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A Stitch in Time: A Single Case Study on Mending Students' Tardiness through Positive Reinforcement

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Abstract

Student tardiness continues to pose a significant challenge within educational institutions, affecting not only individual academic performance but also classroom dynamics and instructional continuity. In the context of the Philippine education system, factors such as transportation limitations, household responsibilities, and habitual lateness contribute to this persistent issue. This single-subject case study explores the implementation and impact of a structured positive reinforcement strategy aimed at reducing tardiness among 18 Grade 11 STEM students at Pasig Catholic College during the 2023–2024 academic year. These participants were selected through purposive sampling for their chronic lateness. Using an A-B-A research design across three distinct phases: baseline observation, intervention, and withdrawal, the study employed tangible incentives to reinforce punctuality and monitored behavioral trends using attendance records and visual analysis. Results demonstrated a marked decrease in tardiness during the intervention week, with sustained improvements even after the withdrawal of external rewards, indicating a potential for habit internalization beyond simple compliance. The study concludes that a straightforward, low-cost positive reinforcement strategy is a highly effective and practical tool for classroom management. It not only swiftly corrects the behavior but may also foster intrinsic motivation and self-regulation in students. The study concludes that such interventions offer a practical pathway to foster self-regulated behavior and a more productive learning environment.

Keywords: tardiness, positive reinforcement, punctuality, classroom management, single case study, behavioral intervention, student behavior, tangible rewards

INTRODUCTION

Punctuality is a foundational habit that not only underpins academic success, but it can also predict future professional discipline in an individual. However, tardiness among students remains a persistent and complex challenge in educational institutions worldwide. Recent studies highlight its prevalence, with research in Nigeria and the Philippines identifying a range of contributing factors, from geographical distance and lack of reliable transportation to personal habits and family obligations (Adegunju et al., 2019; Moldero et al., 2024). This issue is not without significant consequences. When the students arrive late, they miss crucial learning activities and disrupt the classroom environment, causing stress for educators and hindering the progress of their peers (Vukovic, 2017; Brixey et al., 2020). Chronic absenteeism and truancy in schools are associated with numerous negative outcomes. Research shows that absenteeism can lead to poor academic achievement, increased dropout rates, and even involvement in the school-to-prison pipeline (Bundshuh et al., 2021).

Tardiness among Grade 11 students, typically aged 17-18, is a complex issue influenced by a unique interplay of developmental, academic, and social factors. Biologically, adolescents experience a natural shift in circadian rhythms, leading to a preference for later sleep and wake times, which often conflicts with early school start times and results in chronic sleep deprivation, a direct physiological contributor to lateness (Minges & Redeker, 2015; Sharman & Illingworth, 2019; (Smith et al., 2025) This is compounded by the significant academic pressures of high school, where students face challenging coursework and high expectations, leading to widespread stress and fatigue that can diminish motivation and punctuality (López & Benner, 2025; Zauderer, 2025; Ambrosio, 2024). Furthermore, while this age group develops a strong desire for autonomy and independence, their self-regulation and time management skills are still maturing, which can result in poor sleep hygiene and inefficient morning routines (Ziegler et al., 2025; Sharman & Illingworth, 2019; Escandallo et al., 2024).

Socially, the increasing centrality of peer relationships and the influence of school culture play a significant role. Peer pressure, social disconnectedness, and experiences like bullying can contribute to school avoidance and tardiness (López & Benner, 2025; Sams, 2024; Frontiers in Child and Adolescent Psychiatry, 2025). Unlike younger students whose tardiness is often more dependent on external factors such as parental responsibility or transportation, the causes of lateness in high school students are more internalized and complex, stemming from these evolving physiological, psychological, and social dynamics (Moldero et al., 2024; Academy for God, 2025; Kearney et al., 2022). This highlights the need for interventions that acknowledge these specific developmental vulnerabilities and environmental pressures.

In response to this challenge, research has increasingly pointed toward proactive, supportive strategies over punitive measures. One of the most promising approaches is positive reinforcement, a concept rooted in the conditioning experiments of Pavlov and Watson (Beck, 2018; as cited in Chance, 2014). The principle is simple yet powerful: by rewarding desired behaviors, their frequency increases. Modern studies have consistently validated this idea in educational settings. The use of praise, tangible rewards like stickers or small prizes, and recognition has been shown to improve student motivation, engagement, and behavior (Simonsen et al., 2018; Choi & Presslee, 2023).

