International Journal of Education and Emerging Practices
Vol. 1, No. 3, pp. 34-51, December 2025
https://doi.org/10.63236/injeep.1.3.3
Received Oct 17, 2025; Revised Nov 23, 2025; Accepted Dec 14, 2025
Published Dec 31, 2025

Interdependent Group Work through the Lens of First-Year Engineering Students with High and Low Levels of Procrastination

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Abstract. Procrastination among students can hinder academic engagement and performance. Although group work is often used to enhance participation, its effects on students with different levels of procrastination remain unclear. This study explored how first-year engineering students with high and low levels of procrastination perceive interdependent group work using an explanatory sequential mixed-methods design. Based on the results of the Academic Procrastination Scale (APS), eight students (M = 3.95, SD = .172) were classified as having high levels of procrastination and sixty-four students (M = 1.91, SD = .308) were identified as having low levels of procrastination. From these groups, eight students were interviewed. Analysis of their responses revealed three themes: self-awareness, social engagement, and academic engagement. The findings showed that group work supported learning by reducing workload, allowing task division, and enabling collaborative discussions. However, students with high levels of procrastination often preferred working individually owing to concerns about their pacing, fear of negative evaluation, and discomfort when working with unfamiliar peers. In contrast, students with low levels of procrastination generally benefited from group collaboration but experienced anxiety and pressure when peers delayed their tasks. Overall, the study highlights that while group work can enhance learning, its effectiveness depends on students' procrastination tendencies and the structure of collaborative activities.

Keywords: academic procrastination; interdependent group work; collaboration

1. Introduction

One of the prevalent challenges among learners is academic procrastination, defined as the voluntary delay in completing tasks despite awareness of possible negative consequences. This counterproductive behaviour often results in poor academic performance (Klingsieck, 2013) and, in severe cases, task failure. Consequently, students with high levels of procrastination tend to engage in self-blame and attribute their underperformance to personal and environmental

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factors. Procrastination was once viewed as a natural course of inaction (Steel, 2007). However, the increasing number of commitments and deadlines in the modern educational landscape has made procrastination more pervasive (Milgram, 1992, as cited by Steel, 2007). Its effects vary depending on the significance of the task or outcome. In academic settings, procrastination contributes to reduced achievement (Steel, 2007), higher test anxiety (Rothblum et al., 1986), agitation before examinations (Lay & Schouwenburg, 1993), and increased stress as deadlines approach (Tice & Baumeister, 1997). Students with high levels of procrastination are also less inclined to engage in academic tasks (Sirois, 2004). These findings reveal that procrastination undermines academic performance while heightening anxiety, stress, and disengagement. Students with low levels of procrastination, in contrast, demonstrate effective self-regulation, goal-setting, and time management skills. They tend to initiate tasks promptly, sustain focus, and complete academic requirements within deadlines. These students often exhibit higher levels of conscientiousness and intrinsic motivation, enabling them to manage distractions and maintain steady engagement in learning activities (Przepiórka et al., 2019; Steel, 2007).

Academic procrastination has been linked to self-regulation failure (Pychyl & Flett, 2012; Steel, 2007). Previous studies have identified several personal antecedents of procrastination, including higher levels of impulsiveness (Gustavson et al., 2014; Rebetez et al., 2018), lower levels of conscientiousness (Steel & Klingsieck, 2016), diminished self-control (Przepiórka et al., 2019), and low self-efficacy (Wäschle et al., 2014). Goal orientation also plays a role, as procrastination correlates negatively with mastery-approach and positively with mastery-avoidance goals (Howell & Watson, 2007). Koppenborg and Klingsieck (2022) reported that students' state procrastination decreases when working in interdependent group settings that require public accountability. This finding suggests that interdependence can mitigate procrastination by fostering responsibility and collaboration among group members. However, the dynamics of interdependent group work may also yield mixed effects—promoting accountability on one hand but inducing pressure or frustration on the other (Weber & Hertel, 2007). Given these insights, the present study explores interdependent group work from the perspective of students with high levels of procrastination, with reference to how students with low levels of procrastination perceive similar experiences. It aims to understand how group work and task interdependence influence students' engagement, motivation, and participation in collaborative activities. By examining these experiences, the study provides meaningful insights into how teachers can design group tasks that promote accountability, engagement, commitment, and peer support among students. In doing so, it contributes to the development of instructional strategies that enhance self-regulation, teamwork, and overall educational quality.

