourages change in students, leading them to become more motivated and skilled at learning and create clear learning goals, such as mastering certain competencies in their respective disciplines (Pratama, 2017). The results of this study are in line with previous findings that conscientiousness and self-regulated learning influence academic procrastination in students (Beswick et al., 1988; Steel & Klingsieck, 2016).

Limitations

Overall, the researchers acknowledge that this study has several limitations. First, it did not examine other factors that may contribute to academic procrastination, such as parenting styles, self-control, motivation, self-esteem, task aversiveness, self-efficacy, and other related variables. Another limitation concerns the relatively small number of participants, which might limit sample representativeness. In addition, the researchers were unable to directly monitor participants during data collection or provide more detailed explanations if they had difficulties understanding certain questionnaire items.

Conclusions

Based on the findings, three research hypotheses were accepted. First, conscientiousness significantly predicts academic procrastination among university students who play online games. Second, self-regulated learning significantly predicts academic procrastination among university students who play online games. Third, conscientiousness and self-regulated learning jointly predict academic procrastination among university students who play online games.

Simultaneously, conscientiousness and self-regulated learning accounted for a substantial contribution of 84.6% to reduction of academic procrastination in students who play online games, while the remaining 15.4% was influenced by other variables not examined in this study. Furthermore, the results of descriptive analysis indicate that students who play online games exhibit moderate levels of conscientiousness, self-regulated learning, and academic procrastination. The majority of participants were male, were in early adulthood (22–25 years old), and reported an average online gaming duration ranging from 10 to more than 20 hours a week.

Implications

This study demonstrates that academic procrastination among university students who play online games is a psychological phenomenon influenced not only by gaming intensity but also by internal factors, namely conscientiousness and self-regulated learning. Theoretically, these findings expand the integration of the Big Five personality theory and the self-regulated learning framework in explaining procrastinatory behaviors among students with high engagement in digital activities.

Practically, this study highlights the importance of developing interventions focused on enhancing self-regulated learning skills and conscientiousness through instructional strategies, time-management training, and academic counseling services, as both preventive and remedial efforts. Accordingly, these findings provide an empirical basis for higher education institutions to design policies and learning programs oriented toward strengthening self-regulation to minimize the negative impact of online gaming on academic achievement.

Recommendations

The researchers recommend that students develop greater organization, responsibility, and self-discipline and optimize their study plans by setting clearer and more specific academic goals, identifying tasks to be completed along with their deadlines, making effective use of free time for studying, monitoring their learning progress, and identifying obstacles or challenges encountered. Furthermore, future researchers who intend to examine similar topics are encouraged to conduct broader studies using more in-depth approaches, which will allow for more comprehensive research findings.

Declarations

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Author Contributions

AJC was responsible for manuscript writing, research design, data collection, data processing, and data analysis. MNRH, AM, AT and MD reviewed the manuscript, provided feedback, and approved the final version.

Conflict of Interest

The authors declare that there is no conflict of interest in the study, the writing, or the publication of this manuscript.

Declaration of Generative AI in Scientific Writing

The authors declare that artificial intelligence (Claude AI) tools were used to assist with language editing and writing refinement. All ideas, analyses, and interpretations presented in this manuscript are the original work of the authors and are fully accounted for.

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References

Ackerman, D. S., & Gross, B. L. (2005). My instructor made me do it: Task characteristics of procrastination. *Journal of Marketing Education*, *27*, 5–13. https://doi.org/10.1177/0273475304273842

Alfina, I. (2014). Hubungan self-regulated learning dengan prokrastinasi akademik pada siswa akselerasi [The relationship between self-regulated learning and academic procrastination in accelerated students]. *Psikoborneo: Jurnal Ilmiah Psikologi*, *2*(1). https://doi.org/10.30872/psikoborneo.v2i1.3575

Azwar, S. (1997). *Metode penelitian*. Pustaka Pelajar.

Balkis, M., & Duru, E. (2015). Procrastination, self-regulation failure, academic life satisfaction, and affective well-being: underregulation or misregulation form. *European Journal of Psychology of Education*, *31*(3), 439–459. https://doi.org/10.1007/s10212-015-0266-5

Beck, J. C., & Wade, M. (2007). *The kids are alright: Gamer juga bisa sukses*. Grasindo.