While the effectiveness of positive reinforcement as a general strategy is well-documented, there is a need to understand its practical application in addressing the specific, nuanced problem of student tardiness within a real-world classroom context. Therefore, this research, "A Stitch in Time: A Single Case Study on Mending Students' Tardiness through Positive Reinforcement," aims to explore the implementation and impact of a targeted positive reinforcement intervention. This research will closely examine how a structured system of rewards can influence a student's punctuality, seeking to provide practical insights and a detailed account of the process of mending this challenging behavior.

The phrase "A Stitch in Time," as used in the research title, metaphorically emphasizes the study's proactive stance. It suggests that timely intervention in addressing student tardiness can prevent more significant academic and behavioral challenges from escalating. This highlights the critical importance of addressing issues promptly to avoid more severe consequences later. In the context of student tardiness, this means that early and consistent efforts to improve punctuality can avert a cascade of negative outcomes, such as missed crucial learning activities, disruption to the classroom environment, and ultimately, a decline in academic achievement and an increase in absenteeism (Escandallo et al., 2024; Moldero et al., 2024; The Academy for God, 2025; Vukovic, 2017). By implementing a "stitch", a targeted positive reinforcement intervention – the research aims to mend the initial "tear" of tardiness before it expands into more pervasive and detrimental academic and behavioral problems for the student (Escandallo et al., 2024; The Academy for God, 2025).

Statement of the Problem. Generally, the main focus of this study is to decrease the students' tardiness through positive reinforcement among the selected students of STEM Strand of Grade 11 in Pasig Catholic College for the school year 2023-2024. Specifically, this sought to answer the following questions:

1. What is the profile of the students in terms of:
   1.1 distance of home from school; and,
   1.2 means of transportation?

2. What are the factors for students' tardiness?

3. Is there a change in the tardiness of the students after implementing positive reinforcement?

Scope and Limitations. The study's primary focus is to investigate the effectiveness of positive reinforcement strategy in reducing the frequency of tardiness. The research is specifically centered on a group of 18 selected Grade 11 students from the Science, Technology, Engineering, and Mathematics (STEM) strand at Pasig Catholic College during the academic year 2023-2024. The scope includes:

1. Profiling the student respondents in terms of their home's distance from school and their primary means of transportation.

2. Identifying the factors contributing to student tardiness through questionnaires and interviews.

3. Measuring the change in the frequency of tardiness before, during, and after the implementation of a positive reinforcement intervention.

The methodology is confined to a single-subject (A-B-A) research design, conducted over a distinct three-week period: a baseline week (August 21–25, 2023), an intervention week (August 28–September 1, 2023), and a post-intervention week (September 4–8, 2023). The intervention itself is limited to the use of tangible rewards, specifically snacks, for punctual attendance.

The study is subject to several limitations that affect the generalizability and interpretation of its findings.

External Validity. The primary limitation is the study's low external validity. The findings are derived from a small, specific sample of 18 Grade 11 STEM students within a single private, Catholic institution in Pasig, Philippines. Consequently, the results cannot be reliably generalized to students of different age groups, academic tracks, socio-economic backgrounds, or those in different school settings (e.g., public schools, other geographical locations).

Duration of the Study. The research was conducted over a short, three-week period, with the withdrawal phase lasting only one week. This brief timeframe is insufficient to determine the long-term sustainability of the observed behavioral change. It remains unclear whether the students' improved punctuality would persist over an entire semester or school year without reinforcement.

Confounding Variables. The study's internal validity may be affected by confounding factors. The Hawthorne effect, wherein participants modify their behavior because they are aware of being observed, could have influenced student punctuality independent of the reward system. Other unmeasured variables, such as shifting parental involvement or peer influence during the study period, could have also contributed to the results.

Nature of the Reinforcer. The intervention was restricted to a single type of tangible reward (snacks). The study does not explore the comparative effectiveness of other reinforcers, such as social praise, special privileges, or activity-based rewards, which may have different impacts on student motivation and behavior.

