

Peer Comparison for Improving Senior High School Students' Achievement Motivation

Salsabilla Arshalina Azzahra¹, M. Salis Yuniardi², Aransha K. N. Putri³

Faculty of Psychology, University of Muhammadiyah Malang, Indonesia^{1 2 3}

aranshakarnilla@umm.ac.id

Abstract

The desire for achievement creates motivation within the individual, where achievement motivation comes because of the need for achievement, which includes the desire to achieve success, complete difficult tasks, face challenges, and the desire to exceed others. This research aims to investigate whether peer comparison will affect achievement motivation as a manifestation of their need for achievement. This study used a quantitative method with a quasi-experimental design with two groups pre-test and post-test. A purposive sampling technique was utilized in this study, with the criteria of female and male senior high school students aged between 15-18 years old who have low scores in achievement motivation. Participants in the experimental group will receive daily reports containing learning evaluations including the full scores and list of top ten students with the highest scores for six days. Achievement motivation was measured using the achievement motivation scale by Prihandrijani. Based on the results of the Wilcoxon test which was carried out after being given treatment, it was found that there was a significant difference in the subject's pre-test and post-test scores on the experimental group's achievement motivation with a value of $p < .05$. While in the control group, there was no significant difference seen from the value of $p > .05$. On the results of the Mann-Whitney test to see differences in achievement motivation in the experimental group and the control group, the value of $p < .05$ was obtained so that it can be concluded that giving treatment in the form of peer comparisons can influence individual achievement needs. This study result provides a new contribution to research related to achievement motivation and peer comparison which has been carried out using cross-sectional or observational methods.

Keywords: achievement motivation, need for achievement, peer comparison, social comparison

Abstrak

Keinginan akan sebuah pencapaian menciptakan motivasi dalam diri individu, dimana motivasi berprestasi datang karena adanya kebutuhan untuk berprestasi, yang meliputi keinginan untuk mencapai kesuksesan, menyelesaikan tugas yang sulit, menghadapi tantangan, dan keinginan untuk bisa melebihi orang lain. Penelitian ini bertujuan untuk melihat apakah perbandingan teman sebaya akan memengaruhi motivasi berprestasi. Penelitian ini menggunakan metode kuantitatif dengan desain eksperimen semu two group pre-test post-test. Metode sampling yang digunakan adalah teknik purposive sampling dengan kriteria subjek penelitian perempuan maupun laki-laki berusia 15-18 tahun dan memiliki skor motivasi berprestasi rendah. Partisipan dalam kelompok eksperimen akan menerima laporan harian berisi evaluasi pembelajaran yang didalamnya terdapat nilai dan nama sepuluh besar nilai terbaik di kelas. Motivasi berprestasi diukur dengan skala motivasi berprestasi milik Prihandrijani. Berdasarkan hasil uji Wilcoxon yang dilakukan setelah diberikan perlakuan, didapatkan adanya perbedaan yang signifikan pada skor pre-test dan post-test subjek terhadap motivasi berprestasi kelompok eksperimen dengan nilai $p < .05$. Sementara pada kelompok kontrol tidak ditemukan perbedaan yang signifikan dilihat dari nilai $p > .05$. Pada hasil uji Mann-Whitney untuk melihat perbedaan motivasi berprestasi kelompok eksperimen dan kelompok kontrol, didapatkan nilai $p < .05$ sehingga dapat disimpulkan bahwa pemberian perlakuan berupa perbandingan teman sebaya mampu

mempengaruhi kebutuhan berprestasi individu. Hasil penelitian ini memberikan kontribusi baru tentang penelitian terkait dengan achievement motivation yang selama ini dilakukan dengan metode cross-sectional atau observasi.

Kata kunci: kebutuhan berprestasi, motivasi berprestasi, perbandingan social, perbandingan teman sebaya

Introduction

Academic success serves as a primary motivator for students, compelling them to strive for optimal performance and avoid failure. While perceptions of success may vary among individuals, academic achievement continues to be regarded as the pinnacle of accomplishment in students' academic journeys. According to [York et al. \(2015\)](#) conceptualization of academic success, which builds upon [Kuh et al. \(2006\)](#) work and Astin's Inputs-Environment-Outcomes (I-E-O) model ([1991](#)), it is shaped by factors such as academic achievement, attainment of learning goals, acquisition of expected skills and competences, satisfaction, perseverance, and eventual career success.