2. Literature Review

2.1. Social Interaction

Vygotsky's social constructivism posits that knowledge is constructed through interaction with others. Students learn by observing, communicating, and engaging with peers, which strengthens comprehension and critical thinking

(Hurst et al., 2013). Through collaboration, learners gain multiple perspectives, foster camaraderie, and enhance retention of knowledge. However, social interaction can also produce negative emotions when group dynamics are strained. Negative experiences such as lack of reciprocity, criticism, or peer disengagement can lead to resentment, frustration, or shame (Krause & Rook, 2003; Lincoln, 2000). In group settings, a member's disengagement may influence others' motivation and participation, potentially affecting the overall functioning of the group (Steenberghs et al., 2021). Thus, both positive and negative aspects of social interaction significantly shape students' academic behaviour and performance.

2.2. Interdependence Groupwork

Group activities are widely used in education to cultivate collaboration, critical thinking, and communication skills. Interdependent group work, in particular, requires members to rely on one another's contributions to achieve a shared goal (Van der Vegt & Van de Vliert, 2002). The success of such tasks depends on each member's accountability; when one member delays, the entire group's performance may be affected. Koppenborg and Klingsieck (2022) demonstrated that interdependent group work can reduce students' procrastination, likely by creating a sense of shared responsibility and social pressure to perform. However, emotional and motivational responses to interdependence may vary between students with high levels of procrastination and students with low levels of procrastination. Students with high levels of procrastination may experience heightened anxiety, avoidance, or fear when their performance directly influences the group, while students with low levels of procrastination may become frustrated when peers fail to meet shared expectations. Understanding these contrasting perceptions provides valuable insight for designing group-based learning strategies that foster engagement, accountability, and academic success.

3. Methodology

3.1. Research Design

To achieve the objectives of this study, an explanatory sequential mixed-methods design was employed. This design consists of two interconnected phases. In the first phase, quantitative data were collected through a survey administered to students. The survey results were analysed to classify students into two groups: those with high levels of procrastination and those with low levels of procrastination. In the second phase, qualitative data were gathered through interviews to obtain deeper insights and explanations related to the quantitative findings. This approach allowed the researcher to explore the underlying reasons and perspectives behind students' procrastination levels, thereby providing a more comprehensive understanding of the phenomenon (Creswell & Clark, 2023).

3.2. Participants

A total population of 178 freshmen engineering students (105 males, 73 females) from a state university in Mandaluyong City, Philippines, participated in the study using convenience sampling. They attended Physics laboratory classes during the second semester of the 2023-2024 academic year. Participation in the study was voluntary. No academic points were given to participants. The

participants were assured of the secrecy of the data gathered, and anonymity was observed throughout the study. All participants gave their informed consent before answering the survey and interview. There was no direct intervention or new method applied to students.

3.3. Instruments/ Materials

To identify students with high versus low levels of procrastination, the study employed the Academic Procrastination Scale (APS), a self-report questionnaire developed by McCloskey and Scielzo (2011). The instrument demonstrates strong internal reliability, with a reported Cronbach's alpha of .94 (McCloskey & Scielzo, 2011). The APS includes twenty-five (25) statements rated on a five-point Likert scale, where 1 = Disagree and 5 = Agree. Items 1, 8, 12, 14, and 25 are reverse-scored. Mean scores were interpreted as follows: low procrastination (1.00–2.32), moderate procrastination (2.33–3.66), and high procrastination (3.67–5.00). Low procrastination among students reflects timely completion of tasks supported by strong planning and self-regulation. Moderate procrastination, on the other hand, indicates occasional delays in assignments due to task difficulty or workload. High procrastination involves frequent postponement of schoolwork, often linked to increased stress and lower academic performance (Sirois, 2023). In addition to the APS, the study utilized open-ended questions for the semi-structured interviews. These questions were reviewed by evaluators to ensure their clarity and appropriateness.

3.4. Academic Setting

In the Physics laboratory class, several activities are carried out by groups and by individual students. The activities range from actual activities that can be done at home to interactive virtual simulations. For group activities, the students divide the tasks, and each has an assigned task to accomplish. The setting requires all members to contribute so that they can complete and submit their laboratory report. In the individual activities, the students use their discretion as to when to start the activity as long as they can submit the laboratory report before the due date.

3.5. Procedure

At the start of the semester, the respondents answered the Academic Procrastination Scale (APS) through Google Forms. To encourage participation, the researcher provided an incentive payment through a raffle draw (Brosnan et al., 2021). All students in the class completed the survey. They were instructed to answer as accurately and honestly as possible without prejudice or bias, and were assured that their responses would not, in any way, affect their academic performance. At the end of the survey, respondents were asked whether they were willing to participate in an interview to discuss their answers.