LITERATURES

Positive reinforcement has its roots in early experiments that demonstrated how certain behaviors can be learned through conditioning. Ivan Pavlov, a Russian scientist, famously

showed that a dog could be trained to salivate at the sound of a bell, illustrating that reflexes can indeed be conditioned (Pavlov, as cited in Chance, 2014). In 1903, psychologist John B. Watson built on Pavlov's work and believed that human behavior could be shaped in the same way. He claimed that, with the right environment, any child could be trained to become anything, such as a doctor or a thief, no matter their background (Watson, as cited in Beck, 2018). Contemporary studies continue to affirm these concepts. For instance, research indicates that positive reinforcement on social media platforms correlates with heightened user engagement and improved content quality (Akpan, 2025). In schools, praise and rewards have been proven to improve student behavior and motivation (Simonsen et al., 2018). Teachers who use regular positive reinforcement help students feel more motivated and perform better in class (Myers et al., 2019). Similarly, online educational resources that incorporate reward systems have been shown to enhance students' reading habits and overall engagement (Matyakhan et al., 2024). These recent studies show that Pavlov and Watson's ideas about learned behavior are still relevant today in promoting learning and positive actions.

A recent study conducted in Nigeria in 2024 revealed that students often struggle with punctuality due to a variety of reasons, including going to bed late, living far from school, lacking reliable transportation, and dealing with poverty and family obligations (Adegunju et al., 2019). Similarly, a 2024 survey involving over 500 students in the Philippines highlighted that both geographical distance and the classroom environment play significant roles in influencing students' timeliness (Moldero et al., 2024). College-level research also shows that long travel times, oversleeping, chores, and peer influence contribute directly to tardiness and lower grades (Serut et al., 2024). Studies continue to show that being late disrupts both the student's learning and the wider classroom atmosphere. In high schools, early start times were found to increase lateness, but when schools shifted to later start times, arrival times improved (Morrill et al., 2020). Frequent lateness is also closely related to absenteeism and can lead to future issues like bad work habits. Effective solutions, such as praise notes, stricter rules, and changing schedules, have helped cut down on lateness and improve attendance (Adegunju et al., 2019). These recent findings show that tardiness remains a problem. It requires a combination of practical strategies, support, and sometimes changes to schedules to help students arrive on time.

Students who come to school late often miss key announcements and important learning activities at the start of the day (Vukovic, 2017). Teachers also report feeling stressed when they have to stop lessons to help late students catch up. When this happens often, it affects not only the late student but also the learning of the entire class (Brixey et al., 2020). In the early grades, arriving late can really hinder kids from participating in morning routines that help them feel included and ready to learn (Chang & Romero, 2020). These routines play a crucial role in developing social skills and fostering a sense of belonging. Research also indicates that chronic lateness can negatively impact academic performance and weaken relationships with classmates (Serut et al., 2024). Students who are often late tend to feel less motivated and may even start skipping school more frequently (Moldero et al., 2024). This shows that being on time is not just about rules, but also about helping students succeed in learning and in social development.

Research indicates a strong association between substance use and academic performance among adolescents. Alcohol and cannabis use are linked to increased school absenteeism (Osuafor, 2021), while depression, anxiety, and lower GPA are associated with higher polysubstance use over time (Crane et al., 2021). The COVID-19 pandemic led to increased substance use among adolescents, particularly e-cigarette use among high school students (Dumas et al., 2022). A large-scale study found that both abstinence and high alcohol intake were associated with increased dropout rates compared to moderate consumption, with alcohol intake negatively

impacting grade point average in a dose-dependent manner (Hjarnaa et al., 2023). These findings highlight the complex relationship between substance use and academic outcomes, suggesting that interventions targeting substance use prevention and mental health support could improve school attendance and performance among adolescents.