Existing literature commonly associates high scores with success, mirroring prevailing societal norms. Scores or academic outcomes are prominently observable indicators of academic success. Consequently, it is comprehensible that students invest significant effort in attaining high academic scores as markers of their academic achievements. Such endeavors contribute to the development of individuals' achievement motivation, encompassing their drive to succeed, tackle challenging tasks, overcome obstacles, and outperform others ([McClelland et al., 1953](#)).

[Epstein and Harackiewicz \(1992\)](#) reported that the need for achievement is positively correlated with high performance. Achievement motivation serves as a driving force for individuals to meet the standards of success. In this context, higher achievement motivation is associated with higher performance standards ([McClelland, 1965](#)). Achievement motivation enhances individuals' ability to confront challenging tasks with a pursuit of excellence. Achieving success not only brings external rewards but also leads to greater personal fulfillment. Individuals with high achievement motivation often perceive difficult tasks as challenges rather than threats, enabling them to seek innovative solutions ([Schultheiss & Brunstein, 2005](#)).

Individuals with high achievement motivation tend to regulate their task-related stress better than those with lower achievement motivation. A previous study by [Schultheiss et al. \(2014\)](#) shows that individuals with a high achievement motivation tend to report lower depression and mood disorder. Individuals with low achievement motivation often perceive challenging tasks as a stressful burden. This perception has been shown to increase cortisol release through the hypothalamic-pituitary-adrenal (HPA) axis as a physiological response to stress. Cortisol plays a crucial role in regulating glucose levels in the body, helping individuals cope with stressors.

Achievement motivation holds significant intrinsic value for students, particularly as they face greater responsibilities and challenges throughout their academic journey. [Emda's \(2018\)](#) study highlights motivation as one of the factors that impact students' academic success. Despite its importance, many students exhibit low levels of achievement motivation. This observation is supported by a senior high school teacher in Probolinggo City, who notes that while students are physically present in class, they often struggle to concentrate on the learning materials presented to them. This is evident in their inability to answer questions that have just been explained. A teacher from a senior high school in Malang City reported that students are achieving lower learning outcomes compared to the period before the pandemic. This observation is supported by comments on social media, where many people claim that online learning is more comfortable than in-person instruction.

For senior high school students, developing a strong motivation for achievement is crucial as they prepare for their futures. Individuals need to focus on the indicators that contribute to their goal attainment, including academic success. Besides that, achievement motivation plays a vital role in attaining academic success and is associated with higher performance standards ([McClelland, 1965](#);

[Ridwansyah & Mutiah, 2015](#)). Therefore, senior high school students must foster achievement motivation to fulfill their needs for accomplishment.

Achievement motivation plays a crucial role in optimizing students' academic performance, thereby influencing their overall academic success. When this motivation stems from internal factors, it has the potential to strengthen individual behavior. In this context, [Abdullah \(2019\)](#) argues that adolescents are susceptible to various social influences, including family, peers, and significant others. Studies revealed that students tend to form friendships with peers of similar or higher academic achievement levels ([Shen and French, 2023](#)). This claim is strengthened by a study by [Liu \(2023\)](#) who found that students' academic success is affected by the quality of friendships, the number of friends, and friends' academic performance. Furthermore, Astin's Inputs-Environment-Outcomes (I-E-O) Model ([1991](#)) suggests that academic success is intertwined with the learning environment, social experiences, and even family background. Consequently, students are likely to develop achievement motivation through their surroundings as a means of conformity and relationship-building.

During adolescence, individuals tend to establish relationships, particularly with their peers. Adolescents spend significant time with their peers, leading them to consider their perspectives and adhere to their standards as a form of conformity. Adolescents are often concerned about how others perceive them. This awareness can lead to the realization that performing well academically is crucial for their future prospects. [Aldrovandi et al., \(2021\)](#) discovered that achievement and conformity, as motivational values, serve as indicators for individuals to compare themselves to others. [Darnon et al. \(2010\)](#) suggest that individuals may be motivated to achieve their goals and pursue power based on social comparisons they make. In essence, social comparison, specifically peer comparison, is expected to be fitting for the conditions experienced by adolescents.

Peer comparison involves individuals comparing their opinions, achievements, and abilities with those of their peers, thereby influencing certain behaviors ([Reiff et al., 2022](#)). [Festinger \(1954\)](#) posits that individuals tend to compare themselves to others they perceive as having similar abilities, opinions, and feelings. Peers hold a greater potential for familiarity and serve as a standard for self-evaluation due to their similarities. As asserted by [Festinger \(1954\)](#), individuals do not randomly select others for comparison but tend to choose individuals with whom they share closer and more special relationships. According to [Raven and Rubin \(1983\)](#), comparing oneself to others of equal ability allows individuals to gain insight into their skills and gauge their progress toward their goals. Furthermore, the act of comparison with peers can positively or negatively impact students' academic outcomes ([Moneva and Legaspio, 2020](#); [Shen and French, 2023](#)).