Based on their APS results, the researcher examined two groups: students with high levels of procrastination and students with low levels of procrastination. From the pool of willing participants, four students from each group were selected according to their procrastination level, availability, and class schedule. Each group included two female and two male participants. Respondents 1 to 4 were classified as having high levels of procrastination, while Respondents 5 to 8 were

classified as having low levels of procrastination. Semi-structured interviews were conducted virtually, and permission was obtained from all participants to record their individual interviews.

The interviews were transcribed and free coded. Subsequently, the grounded theory technique was employed since there is no known knowledge as to the effect of group work interdependence on high-level procrastination and low-level procrastination. A coding analysis of the data was done to provide another perspective. The generated themes were compared with those of another researcher and presented to the participants to derive generalized themes.

4. Results

Table 1 presents the distribution of learners across three levels of procrastination—low, moderate, and high—together with descriptive statistics that characterize each group. The majority of learners fall within the moderate procrastination category (n = 106), comprising 59.55% of the sample. This group exhibits mean procrastination scores ranging from 2.36 to 3.64, with an overall mean of 2.89 (SD = 0.322), indicating a generally mid-level tendency to delay academic tasks.

Table 1: Distribution of Learners according to the Level of Procrastination

Level of Procrastination	Frequency	Percent	Min	Max	Mean	SD
Low	64	35.96%	1.12	2.32	1.91	.308
Moderate	106	59.55%	2.36	3.64	2.89	.322
High	8	4.49%	3.76	4.16	3.95	.172

Learners classified under low procrastination account for 35.96% of the sample (n = 64). Their mean scores range from 1.12 to 2.32, with a mean score of 1.91 (SD = 0.308) suggesting more consistent task initiation and lower tendencies toward academic delay. Only a small portion of the sample, namely 4.49% (n = 8), falls under the high procrastination category. This group demonstrates markedly elevated procrastination levels, with scores ranging from 3.76 to 4.16 and a mean of 3.95 (SD = 0.172). The relatively lower standard deviation suggests greater uniformity of high procrastination tendencies within this subgroup. The distribution indicates that procrastination is prevalent among learners, with most displaying moderate levels, while very few exhibit high procrastination behaviours. Four students with low levels of procrastination and another four with high levels of procrastination were invited to participate in the interview. Based on the respondents' answers and experiences, three emerging themes were identified: self-contemplation, social engagement, and academic engagement.

Theme 1: Self-Contemplation

This theme captures how respondents reflected on their personal tendencies, emotional states, challenges, and actions while completing the laboratory activity. Their accounts reveal how they contemplated their preferences, their inner

experiences during group and individual work, and the difficulties they encountered and sought to manage. Four sub-themes emerged from the data: autonomy, passive emotion, negative emotion, and hurdles and challenges.

A. Autonomy: Preference for Individual Work

Across both groups, students expressed a clear preference for individual work. Students with high levels of procrastination described individual tasks as more manageable because they allowed autonomy and minimized social evaluative pressure. For instance, Respondent 1 shared: *"It [individual] is okay because we are only thinking of ourselves. When doing the activity by group, you need to consider your groupmates."* Respondent 3 stated: *"We can decide whenever we want to do the activity,"* while Respondent 2 added: *"It is really okay if the activity is individual because you hold your time."* Respondent 4 emphasized that independence did not prevent seeking help: *"In an individual, you can still ask your classmates… you can still ask for help from others."*

Students with low levels of procrastination echoed this preference. Respondent 5 explained: *"Personally, I preferred individual activities. I hold my time; I can decide when to answer the activity. With this, I can study the lessons better."* Respondent 6 similarly said: *"That is why I really preferred doing the activity on my own. I am more functional when doing it alone."*

These statements suggest that individual work serves as a protective environment for students with high levels of procrastination, reducing the fear of disappointing others and giving them full control over pacing. For students with low levels of procrastination, individual work appears to align with their existing self-regulation skills and preference for efficiency. In both groups, autonomy emerges as a central value shaping their choice of work mode.

B. Passive Emotion: Subtle Discomfort in Group Interactions

Students with low levels of procrastination described experiencing mild discomfort—not anxiety but relational hesitation—when correcting or approaching peers during group work. Respondent 5 stated: *"It is awkward to tell your group mates that his or her answer is wrong."* Respondent 6 similarly expressed: *"Not because I am shy but rather I do not know how to approach him, unlike if we are friends."*

These accounts indicate that even students who typically manage academic responsibilities well are sensitive to the interpersonal demands of group work. Their hesitation reflects social awareness rather than fear, suggesting that group work activates relational considerations that may temporarily disrupt their usual confidence.