Schools that shifted to earlier start times, such as those in a large school system that moved their start by forty minutes, experienced an increase in both absenteeism and tardiness rates among students. Furthermore, these changes were associated with higher rates of students dropping out of high school (Morrill & Westall, 2020). Early school start times often conflict with the natural sleep patterns of teenagers, contributing to tardiness. To address this issue, research suggests that implementing strategies focused on positive behavior promotion, such as offering rewards and establishing individual behavior contracts, can be effective in reducing tardiness (Paksarian et al., 2020). Students who are often late or absent tend to have lower academic achievement (Gottfried & Kirksey, 2017). Regular school attendance is important for learning and helps students feel connected to their school. Studies also show that when students expect something good, like breakfast or small prizes, their attendance improves (Burzichelli et al., 2016). These findings support the idea that reward systems and proper scheduling can help reduce tardiness and improve student performance.

Studies suggest that giving autonomy, praise, and peer recognition boosts students' sense of belonging and willingness to attend school (Gage et al., 2016). A strong school climate with supportive relationships, fair treatment, and shared values reduces absenteeism and helps students feel happier and more connected (Daily et al., 2020). Using rewards like tokens, praise stamps, or prize events also encourages punctuality and better attendance (Crombie, 2016). Programs like PBIS that teach, and reward positive behavior help create a welcoming school environment and cut down on class disruptions (ASCD, 2018). Giving students a voice and including them in school decisions makes them feel valued. This leads to more effort and better attendance (Daily et al., 2020). These positive, student-focused strategies are more effective than punishment alone at keeping students engaged (National Foundation for Educational Research, 2024). Overall, recent studies show that creating a positive school environment and using support from peers and adults can improve high school students' attendance and punctuality.

Research also shows that giving immediate, clear feedback or rewards builds a supportive classroom environment that boosts student engagement and behavior (Frontiers study, 2021). Social media praise, such as encouraging comments on class group platforms, has been found to increase enthusiasm, community feeling, and attendance (Faculty Focus, 2023). In primary classrooms, strategies like using tokens, clapping, or giving verbal praise have proven to help young students sharpen their focus and boost their academic skills more effectively than traditional teaching methods (Rumfola, 2017). A 2023 intervention highlighted that when both teachers and students received rewards, it resulted in better quality instruction and increased participation in the classroom (Zimmerman et al., 2022). These findings clearly show that adding positive rewards rather than taking things away encourages students to repeat good behavior and feel more confident (Ghafar, 2023). In short, modern studies reinforce Skinner's idea that positive reinforcement not only shapes behavior but also builds a supportive and effective learning environment.

A study conducted in the Philippines in 2023 revealed that using stickers, certificates, and treats significantly boosted engagement among fourth graders (Anthony et al., 2023). Research in classrooms has shown that when teachers provide rewards like pencils or small toys, students tend to feel more motivated and exhibit better behavior (Choi & Presslee, 2023). Practical guides for educators suggest incorporating inexpensive items such as erasers, praise stamps, or privileges like

special seating to encourage positive behavior (PositiveAction Network, 2024). Even simple acts such as giving high fives or public praise help build a supportive and encouraging classroom atmosphere (Feagin, 2019). Importantly, programs that combine tangible rewards with verbal praise create a consistent system that students understand and appreciate (Scott & Landrum, 2020). Studies also show that having visible reward systems like classroom currency or weekly recognition ceremonies makes students feel proud and part of a community (Reddit user discussion, 2024). Overall, these recent findings support the idea that immediate, material rewards, backed by positive actions, effectively promote positive behaviors and improve learning environments.

A Nigerian study found that rewarding students for coming to class on time helped reduce truancy significantly (Hassan et al., 2024). Research on school-wide Positive Behavioral Interventions and Supports (PBIS) shows a 30–50% drop in office referrals and a notable decrease in disruptive behaviors when rewards and recognition are used (PBIS report, 2025). In special education settings, teacher-child conflict is associated with increased externalizing problems, while classroom structure relates to decreased attention-hyperactivity issues (de Swart et al., 2023). Other studies found that giving tangible rewards like snacks, praise stamps, or small privileges led to fewer incident reports and encouraged students to stay in class (Faculty Focus, 2024). Research shows that structured reward programs can lead to small but significant reductions in disruptive behavior (Moore et al., 2019). Teachers have also noted that using positive feedback and token systems contributes to a calmer and more focused classroom environment. These contemporary findings suggest that swapping out punishment for consistent, positive rewards is an affordable yet effective strategy to enhance student behavior and boost learning time.