Therefore, peer comparison can potentially contribute to individuals' achievement motivation, particularly among adolescents who face various social and academic demands. [Reiff et al. \(2022\)](#) found that peer comparison influences doctors' job satisfaction and burnout rather than their work performance. In addition to socializing with peers, they are also expected to focus on their academic achievements to prepare for the future. Various intervention methods can be implemented to enhance students' achievement motivation, such as peer support ([Murtini, 2021](#)), peer tutoring ([Mawarni et al., 2014](#)), and solution-focused group counseling ([Wiyono, 2015](#)).

The present study draws inspiration from the research conducted by [Reiff et al. \(2022\)](#) that utilized peer comparison to enhance the performance of medical workers. Their findings indicated that peer comparison had a negative impact on job satisfaction and increased burnout among medical workers. While this study focused on the workplace environment, the school environment often employs social comparison through ranking systems. However, it remains uncertain whether ranking systems effectively improve students' academic performance.

The scarcity of studies examining social or peer comparison and the need for achievement simultaneously suggests a gap in the literature. Many previous studies have explored these variables individually and have also incorporated other factors into their investigations. For instance, [Grund et al. \(2022\)](#) conducted a study linking achievement motivation to both positive and negative effects on

students' daily activities. [Febrianthi and Supriyadi \(2021\)](#) conducted a study that found a significant relationship between social comparison and individuals' happiness. However, previous research about peer comparison and the need for achievement i.e., [Chun \(2024\)](#), [Gallardo et al. \(2016\)](#), and [Moneva and Legaspino \(2020\)](#) was conducted through cross-sectional or observational research, thus the direct effect between these two variables was not tangible. To offer a novel perspective in the studies about the need for achievement and peer comparison, researchers primarily aim to investigate the implementation of peer comparison in the school setting, with the expectation that peer comparison will affect senior high school students' achievement motivation as a manifestation of their need for achievement.

Methods

Research Design

This quasi-experimental study applied a group pre-test and post-test design, in which the control group could not completely control external variables and the experimental groups. In this study, the nonequivalent control group design was selected, in which the assignment of control and experimental groups was not done randomly. The reason is researchers decided to screen the prospective subjects by their academic motivation level (only use the subjects with low-level achievement motivation), so the changes would be more noticeable.

Participants

Participants were initially twenty-nine students between 15 and 18 years of age in Malang City. Participants were recruited using a purposive sampling technique based on a criterion: a senior high school student whose pre-test score indicate low achievement motivation. Thirty students met the criterion and were recruited as the study participants. However, eight students left the study in the middle of the session, thus in the end there were 22 students participated in this research.

Research Variables and Instruments

This study investigated the relationship between peer comparison and achievement motivation. Peer comparison was the independent variable, referring to the act of individuals comparing their opinions, achievements, or skills to those of their peers for self-evaluation. Achievement motivation served as the dependent variable, representing the drive individuals have to achieve satisfaction by meeting predetermined goals and standards. Achievement motivation was measured using [Prihandrijani's \(2016\)](#) achievement motivation scale, which consisted of 23 items. The scale was developed in Bahasa Indonesia and is based on the aspects of achievement motivation described by McClelland, including responsibility and perseverance, overcoming challenges, receiving concrete feedback, setting realistic goals, and considering risks. The scale utilized a 4-point Likert scale, with response options ranging from 1 (Very Unlikely) to 4 (Very Likely). During the scale development process, 38 initial items were included. However, after conducting a validity test, 15 items were dropped, resulting in a final set of 23 valid items. The items demonstrated acceptable item-total correlations, ranging from .300 to .616. The internal consistency of the scale was assessed using Cronbach's alpha coefficient, which was found to be .847, indicating high reliability.

Research Procedure

The study was divided into three stages:

Preparation Stage

In this stage, researchers reviewed literature and theory relevant to the topic being discussed, i.e., peer comparison and achievement motivation. It was followed by designing the study and developing hypotheses. This stage also involved the development of a research module, which discusses the experimental activities to be conducted at the research site. Before developing the module, researchers determine the population and the research site, i.e., male and female senior high school students 15-18 years of age.