C. Negative Emotion Associated with Group Work

Students with high levels of procrastination expressed distinctly negative emotions toward group work, often rooted in pressure, guilt, and fear of judgment. Respondent 1 shared: *"The groupings have so much effect, particularly the pressure. The fact that I feel guilty because of my inputs. It is really embarrassing; my answers pull them down."* She added: *"I felt pressured every time doing laboratory*

activity in a group." Respondent 4 expressed fear of evaluation: *"I am afraid that they will give negative comments or say something against me."*

They contrasted this with individual work, where they felt emotionally safer. Respondent 3 explained: *"You will not negatively think that others will fail because of your answers."* Respondent 4 affirmed: *"Working alone, I do not feel pressure at all,"* while Respondent 2 stated: *"I prefer to do it individually because it is easier for me. I will not be pressured because of others."*

These responses reflect the performance-oriented mindset commonly observed in students with high levels of procrastination. Group work amplifies their fear of failure and social judgment, which are known triggers of procrastinatory behaviour. Their preference for individual work appears rooted not just in convenience but also in emotional self-preservation.

D. Hurdles and Challenges in Group Work

Both groups identified challenges related to unequal participation, but their reactions differed. Students with high levels of procrastination described these challenges as emotionally burdensome. Respondent 1 explained her preference for working alone as a way to avoid the *"pressure and guilt"* associated with group performance.

Students with low levels of procrastination discussed the same issues but described practical strategies to resolve them. Respondent 8 stated: *"We cannot avoid, and it is nearly impossible to have perfect groupmates. There will be groupmates who will not submit, will not do their assigned tasks."* Respondent 6 added: *"There are members that are unreachable, who do not contribute."* Respondent 5 explained: *"Other members cause delays… instead of reviewing our outputs, their performance affects the group."*

They described how they compensated for non-performing members. Respondent 5 stated: *"At the end, his or her part will be taken and done by other group mates just to finish the activity."* Respondent 7 noted: *"If the reason is valid, I will take it, but it is only for one time."* Respondent 8 added: *"Once he does it again, I will confront him because this is a group activity. This is our grade."* Respondent 6 described adjusting task difficulty: *"I will assign him some easier tasks like presenting or making a PowerPoint."*

Students with low levels of procrastination appear to adopt a problem-solving orientation, taking on additional work to protect the group's outcome. In contrast, students with high levels of procrastination perceive these challenges as emotionally overwhelming, heightening their discomfort with collaborative tasks. These contrasting reactions highlight how procrastination tendencies shape students' emotional thresholds and coping strategies during group work.

Theme 2: Social Engagement

This theme explores how respondents interacted with their peers during group activities. Their accounts revealed how consideration for group members, familiarity with peers, and communication patterns shaped their experiences.

Three sub-themes emerged from the data: consideration of group members, familiarity and comfort in peer interaction, and communication and relationship building.

A. Consideration of Group Members

Students with high levels of procrastination reported that group work required constant adjustments to accommodate their peers' pacing and expectations. Respondent 1 emphasized this obligation: *"When doing the activity by group, you need to consider your group mates."* Respondent 2 similarly highlighted the need to align with others: *"You need to consider their pacing, their available time, unlike in an individual laboratory activity."* These responses show that they felt accountable, not only for their tasks but also for how their performance might influence the entire group.

Students with low levels of procrastination likewise recognized the need to consider others, although their emphasis was more on cooperation than pressure. They acknowledged the shared responsibility involved in collaborative tasks but did not experience the heightened emotional weight described by their high-procrastination peers.

These suggest that group work amplifies self-awareness among students with high levels of procrastination, who become acutely conscious of how their actions affect others. Their consideration of group mates appears driven by fear of being the "weak link," which contributes to their pressure and self-consciousness. Conversely, students with low levels of procrastination view consideration as a natural part of teamwork rather than a personal burden, reflecting their more stable confidence and task orientation.