METHODS

Research Design. This study adopted a single-subject research design, which is commonly used in the fields of special education and behavioral research. This design was deemed appropriate as the objective was to assess the behavioral changes of a small group of students in response to an intervention which in this case, positive reinforcement and was conducted only at Pasig Catholic College during the academic year 2023-2024.

The participants served as their own control group, and observations were graphically recorded using line graphs to represent any changes in tardiness over time. Single-subject designs, when replicated across individuals, can provide valuable insights despite limited external validity (Wolff et al., 2020).

Participants and Ethical Considerations. The participants for this study were selected using a purposive sampling method, specifically a criterion-based selection strategy. From a class of 35 Grade 11 STEM students, only eighteen (18) students who were identified as being frequently tardy during the initial observation period were included in the study. This approach was deliberately chosen to align directly with the research objective, which is to assess the effectiveness of a positive reinforcement intervention on reducing tardiness. Including students who were consistently punctual would be irrelevant to the research question and would not yield meaningful data regarding behavioral change. Therefore, focusing exclusively on the students exhibiting the target behavior was essential for the methodological validity of the A-B-A single-subject design and for ensuring that the study's findings provide a clear and direct measure of the intervention's impact.

The researchers ensured ethical protocols were followed throughout the process. The students' anonymity and confidentiality were strictly maintained. During interviews, students were assured of their right to self-determination and if any student who felt uncomfortable responding to a question had the right to withhold their answer. Informed consent and approval from the school head were formally obtained before the study commenced.

Instruments. To collect the data on student profiles, a brief questionnaire was administered gathering information on the distance of home from school, and means of transportation. Interviews were also conducted with students who were frequently tardy to determine contributing factors to their late arrivals.

Attendance records and a pre- and post-observation checklist were used to monitor the changes in punctuality. The data collected from these instruments were interpreted using descriptive statistics and visual analysis through line graphs to illustrate behavioral trends before, during, and after the intervention.

Data Collection Phases. The researchers first discussed the conduct of the study with the school head of the Senior High School Department of Pasig Catholic College and presented the research proposal for approval. Upon receiving the permission from the principal, as well as the informed consent from the participants, an orientation was conducted for the selected students in Grade 11 - Archdiocese of Manila, Archdiocese of Lingayen-Dagupan and Archdiocese of San Fernando Pampanga, explaining the nature, purpose, and ethical safeguards of the study. In collecting the necessary data, the study followed three phases that were spread across three weeks to monitor changes in students' behavior.

Pre-intervention Observation (August 21–25, 2023). During this phase, the researchers monitored and recorded student tardiness without any intervention in place. Baseline data were gathered to assess the initial rate of late arrivals.

Intervention Phase (August 28–September 1 2023). Positive reinforcement strategies were implemented. Students who arrived at school on time were given various tangible or intangible rewards. This was designed to encourage punctual behavior through immediate and consistent reinforcement.

Post-intervention Observation (September 4–8, 2023). During this final phase, the reinforcement was withdrawn to observe whether the improved behavior would be maintained in the absence of external rewards. Tardiness was still monitored and documented daily.

RESULTS

This part presents the data gathered, the results of the study and interpretation of findings. These are presented in tables and bar graphs following the sequence of the research problems as listed in the introduction.

Profile of the Respondents. The first problem of this study focused on the profile of the Grade 11 STEM students of Pasig Catholic College. Malinao is located near the City Hall of Pasig. Its population, as determined by the 2020 Census, was 4,817. This data was from the Philippine Statistics Authority (PSA). This represented 5.08% of the total population of Pasig. Malinao shares a common border with the following barangays; San Nicholas, Bambang, Kalawaan, Kapasigan, Sta Cruz, Buting, San Joaquin, Bagong Katipunan and Sumilang. Some of the students of Pasig Catholic College are from these barangays.