Implementation Stage

During this stage, a screening process was conducted among twenty-nine senior high schools to identify students who fit the criteria. Students were categorized into high or low-achievement motivation groups based on their scores on the achievement motivation scale. In this stage, twenty-nine senior high schools were screened to select participants who suit the research criterion, i.e. students with low achievement motivation. Students falling into the high category were those with achievement motivation scale scores ≥ 69 , while those falling into the low category were students with achievement motivation scale scores $x < 46$ and/or $46 \leq x < 69$. Thirty students were identified as having low achievement motivation. These students were then assigned to either the control group or the experimental group.

The assignment was not done randomly, but rather based on their achievement motivation scores. Fifteen students were assigned to the control group, which received no intervention, while fifteen students were assigned to the experimental group, which received the intervention of upward and downward social comparisons. However, in the middle of the experiment session, eight students in the control group withdrew from the study. Therefore, the final participants were 22 students, consisting of 7 students in the control group, and 15 students in the experimental group.

The intervention involved providing daily reports to the students in the experimental group for a period of six days. The daily reports contained a learning evaluation of the previous day, followed by the scores of a subject and a list of the top ten students with the highest scores in that subject. This rank list served as a means of comparison between the participant's learning performance and their peers. Students who were listed among the top ten were exposed to downward social comparison, comparing themselves to peers with lower scores, while students not listed in the top ten were exposed to upward social comparison, comparing themselves to peers with higher scores. The daily reports were distributed by the homeroom teacher or a subject teacher during the last lesson hour. It was ensured that students read and understood the contents of the daily report before going home. The content of the daily reports varied each day, tailored to the students' performance on the previous day. After the six-day intervention period, all participants underwent a post-test using the same achievement motivation scale that was used in the pre-test. This allowed for the assessment of any changes in achievement motivation following the intervention.

Evaluation

The post-test result was compared to the pre-test score and that of the control group. Data were analyzed using Wilcoxon and Mann-Whitney tests, interpreted, concluded, and presented. The reason for utilizing these two methods was based on the unbalanced and small number of subjects.

Results and Discussion

Results

Data were analyzed descriptively, involving the mean score, standard deviation, and minimum and maximum scores obtained from the pre-test and post-test, collected using the achievement motivation scale from the experimental and control groups. **Table 1.** below presents the descriptive test result.

Table 1. The Descriptive Test Results for the Experimental & Control Group

		Mean	Standard Deviation (SD)
Experimental Group	Pre-Test	59.3	3.11
	Post-Test	64.9	4.47
Control Group	Pre-Test	65.9	1.35
	Post-Test	64.3	3.50

Table 1. demonstrated the increase in achievement motivation among students in the experimental group after receiving the treatment. Their mean pretest score was 59.3 (SD = 3.11) and improved to 64.9, (SD = 4.47) during the post-test. Meanwhile, table 1 also revealed the achievement motivation among students in the control group which exhibits a declining trend, from a mean score of 65.9 (SD=1.35) in the pretest to 64.3 (SD =3.50) in the post-test. Wilcoxon test was conducted to see the difference in achievement motivation between the experimental and control groups. Table 2 below reveals the results of the pre-test and post-test scores of both groups.

Table 2. Comparative Analysis of Achievement Motivation

		Statistic	<i>p</i>
Experimental Group	Wilcoxon W	3.00 ^a	.002
Control Group	Wilcoxon W	20.5	.310

The analysis result in **Table 2.** demonstrated a significant difference among students in experimental groups, who received the peer comparison intervention, which was reflected by a *t-value* of 3.00 and a significance value of $p = .002$ ($p < .05$), indicating an improvement in achievement motivation score after receiving the treatment. Meanwhile, no significant difference was noticed among students in the control group. This is shown by a *t-value* of 20.5 and a significance value of $p = .310$ ($p > .05$), which indicates no improvement in achievement motivation.

Mann-Whitney Test

Mann-Whitney test was performed to find out the mean difference between the two groups:

Table 3. Comparative Analysis Result between Experimental and Control Group

Achievement Motivation	Statistic	<i>p</i>
Experimental & Control Group	14.0	.005

As shown in Table 3 above, the *t*-statistic was 14.0 with a significance value of .005 ($< .05$), indicating a difference in achievement motivation between the two groups.

Discussion

This research hypothesized that peer comparison will affect the achievement motivation of senior high school students. The findings revealed a significant difference in the participants' achievement motivation scores before and after receiving this treatment. The Wilcoxon test indicated a significance value of less than .05, with a higher post-test mean score observed after the intervention. Conversely, the control group, which did not receive any intervention in the form of peer comparison, exhibited no significant difference in achievement motivation. Despite using different research methods, this finding is similar to research by [Liu \(2023\)](#), [Gallardo et al. \(2016\)](#), and [Reang and Kaipeng \(2022\)](#) who found that peer relationships have a significant impact on academic performance.