B. Familiarity and Comfort in Peer Interaction

Familiarity emerged as a critical factor influencing comfort and communication. Students with high levels of procrastination found it easier to interact when they personally knew their group members. Respondent 1 shared: *"Since you are familiar with them, it is really comfortable to work on the activity, you can speak up freely."* Respondent 2 added: *"The communication in the group becomes smoother if you personally know them."* Respondent 3 also noted that familiarity reduced awkwardness: *"[In group work], there is pressure, but if you know them, then there is less pressure."* In contrast, unfamiliar peers created barriers. Respondent 4 admitted: *"I preferred to ask for help from my former classmates than my groupmates."* Students with low levels of procrastination confirmed that familiarity enhances group interaction. Respondent 5 explained: *"It is really a big factor if your group mates are your close friends. You are comfortable with each other."* Respondent 6 added that knowing peers' strengths improves collaboration: *"If you know the person, you know what the parts are to assign to him."*

However, they also identified risks associated with close friendships. Respondent 5 warned: *"I believe too much comfort leads to procrastination."* Respondent 6 shared that friendship can blur boundaries: *"Others will take advantage of our friendship."* Respondent 7 pointed out issues of fairness: *"We cannot avoid the special treatment because of your relationship."* Respondent 8 added concerns about perception:

"Other members will maliciously think that you did your friend's parts because you are friends." He further advised: *"We should define a boundary between friends and groupmates/classmates."*

These responses highlight that familiarity serves as both a facilitator and a potential disruptor. For students with high levels of procrastination, familiarity reduces social anxiety, making group work less intimidating. For students with low levels of procrastination, familiarity supports coordination but may inadvertently encourage complacency or unfair dynamics. The dual nature of familiarity illustrates how social closeness can both strengthen and weaken group cohesion, depending on members' tendencies and motivations.

C. Communication and Relationship Building

Communication patterns differed sharply between the two groups. Students with high levels of procrastination struggled to communicate when unfamiliar with their group mates. Respondent 4 expressed: *"It is hard to communicate, especially if you do not personally know your groupmates."* This sentiment was reinforced by Respondent 2: *"The communication in the group becomes smoother if you personally know them."* Respondent 3 echoed this: *"The communication is smoother."*

In contrast, students with low levels of procrastination emphasized the positive interpersonal outcomes of group work. Respondent 7 shared: *"In a group, we can voice out our opinions. We cultivate healthy communication."* Respondent 6 added that group work strengthens teamwork: *"You will see that teamwork is developed in the group."* Respondent 5 also reported increased social connectedness: *"My socialization skill has improved… groupings also build friendship."*

These contrasting experiences suggest that communication is not merely a functional process but is deeply tied to students' emotional readiness and interpersonal confidence. Students with high levels of procrastination feel more guarded in unfamiliar settings, indicating a lower threshold for social risk. Meanwhile, students with low levels of procrastination utilize group work as a platform for relationship building, reflecting greater comfort in collaborative exchanges. The tension between communication as a burden for some and a benefit for others underscores how group work experiences are shaped by students' psychological tendencies rather than the structure of the task alone.

Theme 3. Academic Engagement

This theme describes how respondents perceived their academic engagement during individual and group activities. Their experiences centred on the division of labour, comprehension of the activity, pacing, grades, and the current learning modality. Three sub-themes emerged from the data: division of labour and workload, comprehension and cognitive support, and pacing and task completion.

A. Division of Labor and Workload

Students from both procrastination groups highlighted that group work lightened individual workload through task sharing. Students with high levels of procrastination found group work convenient, often noting its practical

advantages. As Respondent 3 stated: *"In group activity, the tasks are divided. Our workload is reduced."* Respondent 1 similarly explained: *"Someone will help you, the workload is lessened,"* while Respondent 2 added: *"Assignment is reduced since the tasks are divided."*

Students with low levels of procrastination affirmed the same benefits. Respondent 7 noted: *"In my group, the tasks are divided… The process becomes faster because there is more manpower."* Respondent 5 also stated: *"It is partially okay because there is more manpower. The workload is lessened."*

However, a student with low levels of procrastination pointed out a drawback of task division. Respondent 6 cautioned: *"Most members will study the part assigned to them… When you are done with your part, you will no longer consider the other parts."* This concern reflects the risk of fragmented learning in interdependent settings.

These responses suggest that while both groups value reduced workload, they perceive its implications differently. Students with high levels of procrastination focus on relief from responsibility, which may align with their tendency to avoid overwhelming tasks. Students with low levels of procrastination, however, recognize both the efficiency and the cognitive risks associated with task segmentation, indicating a stronger orientation toward mastery and holistic understanding. This contrast shows how students' procrastination levels shape their interpretation of group work's academic demands.