Table 1
Profile of the Respondents

PROFILE	F	%
Distance of School from their House		
0 to 500 meters	3	16.66
501 meters to 1000 meters	5	27.77
1001 meters to 1500 meters	3	16.66
1501 meters to 2000 meters	4	22.22
2001 meters and above	3	16.66
Means of Transportation		
Walking	12	66.66
Motorcycle	1	5.55
Tricycle	5	27.77

Table 1 presents the profile of the Grade 11 STEM Students. The profile of the respondents was tabulated and computed according to the following: age, gender, distance of house to the school and means of transportation.

Furthermore, it can be noted in Table 1 that when it comes to the distance of the school from their houses, between 501 to 1000 meters are the most numbered students having 27.77% of the total population. There are more students

who walk from their house going to school which is 66.66% of the total population. These gathered data on the profile of the students will be useful in understanding their situation with relation to their behavior of tardiness in going to school. The prevalence of students walking a considerable distance, for instance, highlights potential daily logistical challenges they face. These factors illuminate punctuality obstacles. Thus, this profile is essential for assessing tardy behaviors and positive reinforcement effectiveness.

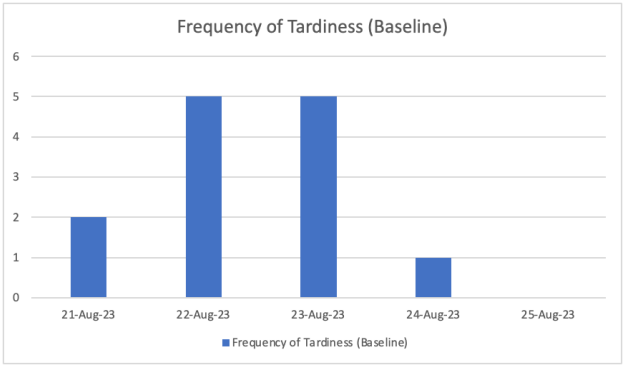

Figure 1
Frequency of Tardiness (Baseline)

Figure 1 shows the Frequency of Tardiness among the respondents. This serves as the baseline of the study. It was on the second and third day of the observation where most of the tardiness occurred in the class. There are 5 students recorded on the second day and the same number and the same students who were late on the third day.

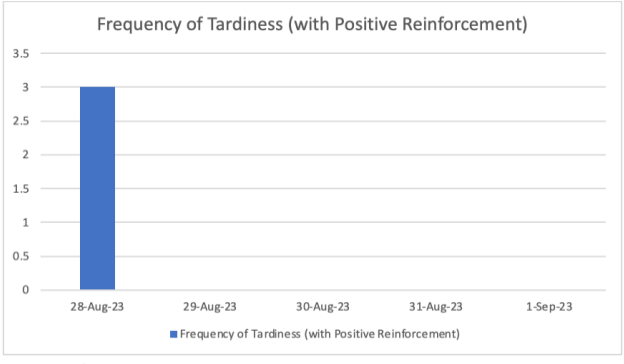

Figure 2
Frequency of Tardiness (with Positive Reinforcement)

Figure 2 shows the result of the study a week after the observation process wherein the positive reinforcement was applied. The dates given are where the intervention happened. The researchers continued to plot the frequency of tardiness while implementing the positive reinforcement of giving rewards which are snacks to those who are punctual in class. Only on the first day where the intervention was implemented that there are 3 students who were late and the rest of the remaining days have no record of tardiness.

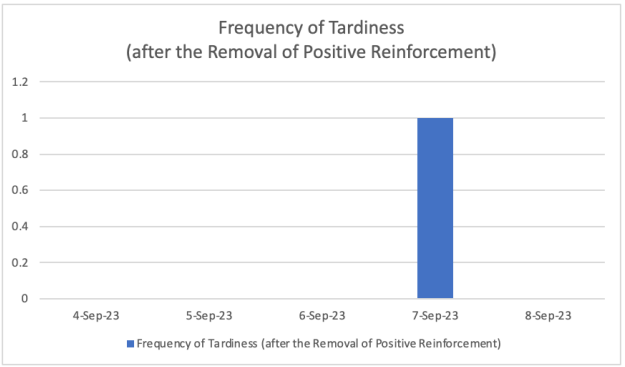

Figure 3
Frequency of Tardiness (after the Removal of Positive Reinforcement)

Figure 3 shows the result of frequency of tardiness after the positive reinforcement was removed. Only one student came late on the fourth day of the observation in the week where the positive reinforcement was removed. The rest of the days show no record of tardiness.