Taking a closer look at the result of this study, the analysis also displayed the standard deviation, which measures the distribution of data. Both groups exhibit values lower than the mean score, meaning that the variance range of data was low and accurate to the mean score. In addition to the mean, other evidence was shown by the difference in achievement motivation scores before and after the intervention. Students in the experimental group showed a minimum score improvement from 55 to 59, and a maximum score improvement from 64 to 76. Meanwhile, students in the control group showed a decrease in minimum score from 64 to 60 and a maximum score improvement from 68 to 69. The descriptive result indicated that peer comparison could affect students' motivation to achieve, as shown by the difference in scores before and after the intervention. The Wilcoxon test results verify this result to validate the proposed hypothesis.

The participants in this study were adolescents who face academic and social pressures that they must navigate. During this developmental phase, they are inclined to form relationships with peers while simultaneously focusing on their academic performance for future preparation (Liu, 2023). This context of peer influence and conformity leads them to align their perspectives with their peers' standards and view them as the benchmark for academic achievement (Molloy et al., 2011; Vit et al., 2024). It is this dynamic that likely contributed to the improvement in achievement motivation observed among students in the experimental group, highlighting the effectiveness of peer comparison in enhancing participants' achievement motivation. Gerber et al. (2018) also mentioned that social comparison with others, such as friends, has been found to significantly impact individuals' self-evaluation.

In addition to proving the difference in achievement motivation before and after intervention between the two groups using the Wilcoxon test, the Mann-Whitney test was also performed to find out the difference in the mean scores of the two groups. The Mann-Whitney test result showed a score of $p < .05$, indicating a significant difference in achievement motivation between experimental and control groups. This result might be caused when students are faced with their peers' accomplishments and compared to their own achievement, they might feel pressured which indirectly affects their learning anxiety (Kong et al., 2023). Moreover, Crusius et al., (2022) emphasized the role of various emotions such as pride, shame, impression, pity, and envy in social comparison, which can arise from both upward and downward comparisons conducted by individuals. All the factors above might be able to motivate students to raise their grades.

Another reason why peer comparison could improve students' achievement motivation is that individuals tend to befriend someone with a similar academic level, which in turn affects their academic motivation and outcomes (Rambaran et al., 2017; Black et al., 2025). A study by Shen and French (2023) found that Chinese adolescents preferred to make friends with someone who has similar academic levels. By befriend someone with higher accomplishments, students may feel more motivated to improve their academic performance. This finding is strengthened by research by DeLay et al. (2016) which found that lower-performing students appeared to be able to raise their levels closer to their high-performing peers, and gradually became more similar to their friends' performance. Raising their grades could help students be accepted by their peers, thus predicting an increase in academic achievement (Gallardo et al., 2016).

This study presents a novelty by exploring the relationship between peer comparison and the need for achievement using the experimental method, which was rarely conducted in previous studies. However, it is important to acknowledge the limitations and potential hindrances that may have influenced the results. Several limitations of this research such as researchers' limited knowledge and skill in conducting this study may affect the analysis result. The lack of direct interaction between the researcher and the participant results in less data, compared to direct observation. Participants' conditions and external influences may also affect the experiment result. The small and unbalanced group sizes might also affect the statistical power and internal validity of this research. Challenges such as difficulties in determining the experiment schedule with the school, establishing effective collaboration with teachers, and obstacles in data processing were encountered during the study. This study also focused only on senior high school participants with a limited number of participants, making it less representative and heterogeneous to explore the hypothesis further.

Conclusion

This study found a significant difference in achievement motivation among students in the experimental group before and after the treatment, i.e., peer comparison with upward and downward social comparisons. This result proved that peer comparison could affect senior high school students' achievement motivation. This finding results from students wanting to use their friends' achievements as benchmarks and their tendency to befriend those with similar academic levels.

This study implies the need for improving achievement motivation to enhance academic success and performance through peer comparison, especially among adolescent students. Teachers and schools might consider publicly distributing the scores of a subject to motivate their students. The academic performance report distributed to students allows them to compare themselves to their classmates. Students with high achievement motivation may exhibit higher responsibility towards the given tasks, pay attention to the feedback as a learning process, dare to take risks, have a realistic goal, and work efficiently and effectively. For future studies, researchers should improve the research design by choosing equal members for each experimental group or adding more participants to the study. Researchers might also consider involving more heterogeneous subjects i.e., comparing students with high and low academic performance levels or choosing different locations and different schools.

