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Ryan Scheb

Cristo Rey Brooklyn High School

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EDUCATION IN PRACTICE

Does Homework Work or Hurt? A Study on the Effects of Homework on Mental Health and Academic Performance

Ryan Scheb¹

Abstract: St. Patrick's Catholic School is a coeducational Catholic preparatory school located in a large northeastern city. The school serves an exclusively non-white, working-class student population who demonstrates the motivation and potential to attend and graduate from college. The school's mission calls for its staff to be guided by *cura personalis*, meaning they will care for the whole person; yet data show that the school's students were extremely stressed and that much of their stress was attributable to homework. This study sought to determine if reducing the amount of homework could improve students' mental health without negatively impacting academic performance. Across ten sampled classrooms, teachers reduced the amount of homework they were assigning by 50% for a period of at least three months with an aim of reducing students' self-reported levels of stress by 30% while maintaining academic performance. At the conclusion of the project, the number of students reporting high to moderate levels of stress decreased by nearly 30%. The school intends to expand this pilot to the entire school to effectively measure both mental health and academic performance outcomes at the school population level. The pilot data indicated that reducing homework school-wide would relieve a significant amount of stress for St. Patrick's students while ensuring their academic performance remains steady.

Keywords: homework, mental health, academic performance, high school

For as many years as students have been going to school, they have been coming home with work to do before returning the next day. The—perhaps outdated—general consensus is that homework, supposedly, continues the learning outside the school building, prepares students

¹ Cristo Rey Brooklyn High School

for future education, and helps kids develop positive work habits (Paulu, 1998). Homework also forces kids to prioritize “work” over other activities daily, takes time away from time with their families, and physically exhausts them (Galloway et al., 2013). More than ever before, the stress and strain that hours of after-school work put on kids has some questioning whether homework helps or hurts kids. This is exactly what happened at St. Patrick’s Catholic School¹ last spring.

St. Patrick’s is a high school in a large city that serves an exclusively underserved, non-white population of almost 400 students in grades 9–12. Ninety-nine percent of the school’s population are students of color: about 75% are Latinx, 20% are Black, 3% are Asian-Pacific, and 1% identify as “other.” Twenty full-time teachers, three academic leaders, and four members of the counseling team help to carry out the school’s academic vision for the students. The school is part of a national network of urban schools seeking to provide a Catholic, college-prep education to students who would not otherwise be able to afford it. St. Patrick’s mission promises a “rigorous academic curriculum” as part of the college-prep experience and the school clearly delivers. The school has almost 1,000 alumni. Eighty-one percent of them are on track to graduate or have graduated from college. The national college graduation average for all students is 61%; the national average for students in the same socio-economic class as St. Patrick’s students is 11% (Whitmire, 2019). In other words, not only is the school graduating almost every student it takes in, but its program also clearly prepares them for success in the future as well.

As with all schools, the pandemic created significant challenges. Many students continue to deal with Covid-related trauma in addition to an already stressful school environment. The combination has been disastrous for the mental health of St. Patrick’s students and while the school has a robust and talented counseling program, there are systemic and structural problems that must be fixed for the school to truly address the mental health crisis that exists within its community.

For the past few years, even before the pandemic, it was common to hear education experts talk about socio-emotional learning and trauma-informed teaching. The pandemic made these buzzwords an instant emergency for many schools, including St. Patrick’s. However, any long-term staff member or older student will convey that while Covid exacerbated the problem, it did not originate with the onset of the pandemic. In other words, Covid might have brought students’ struggle with mental health to the surface, but the issues were deeper than the pandemic context. The stress and anxiety students faced at St. Patrick’s did not magically resolve at the end of the pandemic and the return to some semblance of normalcy. Data collected by the counseling team confirmed this and revealed that much of the stress was caused directly by the school: almost 70% of the students rated the impact of school-related tasks on their stress levels as a “4” or “5” where five was the maximum; for those nearly 70% of students, school was significantly stressing them out.

¹ This study uses a pseudonym to protect the identity of the participants.

In June of 2021, a more formal survey was conducted to get a better sense of exactly how the amount of out-of-class work was affecting students. The results were significant and clear. Students were reporting high levels of stress and almost 70% of them were attributing a significant portion of that stress to the assignments given by their teachers.

Data from interviews showed that teachers claimed to be assigning about 25 minutes of homework per night, per class, but students reported spending about 40 minutes on homework each night. In one interview with a young woman entering her senior year, she commented that her frequent breakdowns were the norm for the student body. The data made it clear: the school is, and has been, assigning too much homework.