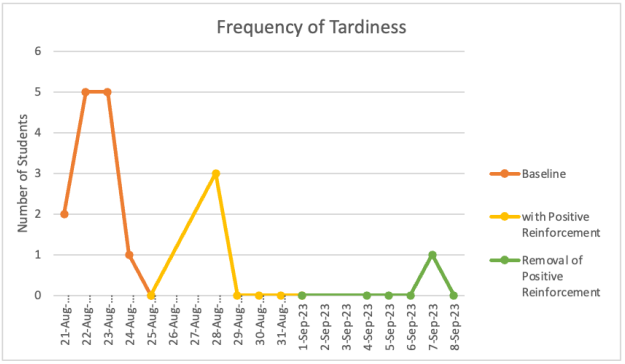

Figure 4
Frequency of Tardiness

Figure 4 shows the comparison of the three-week study on the effectiveness of positive reinforcement on students' tardiness. It can be noticed on the table that there is a decrease in the frequency of tardiness among the students during the giving of positive reinforcement and a week after that.

DISCUSSION

The results of this study strongly support the use of positive reinforcement to reduce student tardiness. The A-B-A design clearly showed that when a tangible reward was introduced, students began arriving on time more often and more quickly. This is consistent with previous research that positive reinforcement can effectively improve student behavior (Cooper, Heron, & Heward, 2020). These findings suggest that using rewards can be a practical strategy for classroom management. The following discussions will explain what the results mean for teachers, explore how they can be applied in schools, address the limitations of the study, and suggestions for future research.

The quick drop in student tardiness from the baseline to the intervention phase supports B.F. Skinner's theory of operant conditioning. Giving students a reward, such as snacks, right after they arrived on time worked as a strong positive reinforcer, helping to increase the desired behavior. This finding agrees with research that shows how rewards can quickly improve student behavior when they are linked to specific actions (Allday & Pakurar, 2017). The fact that tardiness almost disappeared in just one day shows that the students reacted well to the use of tangible rewards.

One of the most important results of this study came from the withdrawal phase. Even after the rewards stopped, most students still came to class on time. This suggests that something more than just wanting a reward influenced their behavior. The rewards may have helped students break their habit of being late and given them a chance to see the benefits of being on time like feeling ready for class, joining early activities, and avoiding problems from being late. Over time, students may have started to enjoy these benefits, which helped turn the new habit into something they valued on their own. This supports the idea that external rewards can help build good habits that last, not just serve as temporary bribes (Ryan & Deci, 2017). This shows how rewards can be used to guide students toward self-motivation and long-term behavior change.

Looking at the results together with the background of the students gives us a clearer picture of the problem. Table 1 shows that most students lived nearby and walked to school, so it's unlikely that being late was caused by transportation or other outside issues. Instead, the success of a simple reward-based program suggests that the main reason for tardiness was related to students' motivation and habits. This means the issue was more about personal choices and routines than real barriers. The intervention worked well because it helped students change how they saw the effort of coming on time making punctuality feel more worthwhile to them. This supports past research showing that motivation plays a big role in student behavior and that small changes in incentives can help build better habits (Wentzel & Miele, 2016).

Implications for Educational Practice. The findings of this study carry several important and practical implications for educators and school administrators seeking effective classroom management strategies.

This study shows that simple and low-cost strategies can make a big difference. The use of snacks as a reward was easy to do, didn't cost much, and could be carried out by one teacher without needing major support from school leaders or big budgets. This goes against the common belief that serious school problems can only be fixed with large, expensive programs. Instead, it shows that teachers themselves can create real, positive changes in their classrooms using just a few resources. This kind of approach is especially helpful for schools with limited funding, and it can be repeated in many settings, making it a practical and scalable solution (Durlak et al., 2015).

Second, the success of the intervention likely included a social element, even if it wasn't directly planned. Giving rewards in front of the class helped create a new, positive group standard being on time became something that was noticed and praised. Students not only got the snack as a reward but also felt recognized and included. This shows that the impact of the intervention was not just about the reward

itself, but also about building a classroom culture that supports and encourages good behavior. It helped create a stronger sense of community, where students felt more connected and motivated to follow shared expectations (Wentzel, 2016).