B. Comprehension and Cognitive Support

Respondents consistently reported that group work improved comprehension through access to peer explanations and collective reasoning. Students with high levels of procrastination appreciated the opportunity to clarify confusing parts. Respondent 2 shared: *"There are questions… you do not understand. There are chances that you can ask for help from your groupmates."* Respondent 3 emphasized collaborative thinking: *"Your group can talk, synthesize, and identify the correct answer."* Respondent 1 added: *"In a group activity… we can identify the mistakes."*

In contrast, individual work posed challenges when students encountered difficult items. Respondent 3 noted: *"No one will double check it… No one will help you."* Respondent 2 echoed: *"You cannot ask for help… no one will guide you."*

Students with low levels of procrastination had similar reflections. Respondent 7 remarked: *"In an individual, he or she cannot ask opinions from others."* Respondent 6 shared a classmate's struggle: *"She/he understood the activity when we discussed it… In the individual, she/he cannot ask for help."* Respondent 5 explained: *"In groups, you can ask opinions… the topic becomes clearer."*

Respondent 6 further stressed the depth of learning in group settings: *"We understand the lessons deeper… There is a correction process."* Respondent 4 added: *"When you have doubts… there are your groupmates whom you can ask."*

These show that group work functions as a cognitive support system for both groups; however, the need is more pronounced for students with high levels of

procrastination, who often experience uncertainty and self-doubt. Group discussions help compensate for their hesitation to tackle challenging tasks independently. Meanwhile, for students with low levels of procrastination, cognitive support reinforces existing strengths and enhances mastery. The findings highlight how interdependence can mitigate academic vulnerabilities for some while enriching comprehension for others.

C. Pacing and Task Completion

Students frequently discussed how pacing affected their engagement. Students with high levels of procrastination valued the autonomy of individual work, where they could manage their own time without external pressure. Respondent 2 stated: *"It is really okay if the activity is individual because you hold your time."* Respondent 3 added: *"You have all the time… you will not mind their available time."* However, in group settings, they felt compelled to adjust to others. Respondent 3 shared: *"You need to consider their pacing… some members do the tasks fast while others do not."*

Students with low levels of procrastination also appreciated controlling their own pace during individual tasks. Respondent 5 explained: *"I hold my time… I will not wait for the available time of your groupmates."* Respondent 7 added: *"I can answer… during my own free time, in my own understanding."*

These students also expressed concerns regarding group pacing. Respondent 8 stressed the importance of coordination: *"It is important to manage your group mates… With this, we can submit the activity within the allowable time."* Respondent 6 stated: *"When the time allotment… is shorter, I am pressured with the deadline, but not totally with the groupmates."* Respondent 5 explained: *"I never felt anxious… I feel pressure with the deadline."*

Students also discussed how pacing and errors impact grades. Respondent 7 stated: *"If ever you misunderstood the problem, there is no one to blame."* Respondent 4 echoed: *"When your answer is incorrect, you will not blame others."* In group work, however, grades are shared. Respondent 7 emphasized: *"All our actions depend on members."* Respondent 8 added: *"We can accomplish the task ahead… review our answers."* Respondent 6 stated: *"A mistake of one is a mistake of all."* Respondent 5 explained: *"Your answer… is correct, while other answers are not… it will affect the scores."* Concerns about freeloading also emerged. Respondent 3 noted: *"There are group mates that are parasites… They will take the same credits even though they contribute less."*

These illustrate how pacing and responsibility intersect with procrastination tendencies. Students with high levels of procrastination fear slowing the group down, which reinforces their preference for individual work. Students with low levels of procrastination, in contrast, become anxious when others jeopardize deadlines, reflecting their strong sense of responsibility and performance orientation. Issues of fairness—particularly regarding grades and freeloading—further complicate group work, showing that emotional and academic pressures differ significantly depending on procrastination levels.

5. Discussion

This study examined how group work influences the academic procrastination of students with both high and low levels of procrastination. Three themes emerged from the analysis, namely self-contemplation, social engagement, and academic engagement. These themes highlight how students understand their roles, emotions, and learning behaviours when working individually or collaboratively, and how these experiences relate to established theories and contemporary research. The first theme, self-contemplation, reveals how students make sense of their own tendencies in relation to academic tasks. Many respondents preferred to complete Physics activities individually because working alone allowed them to regulate their pace and focus. Students with low levels of procrastination experienced passive emotions, such as awkwardness or hesitation, when working with unfamiliar peers. These were not intense emotional reactions, but they still influenced how they navigated collaborative situations. Their responses reflect ideas in social constructivist perspectives, which emphasize that learning involves negotiating interpersonal interaction and shared roles (Hurst et al., 2013).