Beswick, G., Rothblum, E. D., & Mann, L. (1988). Psychological antecedents of student procrastination. *Australian Psychologist*, *23*, 207–217. https://doi.org/10.1080/00050068808255605

Burka, J. B., & Yuen, L. M. (2008). *Procrastination: Why you do it, what to do about it now*. Da Capo.

Cervone, D., & Pervin, L. A. (2013). *Personality: Theory and research 12th ed.* Wiley Global Education.

Cheng, E. C. (2011). The role of self regulated learning in enhancing learning performance. *The International Journal of Research and Review*, *6*, 1–16.

Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, *6*(4), 343–359. https://doi.org/10.1521/pedi.1992.6.4.343

Effendi, R. M. S. (2017). Regulasi diri dalam belajar (self-regulated learning) pada remaja yang kecanduan game online [Self-regulated learning in adolescents addicted to online games]. *Psikoborneo: Jurnal Ilmiah Psikologi*, *5*(2). https://doi.org/10.30872/psikoborneo.v5i2.4362

Ferrari, J. R., & Díaz-Morales, J. F. (2007). Perceptions of self-concept and self presentation by procrastinators: Further evidence. *The Spanish Journal of Psychology*, *10*(1), 91–96. https://doi.org/10.1017/s113874160000634x

Fitraini, H. K. (2016). *Self regulated learning ditinjau dari academic self-efficacy dan family closeness [Self-regulated learning reviewed from academic self-efficacy and family closeness]* [Undergraduate Thesis]. Universitas Katolik Soegijapranata.

Gracelyta, T., & Harlina. (2021). Tingkat prokrastinasi akademik siswa di masa pendemi Covid-19 [The level of academic procrastination of students during the Covid-19 pandemic]. *Jurnal Konseling Komprehensif: Kajian teori dan praktik bimbingan dan konseling*, *8*(1), 46–54. https://jkk-fkip.ejournal.unsri.ac.id/index.php/JKK/article/view/289/83

gwi Lee, D., Kelly, K. R., & Edwards, J. K. (2006). A closer look at the relationships among trait procrastination, neuroticism, and conscientiousness. *Personality and Individual Differences*, *40*, 27–37. https://doi.org/10.1016/j.paid.2005.05.010

Hariyanto. (2019). *Riset Lenovo: Generasi gamers selanjutnya bukan sekadar stereotipe [Lenovo research: The next generation of gamers is more than just a stereotype]* [accessed February 18, 2021]. https://www.industry.co.id/read/52097/riset-lenovo-generasi-gamers-selanjutnya-bukan-sekadar-stereotipe1

Hong, J. C., Lee, Y. F., & Ye, J. H. (2021). Procrastination predicts online self-regulated learning and online learning ineffectiveness during the coronavirus lockdown. *Personality and Individual Differences*, *174*. https://doi.org/10.1016/j.paid.2021.110673

Johnson, J. L., & Bloom, A. (1995). An analysis of the contribution of the five factors of personality to variance in academic procrastination. *Personality and Individual Differences*, *18*(1), 127–133. https://doi.org/10.1016/0191-8869(94)00109-6

Khosla, H. (2021). Academic procrastination and personality traits in college students. *The International Journal of Indian Psychology*, *9*(2), 1225–1235. https://ijip.in/articles/academic-procrastination-and-personality-traits-in-college-students/

Knaus, W. (2010). *End procrastination now; get it done with a proven psychological approach*. McGraw-Hill Companies, Inc. https://books.google.co.id/books?id=Iot3Ehg1DwYC&printsec=copyright&hl=id#v=onepage&q&f=false

Kurniasanti, K. S., Assandi, P., Ismail, R. I., Nasrun, M. W. S., & Wiguna, T. (2019). Internet addiction: A new addiction? *Medical Journal of Indonesia*, *28*(1), 82–91. https://doi.org/10.13181/mji.v28i1.2752

Kurniawan, D. E. (2017). Pengaruh intensitas bermain game online terhadap perilaku prokrastinasi akademik pada mahasiswa bimbingan dan konseling Universitas PGRI Yogyakarta [The influence of the intensity of playing online games on academic procrastination behavior in guidance and counseling students at PGRI Yogyakarta University]. *JURNAL KONSELING GUSJIGANG*, *3*(1). https://doi.org/10.24176/jkg.v3i1.1120

Lay, C. H. (1992). Trait procrastination and the perception of person-task characteristics. *Journal of Social Behavior and Personality*, *7*, 483–494.