Lastly, the study shows how important the teacher's role is in making programs like this work. The original researchers point out that being consistent is key. When rewards are given in a clear and predictable way, students learn to trust the system and understand how their behavior affects the outcome. If the rewards are not given regularly or fairly, students may lose interest and stop changing their behavior. This means teachers need to stay committed and follow through with the plan. Their steady actions help students stay motivated and build lasting behavior change (Simonsen et al., 2015).

Limitations and Directions for Future Research. While this study provides strong evidence for the intervention's effectiveness, it is important to acknowledge its methodological limitations, hence, suggest avenues for future inquiry.

One main limitation of this study is its external validity, which means how well the results can apply to other groups or settings. The research only involved 18 Grade 11 STEM students from a selected section in Pasig Catholic College, located in the Philippines. Because the study focused on a small, specific group in a unique cultural and geographic setting, we cannot be sure that same results would happen with students of different ages, in other schools, or in other countries. Although the single-subject design is useful for showing cause and effect within the group, it is not meant to support broad conclusions across many different situations (Kazdin, 2017).

Regarding internal validity, while the A-B-A design provides a strong argument for a causal link, it is possible that other confounding variables contributed to the outcome. For instance, the students' awareness of being participants in a study (the Hawthorne effect) may have influenced their behavior, independent of the reward itself.

These limitations point to several clear directions for future research.

Replication and Generalization. Future studies should seek to replicate these findings with larger, more diverse samples across multiple schools and grade levels to enhance generalizability. Furthermore, to explore the impact on diverse student populations to understand how positive reinforcement strategies can be best adapted for students with specific learning disabilities, emotional or behavioral disorders, and those from diverse cultural backgrounds.

Use of Control Groups. To further strengthen causal claims, future research could employ experimental designs with randomized control groups, comparing the intervention group to a group that receives no intervention. Research should conduct comparative analyses to determine the relative effectiveness of different reward systems. For example, a study could compare the impact of intrinsic rewards (e.g., verbal praise, increased autonomy) versus extrinsic rewards (e.g., snacks, points) across different age groups and demographics.

Long-Term Effects. This study's withdrawal phase lasted only one week. Longitudinal studies are needed to investigate the long-term persistence of the behavioral change over several months or an entire school year to better understand the extent of habit internalization. Longitudinal studies that build upon the findings that these results are "sustained throughout time," longitudinal research is needed. Future studies should track a cohort of students over multiple academic years to measure the long-term impact of positive reinforcement on behavior, academic performance, and student well-being.

Comparison of Reinforcers. Research could also explore the differential effects of various types of rewards. Comparing the efficacy of tangible rewards (like food) with social rewards (like praise) or activity-based rewards (like free time) could help determine the most effective and sustainable motivators for different student populations.

Measure Impact on Teacher Morale and Retention: While this study focused on student behavior, future research should investigate the effect of using positive, non-punitive management strategies on teacher stress levels, job satisfaction, and retention rates.

Conclusion. This research compellingly illustrates that implementing a straightforward and budget-friendly positive reinforcement approach can significantly and swiftly enhance student punctuality in a middle school environment. The consistent use of tangible rewards for arriving on time led to a noticeable and rapid decrease in tardiness among the students.

A principal contribution of this study is its demonstration that positive reinforcement interventions possess the capacity to extend beyond mere short-term behavioral compliance. The continued punctuality exhibited by students even after the removal of extrinsic rewards suggests the emergence of internally motivated behavioral change. This enduring effect underscores the potential of structured reinforcement strategies to disrupt entrenched patterns of tardiness and foster the development of autonomous, self-regulated conduct. By facilitating opportunities for students to experience the inherent advantages of punctuality – such as preparedness, reduced anxiety, and enhanced academic engagement – this approach nurtures the cultivation of personal responsibility and intrinsic motivation. Consequently, the findings affirm that constructive, non-punitive behavioral strategies are not only ethically sound but also pedagogically effective, promoting sustained behavioral improvements and a more orderly and productive learning environment.

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