The process also made clear that teachers were not intending to inflict emotional damage on their students. Instead, they felt compelled to assign homework for two reasons: one, the extensive curriculum they were expected to teach, and two, the past precedent of assigning homework. In other words, teachers assigned homework simply because they thought “that’s what they were supposed to do” or “that’s how school works.” That may be true, but the data made clear that what they were doing was not working.

The data from students was especially troubling considering St. Patrick’s mission, which explicitly calls on its staff to create a culture of *cura personalis*, the Jesuit idea of “care for the whole person.” In so many ways, the school does an exemplary job of answering this call. Teachers are well-versed in the idea of culturally responsive pedagogy and make intentional efforts to create relationships built on trust with their students. The school’s robust counseling team is constantly innovating and is fully integrated into the academic operations of the school. Teachers and staff are constantly communicating with parents and working with families to involve them in their children’s education. Yet too much of that progress is being reversed by the excessive homework the teachers are assigning.

Research on Mental Health and Homework Efficacy

Convincing teachers to change their practice with homework was never going to be easy. However, it was strongly supported by the work of researchers from across the country. In what might be the single most consequential piece of outside research for this work, a team of researchers at Stanford University found that students were regularly completing more than three hours of homework each night and that 72% of those students were either “often or always stressed over schoolwork” (Galloway et al., 2013, p. 498), which led to other negative consequences like lost sleep, less time with family and friends, and an obsession with school work. In fact, the majority of students explicitly noted that homework was the “primary stressor” (Galloway et al., 2013, p. 501) in their lives.

The research about homework causing stress is not surprising. What might be more revelatory was its impact on academic performance. In “When is Homework Worth the Time?” researchers

from across the country proved that while homework has a positive effect on standardized test scores it has no effect—positive or negative—on grades (Maltese et al., 2012, p. 61). Of course, the impact on standardized test scores will give anyone thinking about reducing homework pause. However, Alfie Kohn, the country's leading theorist on homework, points out that the effect on scores is "very modest" (Kohn, 2012) and is probably correlation, not causation. It is also worth noting that this survey focused exclusively on math and science classes. "STEM" teachers were the most reluctant to change their practice because of their belief that students needed out of class practice to succeed in their class. This research strongly refutes that notion.

The results from the 2012 survey were not an anomaly; data from an earlier study show "negative but nonsignificant relations were found between the amount of homework teachers said they assigned and the average student achievement in their class" (Cooper et al., 1998, p. 76).

In other words, there is no clear connection between homework and student achievement and, if anything, there is a *negative* correlation. The leading researcher of the aforementioned study did some additional work in 2001 which found—at the high school level—there was some small benefit to students who were assigned and completed homework compared to those who were assigned and completed no homework (Cooper and Valentine, 2001, p. 147). But this data does not account for a situation where a teacher does not assign homework. In a classroom where a teacher does not assign homework, she or he is presumably providing students access to the full curriculum within the classroom setting and thus those students might perform just as well academically as students who are assigned and complete homework.

Overall, the research linking academic achievement to homework is mixed and it does not appear that a direct causal relationship has ever been found. This had immense implications for this work at St. Patrick's. The first objection of many teachers was that students need homework to learn. Without question, this comes from an admirable objective: ensuring that all students succeed. But the cost of such success must also be evaluated. If the school's obsession with student success requires sacrificing student mental health, one must question whether the ends justify the means. The data—both from outside experts and internal surveys—make two things unequivocally clear. First, St. Patrick's students are stressed, and that stress is leading to mental health issues. Second, a significant portion of that stress comes from out-of-class work.

Finally, one last piece of research is especially relevant to this work at St. Patrick's. The school serves an exclusively non-white population, almost all of whom live below the federal poverty line. Their families often primarily speak Spanish, yet their out-of-class work is in English. There are two implications of the demographics of St. Patrick's students. First, they cannot afford the high-priced private tutors that many of their more affluent peers are able to use to help with homework. And second, their families are less able to assist with schoolwork because of their varying work schedules and lack of comfort with English. It is not surprising but certainly worth mentioning that research shows that these factors increase the stress that out-of-class work creates for students

(Pressman et al., 2015, p. 308) and causes strains in the relationship between families and their students. This is particularly true in Spanish-speaking families. In other words, while the problem with out-of-class work seems to be a national issue, at a place like St. Patrick's it is even more severe. St. Patrick's teachers, with the best of intentions, are causing significant stress in the lives of their students and their families which is leading to mental health issues all for a practice that the research suggests is not significantly beneficial.