Lay, C. H., & Brokenshire, R. (1997). Conscientiousness, procrastination, and person-task characteristics in job searching by unemployed adults. *Current Psychology*, *16*(1), 83–96. https://doi.org/10.1007/s12144-997-1017-9

Maraba, D., & Bulut, S. (2022). The exploration of academic procrastination from self regulated learning perspective.

Clinical Research in Psychology, *4*(2), 23–28. https://asclepiusopen.com/article/826

Montalvo, F. T., & Torres, M. (2004). Self regulated learning: Current and future directions. *Journal of Educational Psychology*, *2*(1), 1–34.

Morris, P. E., & Fritz, C. O. (2014). Conscientiousness and procrastination predict academic coursework marks rather than examination performance. *Learning and Individual Differences*, *39*, 193–198. https://doi.org/10.1016/j.lindif.2015.03.007

Motie, H., Heidari, M., & Sadeghi, M. A. (2012). Predicting academic procrastination during self-regulated learning in iranian first grade high school students. *Procedia - Social and Behavioral Sciences*, *69*, 2299–2308. https://doi.org/10.1016/j.sbspro.2013.02.023

Noran, F. Y. (2000). Procrastination among students in institutes of higher learning: Chalenges for k-economy. *Mahdzan*. http://www.mahdzan.com/papers/

Noviyanti, Yusmansyah, & Utaminingsih, D. (2019). Hubungan antara self-regulated learning dengan prokrastinasi akademik [The relationship between self-regulated learning and academic procrastination]. *Jurnal Bimbingan Konseling*, *7*(4). https://jurnal.fkip.unila.ac.id/index.php/ALIB/article/view/19310

Novrialdy, E. (2019). Kecanduan game online pada remaja: Dampak dan pencegahannya [Online game addiction in adolescents: impacts and prevention]. *Buletin Psikologi*, *27*, 148–158. https://doi.org/10.22146/buletinpsikologi.47402

Park, S. W., & Sperling, R. A. (2012). Academic procratinators and their self-regulation. *Psychology*, *03*, 12–23. https://doi.org/10.4236/psych.2012.31003

Pintrich, P. R. (2004). A conceptual framework for assesing motivation and self regulated learn in college students. *Educational Psychology Review*, *16*(4), 385–407. https://doi.org/10.1007/s10648-004-0006-x

Pratama, F. W. (2017). Peran self-regulated learning dalam memoderatori pembelajaran dengan pendekatan saintifik terhadap hasil belajar siswa [The role of self-regulated learning in moderating learning with a scientific approach to student learning outcomes]. *Satya Widya*, *33*(2), 99–108. https://doi.org/10.24246/j.sw.2017.v33.i2.p99-108

Pychyl, T. A., Morin, R. W., & Salmon, B. R. (2000). Procrastination and the planning fallacy: An examination of the study habits of university students. *Journal of Social Behavior and Personality*, *15*, 135–150.

Ragusa, A., González-Bernal, J., Trigueros, R., Caggiano, V., Navarro, N., Minguez-Minguez, L. A., Obregón, A. I., & Fernandez-Ortega, C. (2023). Effects of academic self-regulation on procrastination, academic stress and anxiety, resilience and academic performance in a sample of Spanish secondary school students. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1073529

Rakes, G. C., & Dunn, K. E. (2010). The Impact of Online Graduate Students' Motivation and Self-Regulation on Academic Procrastination. *Journal of Interactive Online Learning*, *9*(1). https://www.ncolr.org/issues/jiol/v9/n1/the-impact-of-online-graduate-students-motivation-and-self-regulation-on-academic-procrastination.html

Roberts, B. W., Chernyshenko, O. S., Stark, S., & Goldberg, L. R. (2005). The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Personnel Psychology*, *58*(1), 103–139. https://doi.org/10.1111/j.1744-6570.2005.00301.x