Author's Acknowledgement

The authors would like to thank all the subjects who have participated in this research.

References

- Abdullah, A. (2019). Perkembangan sosio-emosional pada masa remaja. *Inspiratif Pendidikan*, 8(2), 417–429. <https://doi.org/10.24252/ip.v8i2.12411>
- Aldrovandi, S., Dhillon, J., & Rentzelas, P. (2021). To achieve and to conform: Motivational values predict social comparison orientation. *Personality and Individual Differences*, 182, 111083. <https://doi.org/10.1016/j.paid.2021.111083>
- Astin, A. W. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. Maxwell Macmillan International.
- Black, A., Warstadt, M. F., & Mamas, C. (2025). It's who you know: A review of peer networks and academic achievement in schools. *Frontiers in Psychology*, 15, 1444570. <https://doi.org/10.3389/fpsyg.2024.1444570>
- Chun, H. (2024). Examining the pathways of social comparison and achievement goals to academic grades among South Korean high school students. *International Journal of School & Educational Psychology*, 12(2), 69–82. <https://doi.org/10.1080/21683603.2024.2328831>
- Crusius, J., Corcoran, K., & Mussweiler, T. (2022). Social comparison: A review of theory, research, and applications. In D. Chadee (Ed.), *Theories of social psychology* (pp. 165–187). Wiley. DOI:10.1002/9781394266616.ch7
- Darnon, C., Dompnier, B., Gilliéron, O., & Butera, F. (2010). The interplay of mastery and performance goals in social comparison: A multiple-goal perspective. *Journal of Educational Psychology*, 102(1), 212–222. <https://doi.org/10.1037/a0018161>
- DeLay, D., Zhang, L., Hanish, L. D., Miller, C. F., Fabes, R. A., Martin, C. L., Kochel, K. P., & Updegraff, K. A. (2016). Peer influence on academic performance: A social network analysis of social-emotional intervention effects. *Prevention Science*, 17(8), 903–913. <https://doi.org/10.1007/s11121-016-0678-8>
- Emda, A. (2018). Kedudukan motivasi belajar siswa dalam pembelajaran. *Lantanida Journal*, 5(2), 172. <https://doi.org/10.22373/lj.v5i2.2838>
- Epstein, J. A., & Harackiewicz, J. M. (1992). Winning is not enough: The effects of competition and achievement orientation on intrinsic interest. *Personality and Social Psychology Bulletin*, 18(2), 128–138. <https://doi.org/10.1177/0146167292182003>

- Febrianti, A. N. A., & Supriyadi, S. (2021). Apakah perbandingan sosial dalam menggunakan instagram berperan terhadap kebahagiaan remaja? *Intuisi : Jurnal Psikologi Ilmiah*, 12(2), 126–137. <https://doi.org/10.15294/intuisi.v12i2.24605>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/001872675400700202>
- Gallardo, L. O., Barrasa, A., & Guevara-Viejo, F. (2016). Positive peer relationships and academic achievement across early and midadolescence. *Social Behavior and Personality: An International Journal*, 44(10), 1637–1648. <https://doi.org/10.2224/sbp.2016.44.10.1637>
- Gerber, J. P., Wheeler, L., & Suls, J. (2018). A social comparison theory meta-analysis 60+ years on. *Psychological Bulletin*, 144(2), 177–197. <https://doi.org/10.1037/bul0000127>
- Grund, A., Galla, B. M., & Fries, S. (2022). Achievement motivation in students' everyday lives: Its relationship to momentary positive and negative activation and the moderating role of mindfulness. *Learning and Individual Differences*, 97, 102176. <https://doi.org/10.1016/j.lindif.2022.102176>
- Kong, H., Wang, G., Cheng, D., & Li, T. (2023). The impact of adolescent achievement goal orientation on learning anxiety: The mediation effect of peer interaction. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1095498>
- Kuh, George. D., Kinzie, J., Buckley, Jennifer. A., Bridges, Brian. K., & Hayek, John. C. (2006). *What Matters to Student Success: A Review of the Literature. Commissioned report for the National Symposium on Postsecondary Student Success: Spearheading a Dialog on Student Success*. National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/kuh_team_report.pdf
- Liu, J. (2023). The effect of peer relationship on academic performance in high school students. *Lecture Notes in Education Psychology and Public Media*, 13(1), 136–144. <https://doi.org/10.54254/2753-7048/13/20230870>
- Mawarni, E., Mulyani, B., & Yamtinah, S. (2014). Penerapan peer tutoring dilengkapi animasi macromedia flash dan handout untuk meningkatkan motivasi berprestasi dan prestasi belajar siswa kelas xi ipa 4 sman 6 surakarta tahun pelajaran 2013/2014 pada materi kelarutan dan hasil kali kelarutan. *Jurnal Pendidikan Kimia*, 4(1), 29–37.
- McClelland, D. C. (1965). Toward a theory of motive acquisition. *American Psychologist*, 20(5), 321–333. <https://doi.org/10.1037/h0022225>
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. Appleton-Century-Crofts. <http://content.apa.org/books/11144-000>
- Molloy, L. E., Gest, S. D., & Rulison, K. L. (2011). Peer influences on academic motivation: Exploring multiple methods of assessing youths' most "influential" peer relationships. *The Journal of Early Adolescence*, 31(1), 13–40. <https://doi.org/10.1177/0272431610384487>
- Moneva, J. C., & Legaspino, F. (2020). Peer influence and performance task of senior high school students. *IRA International Journal of Education and Multidisciplinary Studies*, 16(1), 76. <https://doi.org/10.21013/jems.v16.n1.p11>
- Murtini, D. A. (2021). *Pengaruh dukungan teman sebaya terhadap motivasi berprestasi pada siswa di mts swasta nurus salam delitua* [Thesis, Universitas Medan Area]. <https://repositori.uma.ac.id/handle/123456789/16205>
- Prihandrijani, E. (2016). *Pengaruh motivasi berprestasi dan dukungan sosial terhadap flow akademik pada siswa sma "x" di surabaya* [Thesis, UNIVERSITAS AIRLANGGA]. <http://lib.unair.ac.id>
- Rambaran, J. A., Hopmeyer, A., Schwartz, D., Steglich, C., Badaly, D., & Veenstra, R. (2017). Academic functioning and peer influences: A short-term longitudinal study of network-behavior