Homework Reduction Plan

A homework reduction plan had the potential to significantly impact St. Patrick's students and their families. To implement the change, teachers were asked to reduce the amount of homework they assign by 50%. The goal was to see a 30% reduction in students reporting moderate to high levels of stress while maintaining their academic performance. The amount of homework assigned was measured in terms of minutes that teachers' estimate the amount of time students spend completing homework for their class on a weekly basis. It was crucial that teachers did not haphazardly reduce their homework but instead incorporated the change into their unit plans. Randomly cancelling assignments risks jeopardizing the implementation of a guaranteed and viable curriculum. At the beginning of the implementation, planning meetings were held with groups of teachers generally by content area and/or grade level. Throughout the implementation period, observations were conducted to evaluate the effect on the morale of the classroom. These classroom visits also helped ensure the integrity of the project and often opened a discussion after that involved the sharing of unit and lesson plans.

Before the intervention, baseline data was collected that determined the amount of homework students were receiving, their current stress levels, and their academic performance in terms of their class averages. Students were also asked to assess how much of their stress levels and mental health struggles came from homework. This took place in June and August of 2021. Teachers were also surveyed to determine the amount of homework they were assigning and to ascertain their perceptions of how it affected their mental health.

Once the intervention began, teachers were surveyed at every two-week interval, to ensure fidelity to the change and then to assess the effect that the homework reduction was having on their students. At every four-week interval, students were surveyed to determine the effect that the reduced homework had on their mental health and their academic readiness. Teachers were asked to implement those surveys during their classes. These surveys were kept brief to ensure minimal disruption, but these indicators were extremely useful to showing that the change idea was on track to meet the stated aim. At the end of the implementation period, a final survey of students and teachers was conducted, and results were compared to baseline data. These surveys were administered near the end of the conclusion of the academic year directly before final exams began. Both teachers and students were surveyed and the surveys included closed-response and

open-response questions. For example, students were asked the closed-ended question of “What is your current stress level?” They were then given a chance to explain their answer, which provided valuable qualitative data. Teachers were asked to make observations about their students’ stress levels and academic performance. For example, teachers were asked “To what extent did the reduction of homework change your students’ ability to master the material in your class?” Current marking period grades were recorded and then compared to the previous marking-period. While it is difficult to perfectly measure the effect of one specific change on academic performance, the use of multiple data points—grades, student perceptions of their preparedness, and student comments—attempted to provide a good picture of what happened.

Results

The post-implementation data showed a clear reduction in students’ self-reported stress levels. [Figure 1](#) shows that prior to the implementation of the reduction in homework almost 62% of students were reporting moderate to high levels of stress. After the implementation, the number of students reporting moderate to high levels of stress was just over 42%, a drop of 32%. [Figure 2](#) provides