Students with high levels of procrastination reported strong negative emotions in group work. They described feelings of pressure, guilt, and fear of disappointing their group mates. These emotional reactions align with previous studies that link procrastination to fear of negative evaluation, heightened anxiety, and self-criticism (Flett et al., 1995; Klingsieck, 2013; Uzun Ozer et al., 2013). Their discomfort was intensified when they worked with peers they did not personally know, suggesting a sensitivity to social judgment. This finding supports the view that procrastination often serves as an emotion regulation strategy in which students avoid situations that may expose them to evaluation or threaten their sense of competence (Sirois, 2004). For these students, individual work may function as a protective setting that minimizes emotional strain. (Lincoln, 2000).

The second theme, social engagement, demonstrates the significance of familiarity and social dynamics in group work. Students with high levels of procrastination tended to focus on how their peers might evaluate them, which indicates a performance avoidance orientation. This type of orientation is associated with fear of failure and a desire to avoid appearing incompetent (Howell & Watson, 2007). When placed in groups with unfamiliar classmates, they experienced more pressure and contributed less freely. Their preference for working with familiar peers supports previous findings that social connectedness enhances emotional safety and promotes engagement (Steenberghs et al., 2021).

Students with low levels of procrastination also valued familiarity, although they recognized its potential drawbacks. They noted that close friendships may blur boundaries, lead to unequal participation, or prompt assumptions of favouritism during group work. Their reflections mirror findings in group motivation research that suggest high familiarity can strengthen teamwork but may also reduce accountability if not well managed (Weber & Hertel, 2007). Despite these concerns, students with low levels of procrastination generally viewed group work as beneficial because it strengthens communication skills, builds relationships, and enhances classroom connectedness.

The third theme, academic engagement, describes how students perceived the academic demands of group and individual work. Respondents explained that group work reduces individual workload because tasks are shared among members. This observation supports established research in cooperative learning, which states that collaborative tasks can improve efficiency and distribute cognitive effort (Johnson & Johnson, 2009). A student with low levels of procrastination, however, pointed out that dividing tasks may limit understanding when some group members focus only on their assigned portions. This concern reflects a potential weakness in interdependent tasks, where partial engagement may lead to fragmented comprehension. The presence of peers in group discussions also improved comprehension for many students. They described how group work provided opportunities to clarify confusing items, correct mistakes, and reason through difficult parts together. For students with high levels of procrastination, these interactions helped lessen uncertainty and provided academic support that they might not access when working alone. This finding aligns with research showing that collaborative learning can compensate for weaker self-regulation by providing external support structures (Sirois, 2007). Students with low levels of procrastination viewed these discussions as opportunities to deepen their understanding and refine their thinking.

Pacing was another important factor influencing engagement. Students with high levels of procrastination preferred individual work because it allowed them to follow their natural tempo without worrying about delaying their group mates. This preference reflects studies showing that procrastinators fear that their behavior may negatively affect group progress, which contributes to avoidance (Klingsieck, 2013). Students with low levels of procrastination, on the other hand, only felt pressured when deadlines were approaching and a group mate had not completed their part. Their pressure was directed at the looming deadline rather than at the social dynamics of the group. Their responses reflect higher levels of conscientiousness, which is strongly associated with effective task completion and academic responsibility (Steel & Klingsieck, 2016). Concerns about fairness also emerged, particularly regarding grades and unequal contribution. Students with low levels of procrastination worried that mistakes made by other members could negatively affect the entire group's score. Some also described frustration with free riders, noting that members who contributed little sometimes received the same credit as those who did most of the work. This reflects the social loafing effect, where individuals contribute less because responsibility is diffused within a group (Weber & Hertel, 2007). Students with high levels of procrastination did not place emphasis on freeloading but were more concerned about how their own performance might negatively affect the group, which aligns with their self-evaluative tendencies.

Overall, the findings demonstrate that group work influences academic procrastination in distinct ways, depending on students' emotional responses, self-regulation abilities, and social comfort. For students with high levels of procrastination, group work may intensify emotional pressure and fear of judgment, particularly when working with unfamiliar peers. In contrast, students with low levels of procrastination tend to experience group work as supportive

and collaborative, although they remain concerned about fairness, pacing, and unequal participation. These insights emphasize the importance of intentionally structuring group tasks, ensuring balanced roles, and fostering supportive environments that minimize pressure and enhance both emotional and academic engagement.