dynamics in middle adolescence. *Child Development*, 88(2), 523–543.
<https://doi.org/10.1111/cdev.12611>

Raven, B. H., & Rubin, J. Z. (1983). *Social psychology* (2nd ed). Wiley.

Reang, J. J., & Kaipeng, R. (2022). A study on the Influence of peer group on academic performance of students. *International Journal of Creative Research Thoughts*, 10(11), 775–780.
<https://www.semanticscholar.org/paper/A-Study-on-the-Influence-of-Peer-Group-on-Academic-Reang-Kaipeng/e63b3962baa09b64713ce0830721801c234f7726>

Reiff, J. S., Zhang, J. C., Gallus, J., Dai, H., Pedley, N. M., Vangala, S., Leuchter, R. K., Goshgarian, G., Fox, C. R., Han, M., & Croymans, D. M. (2022). When peer comparison information harms physician well-being. *Proceedings of the National Academy of Sciences*, 119(29), e2121730119.
<https://doi.org/10.1073/pnas.2121730119>

Ridwansyah, R., Mutiah, D. (2015). Pengaruh motivasi belajar terhadap prestasi belajar santri di pondok pesantren. *TAZKIYA Journal of Psychology*, 3(2), 151–178.
<https://doi.org/10.15408/tazkiya.v20i2.9163>

Schultheiss, O. C., & Brunstein, J. C. (2005). An implicit motive perspective on competence. In *Handbook of competence and motivation* (pp. 31–51). Guilford Publications.

Schultheiss, O. C., Wiemers, U. S., & Wolf, O. T. (2014). Implicit need for achievement predicts attenuated cortisol responses to difficult tasks. *Journal of Research in Personality*, 48, 84–92.
<https://doi.org/10.1016/j.jrp.2013.10.004>

Shen, M., & French, D. C. (2024). Peer relationships and chinese adolescents' academic achievement: Selection and influence. *American Educational Research Journal*, 61(1), 177–207.
<https://doi.org/10.3102/00028312231208675>

Vit, E., Bianchi, F., Castellani, M., & Takács, K. (2024). Friends can help to aim high: Peer influence and selection effects on academic ambitions and achievement. *The Journal of Early Adolescence*.
<https://doi.org/10.1177/02724316241273427>

Wiyono, B. D. (2015). Keefektifan solution-focused brief group counseling untuk meningkatkan motivasi berprestasi siswa sekolah menengah kejuruan. *JKI (Jurnal Konseling Indonesia)*, 1(1), 29–37.
<https://doi.org/10.21067/jki.v1i1.854>

York, T. T., Gibson, C., & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research, and Evaluation*, 20(5), 1–21. <https://doi.org/10.7275/HZ5X-TX03>

Appendix A.