Figure 1

Percent of Students Reporting Moderate to High Stress Levels

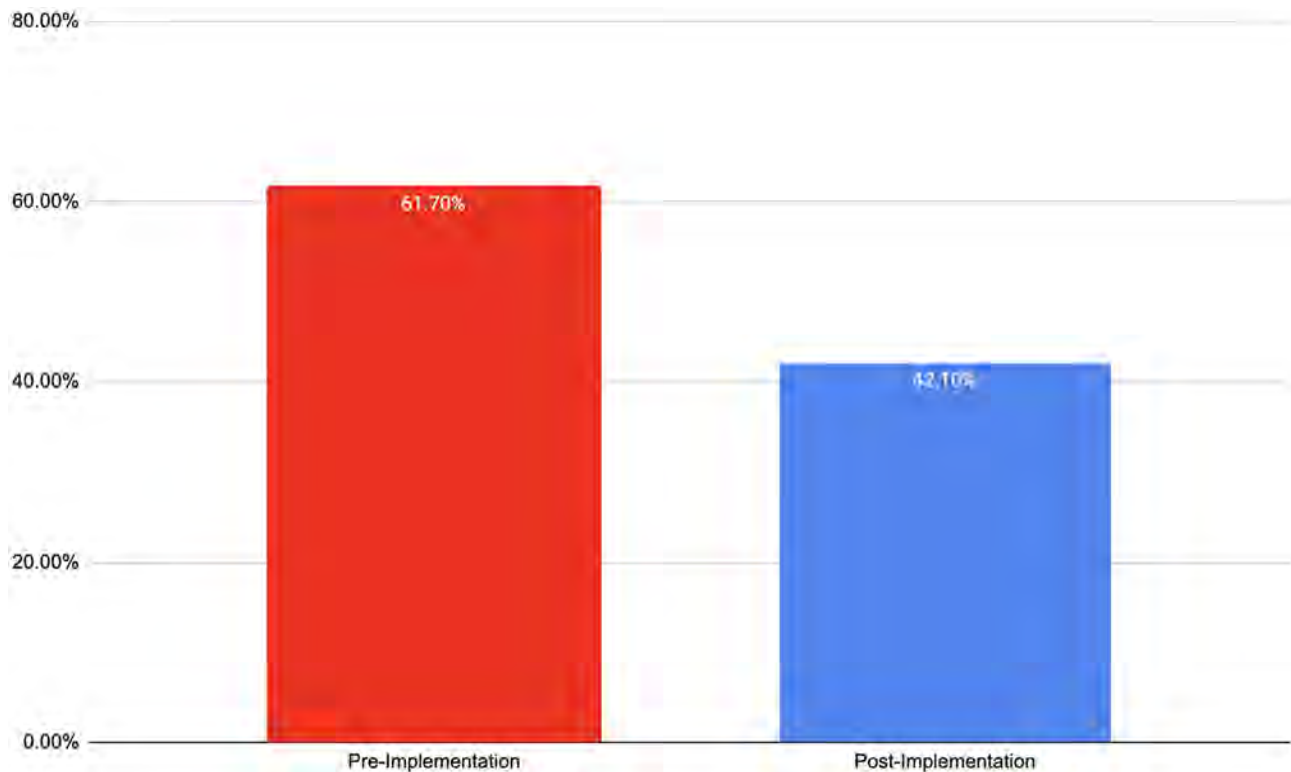
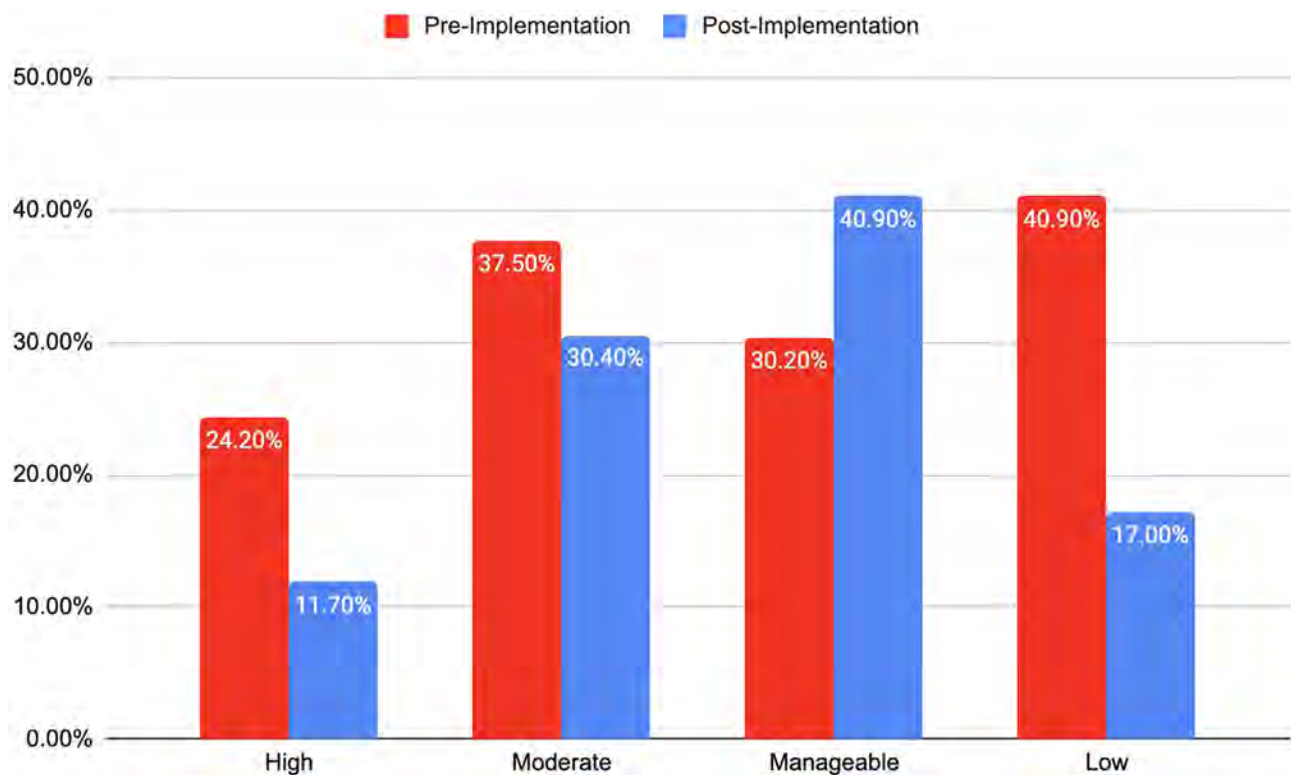