Saman, A. (2017). Analisis prokratsinasi akademik mahasiswa (studi pada mahasiswa jurusan psikologi pendidikan dan bimbingan fakultas ilmu pendidikan) [Analysis of academic procrastination in students (study on students majoring in educational psychology and guidance, faculty of educational sciences)]. *Jurnal Psikologi Pendidikan dan Konseling: Jurnal Kajian Psikologi Pendidikan dan Bimbingan Konseling*, 55. https://doi.org/10.26858/jpkk.v0i0.3070

San, Y. L., Roslan, S. B., & Sabouripour, F. (2016). Relationship between self-regulated learning and academic procrastination. *American Journal of Applied Sciences*, *13*, 459–466. https://doi.org/10.3844/ajassp.2016.459.466

Santika, W. S., & Sawitri, D. R. (2016). Self-regulated learning dan prokrastinasi akademik pada siswa kelas XI SMA negeri 2 Purwokerto [Self-regulated learning and academic procrastination in class XI students of SMA Negeri 2 Purwokerto]. *Jurnal EMPATI*, *5*(1), 44–49. https://doi.org/10.14710/empati.2016.14946

Scher, S. J., & Osterman, N. M. (2002). Procrastination, conscientiousness, anxiety, and goals: Exploring the measurement and correlates of procrastination among school-aged children. *Psychology in the Schools*, *39*, 385–398. https://doi.org/10.1002/pits.10045

Schouwenburg, H. C. (1995). Academic procrastination: Theoretical notions, measurement and research. In *Procrastination and task avoidance: Theory, research, and treatment* (pp. 71–96). Plenum Press.

Schouwenburg, H. C., & Lay, C. H. (1995). Trait procrastination and the Big-Five factors of personality. *Personality and Individual Differences*, *18*(4), 481–490. https://doi.org/10.1016/0191-8869(94)00176-S

Shatz, I. (2023). Academic procrastination: Examples, consequences, causes, and solutions [Accessed on August 30, 2023].

Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, *31*(4), 503–509.

Statista. (2022). Share of online gamers in indonesia in 2022. statista.com/statistics/1365265/indonesia-breakdown-of-gamers-by-generation/?srsltid=AfmBOoq4Mz2-D3oec6Xot5ewcUruQxpfPAmYzTySvGabcYcQ6ri1iyta

Steel, P. (2007a). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*(1), 65–94. https://doi.org/10.1037/0033-2909.133.1.65

Steel, P. (2007b). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*(1), 65–94. https://doi.org/10.1037/0033-2909.133.1.65

Steel, P., & Klingsieck, K. B. (2016). Academic procrastination: Psychological antecedents revisited. *Australian Psychologist*, *51*(1), 36–46. https://doi.org/10.1111/ap.12173

Suhadianto, S., & Pratitis, N. (2020). Eksplorasi faktor penyebab, dampak dan strategi untuk penanganan prokrastinasi akademik pada mahasiswa [Exploration of the causal factors, impacts and strategies for handling academic procrastination in students]. *Jurnal RAP (Riset Aktual Psikologi Universitas Negeri Padang)*, *10*(2), 204. https://doi.org/10.24036/rapun.v10i2.106672

Surijah, E. A., & Sia, T. (2007). Mahasiswa versus tugas: Prokrastinasi akademik dan conscientiousness [Students versus assignments: Academic procrastination and conscientiousness]. *ANIMA Indonesian Psychological Journal*, *22*(4), 352–374. https://doi.org/10.24123/aipj.v22i4.4365

Swaraswati, Y., Winarno, A. R. D., & Goeritno, H. (2017). Academic procrastination of undergraduate students: the role of academic self-efficacy and the big five personality traits. *Proceedings of the 9th International Conference for Science Educators and Teachers (ICSET 2017)*. https://doi.org/10.2991/icset-17.2017.122

Vosniadou, S. (2020). Bridging secondary and higher education. The importance of self-regulated learning. *European Review*, *28*, S94–S103. https://doi.org/10.1017/S1062798720000939

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, *81*(3), 329–339. https://doi.org/10.1037/0022-0663.81.3.329