6. Conclusion

This study examined how group work influences the academic engagement and procrastination tendencies of students with high and low levels of procrastination. It revealed that collaborative learning environments produce both benefits and challenges, depending on students' emotional and self-regulatory characteristics. The findings show that while group work supports shared workload, deeper comprehension, and opportunities for peer explanation, it also intensifies pressure and emotional discomfort for students with high levels of procrastination, especially when working with unfamiliar peers. These students frequently experienced guilt, fear of negative evaluation, and concerns about negatively affecting group performance, which limited their willingness to participate and reinforced their preference for individual tasks. In contrast, students with low levels of procrastination generally benefited from group collaboration and viewed peer interaction as a way to enhance understanding and build relationships, although they reported frustration and anxiety when group members failed to contribute their share, particularly near deadlines. Familiarity among group members emerged as an influential factor shaping comfort, communication, and confidence, with both groups noting that known peers reduced awkwardness and improved coordination. Taken together, the findings demonstrate that group work remains a valuable instructional approach but must be strategically designed to accommodate diverse student needs. Educators should consider group composition, implement clear task structures, and promote accountability to reduce unequal participation and minimize emotional strain. By addressing these conditions, group work can foster meaningful engagement, support self-regulation, and create a more equitable collaborative learning environment for students across different procrastination profiles.

7. Recommendations and Limitations

Group work can be an effective strategy to enhance the learning of students with high levels of procrastination and students with low levels of procrastination; however , it must be carefully guided. Academic administrators and programme chairs are encouraged to establish clear policies for group work that outline responsibilities and ensure fair participation. Teachers should provide structured and well-monitored collaborative activities, including regular progress checks and peer evaluations, to prevent unequal workload distribution. The Guidance Office may also consider offering training programmes and life skills workshops that focus on time management, emotional regulation, and self-efficacy to support students with high levels of procrastination. In addition, student support units can develop peer mentoring and teamwork initiatives to help students strengthen their interpersonal communication and collaboration skills. These interventions can create a learning environment where group work becomes more productive, equitable, and supportive for all students. This study was limited to first-year

engineering students from a single state university in Mandaluyong City during the 2023–2024 academic year, with only eight students participating in the interviews. This restricts the generalizability of the findings. The qualitative nature of the study also limits its scope, as the insights reflect the experiences of a small group of students with both high and low levels of procrastination. Future research may involve larger and more diverse samples, explore other academic settings, or use quantitative methods to verify the relationships between procrastination and the behavioural and emotional patterns identified in this study.

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This paper may be cited as:

Lampara, E. C. (2025). Interdependent Group Work through the Lens of First-Year Engineering Students with High and Low Levels of Procrastination. *International Journal of Education and Emerging Practices*, *1*(3), 34-51. https://doi.org/10.63236/injeep.1.3.3

Appendix 1
Academic Procrastination Scale
The following questions assess your habits and routines as a student. Please answer the following as they apply to yourself.

How much do you agree with the following statements? (*Scored on a 1 to 5 Likert-type scale, with 1= Disagree and 5= Agree*)

1. I usually allocate time to review and proofread my work.*
2. I put off projects until the last minute.
3. I have found myself waiting until the day before to start a big project.
4. I know I should work on school work, but I just don't do it.
5. When working on schoolwork, I usually get distracted by other things.
6. I waste a lot of time on unimportant things.
7. I get distracted by other, more fun, things when I am supposed to work on schoolwork.
8. I concentrate on school work instead of other distractions. *
9. I can't focus on school work or projects for more than an hour until I get distracted.
10. My attention span for schoolwork is very short.
11. Tests are meant to be studied for just the night before.
12. I feel prepared well in advance for most tests. *
13. "Cramming" and last minute studying is the best way that I study for a big test.
14. I allocate time so I don't have to "cram" at the end of the semester. *
15. I only study the night before exams.
16. If an assignment is due at midnight, I will work on it until 11:59.
17. When given an assignment, I usually put it away and forget about it until it is almost due.
18. Friends usually distract me from schoolwork.
19. I find myself talking to friends or family instead of working on school work.
20. On the weekends, I make plans to do homework and projects, but I get distracted and hang out with friends.
21. I tend to put off things for the next day.
22. I don't spend much time studying school material until the end of the semester.
23. I frequently find myself putting important deadlines off.
24. If I don't understand something, I'll usually wait until the night before a test to figure it out.
25. I read the textbook and look over notes before coming to class and listening to a lecture or teacher. *

* Indicates reverse-scored items