Figure 2

Students' Perception of their Preparedness for Class, Before and After Implementation

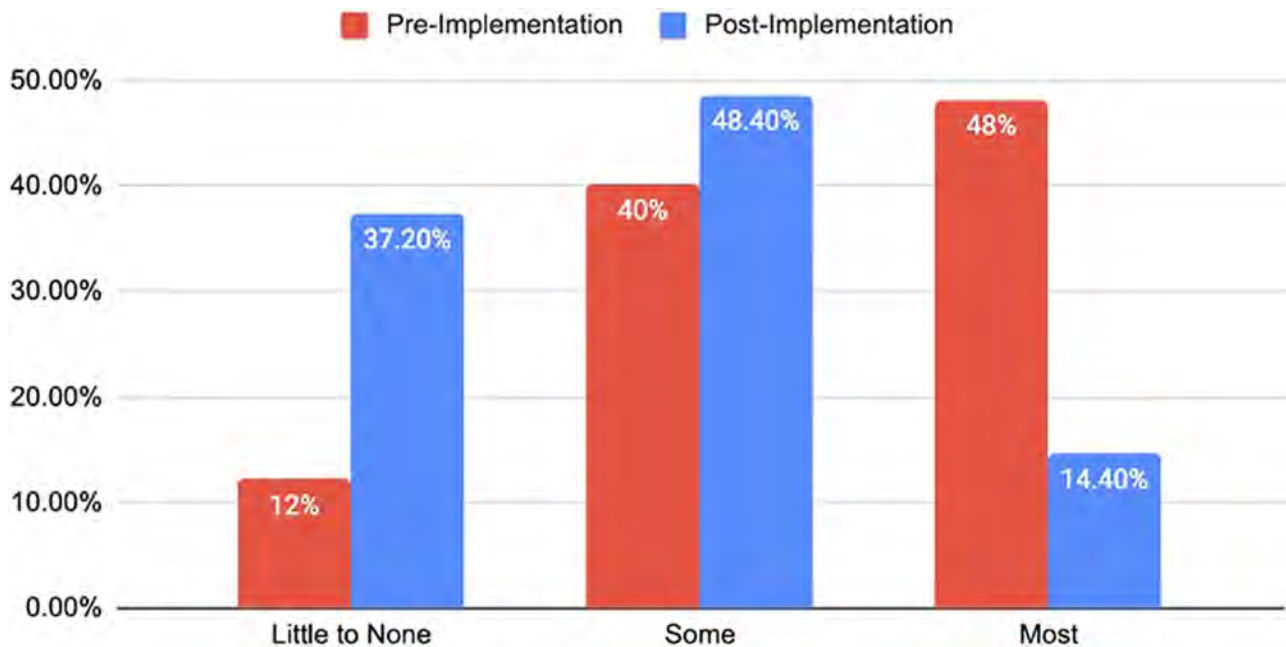


greater detail showing both a significant decline in the number of students reporting high levels of stress (24.2% to 11.7%) and a significant increase in the number of students reporting low levels of stress (8.1% to 17%). Finally, [Figure 3](#) shows that the amount of stress attributable to assignments decreased significantly. Prior to implementation, nearly half of the students (48%) attributed most of their stress to out of class work and 88% of students said that at least some of their stress was attributable to out of class work. After the implementation, just over 14% of students attributed most of their stress to out of class work; this represents a decline of 70%.