Religious Orientation Scale (ROS) developed by Allport and Ross (1967)

A. Intrinsic Religious Orientation (IRO)

Original Items in English	Adapted Items in Bahasa Indonesia
1 It is important for me to spend periods of time in private religious thought and meditation.	<i>Penting bagi saya menyisihkan waktu untuk menghayati nilai keagamaan dan meditasi pribadi</i>
2 If not prevented by unavoidable circumstances, I attend church.	<i>Jika tidak ada halangan, saya akan beribadah ke tempat ibadah</i>
3 I try hard to carry my religion over into all my other dealings in life.	<i>Saya berusaha keras untuk menerapkan nilai agama saya ke dalam semua urusan saya yang lain dalam hidup.</i>
4 The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.	<i>Doa-doa yang saya panjatkan ketika saya sendirian membawa banyak makna dan memunculkan emosi pribadi</i>
5 Quite often I have been keenly aware of the presence of God or the Divine Being.	<i>Saya sangat menyadari kehadiran Tuhan atau Wujud Ilahi</i>
6 I read literature about my faith (or church).	<i>Saya membaca literatur tentang iman (atau tempat ibadah)</i>
7 If I were to join a church group I would prefer to join a Bible study group rather than a social fellowship.	<i>Jika saya bergabung dengan kelompok tempat ibadah, saya lebih banyak bergabung dengan (1) kelompok Pembelajaran Kitab Suci, daripada (2) kelompok sosial</i>
8 My religious beliefs are really what lie behind my whole approach to life.	<i>Keyakinan agama saya adalah tolak ukur untuk seluruh hal yang saya lakukan dalam kehidupan</i>
9 Religion is especially important because it answers many questions about the meaning of life.	<i>Agama sangat penting bagi saya karena agama menjawab banyak pertanyaan tentang makna hidup</i>

B. Extrinsic Religious Orientation (ERO)

Original Items in English	Adapted Items in Bahasa Indonesia
1 Although I believe in my religion, I feel there are many more important things in my life.	<i>Agama membantu menjaga keseimbangan dan stabilitas hidup saya dengan cara yang persis sama seperti cara kewarganegaraan, persahabatan, dan kemasyarakatan saya lainnya.</i>
2 It doesn't matter so much what I believe so long as I lead a moral life.	<i>Apa yang saya yakini bukan sesuatu yang perlu dipermasalahkan selama saya menjalani kehidupan moral.</i>
3 The primary purpose of prayer is to gain relief and protection.	<i>Tujuan utama dari doa adalah untuk mendapatkan kelegaan dan perlindungan.</i>
4 The church is most important as a place to formulate good social relationships.	<i>Tempat ibadah adalah tempat yang penting dan baik untuk mempererat hubungan sosial</i>
5 What religion offers me most is comfort when sorrows and misfortune strike.	<i>Agama menawarkan kenyamanan ketika kesedihan dan kemalangan melanda saya.</i>
6 I pray chiefly because I have been taught to pray.	<i>Saya berdoa terutama karena saya telah diajarkan untuk berdoa</i>
7 Although I am a religious person I refuse to let religious considerations influence my everyday affairs.	<i>Meskipun saya orang yang religius, saya menolak untuk membiarkan nilai agama mempengaruhi urusan saya sehari-hari.</i>
8 A primary reason for my interest in religion is that my church is a congenial social activity.	<i>Alasan utama ketertarikan saya pada agama adalah karena tempat ibadah saya memiliki kegiatan sosial yang menyenangkan.</i>
9 Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.	<i>Saya merasa perlu untuk mengkompromikan keyakinan agama saya untuk melindungi kesejahteraan sosial dan ekonomi saya.</i>
10 One reason for my being a church member is that such membership helps to establish a person in the community.	<i>Salah satu alasan saya menjadi anggota tempat ibadah adalah karena hal tersebut membantu mengembangkan seseorang di sebuah komunitas atau perkumpulan sosial</i>
11 The purpose of prayer is to secure a happy and peaceful life.	<i>Tujuan berdoa adalah untuk menjamin kehidupan yang bahagia dan damai.</i>
12 Religion helps to keep my life balanced and steady in exactly the same way as my citizenship, friendships, and other memberships do.	<i>Agama membantu menjaga keseimbangan dan stabilitas hidup saya dengan cara yang persis sama seperti cara kewarganegaraan, persahabatan, dan kemasyarakatan saya lainnya.</i>