The surveys also provided the students a chance to explain their answers regarding the amount of stress attributable to out of class assignments. Multiple students indicated that the reduction in homework freed up time for other responsibilities. For example, one student said, “The reduction of homework gave me more time to help my parents care for my younger sister while they work.” Other students noted that the extra time allowed them to focus on major assignments for other classes: “I was able to prioritize classes that had major assignments due instead of trying to spend time on every class. Ultimately, this made me less stressed, and I felt better prepared for my classes.” While the wording varied, statements like this were very common.

Figure 3

Percentage of Students that Attribute Various Levels of Stress to Homework



While the initial problem this project attempted to tackle was declining mental health, fixing that issue could not come at the expense of students' academic performance. Data from [Figures 4–7](#) show the specific effects on student achievement, largely measured by grades. [Figure 4](#) shows that when students were asked about their academic achievement, 65% of them felt equally prepared to the period before the change was implemented; just 9% of them said that they were less prepared. Twenty-seven percent of them claimed to be more prepared; in the open-ended section of the survey many of these students said that with less work they had more time to devote to the assignments they were receiving and had time to review notes. Perhaps the most important data point in terms of academic performance was students' grades. Prior to implementation, the average class grade was 83.25%; after implementation the number declined to 82.97, a decline of just one-third of one percent. Other data based on academic performance is also showed very little change; the percent of students on the honor roll declined by 2% ([Figure 6](#)) while the number of students on academic probation actually declined by 2% ([Figure 7](#)).

When students were asked their reasoning for their description of their academic preparedness for class, they often pointed to the time they had to dedicate to other classes that needed more attention on specific nights. One student said, "This allowed me to spend more time reviewing my notes, studying for tests, and completing projects." Other students indicated that the work they were doing outside of class was not helpful so the reduction of it had no negative impact on their

Figure 4

Students' Perception of their Preparedness for Class, Before and After-Implementation



Figure Note: Respondents indicated their feelings based on the prompt, "Compared to before homework was reduced, I feel . . ."

Figure 5

Average Progress Report Grade for Students in Targeted Classes Before and After Implementation

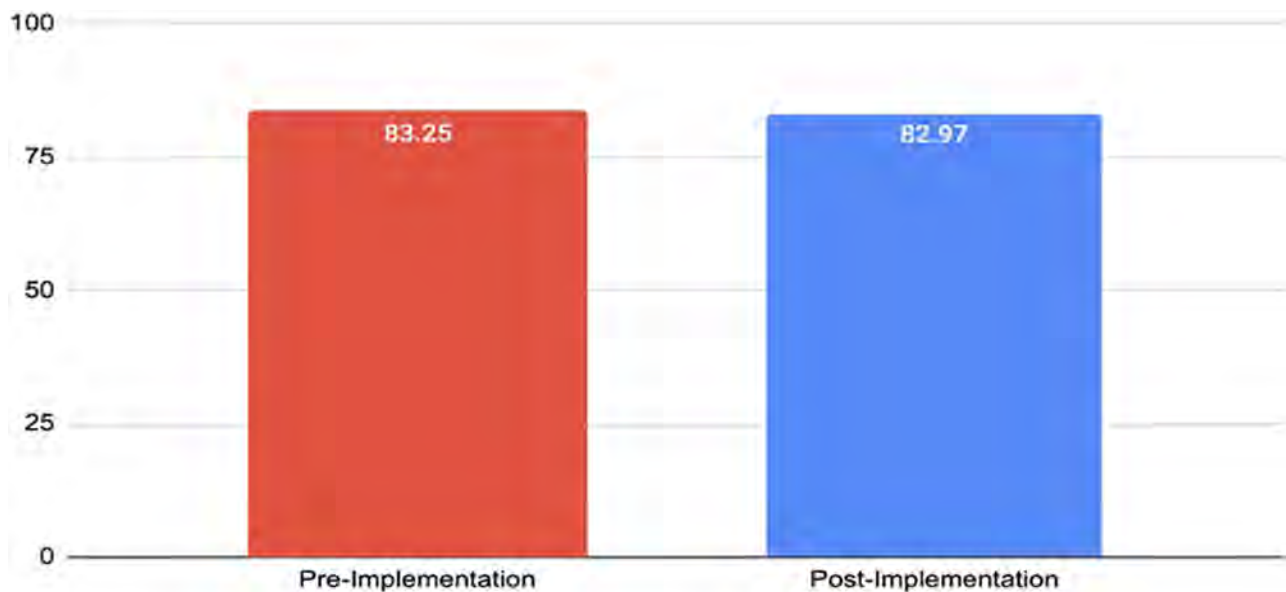
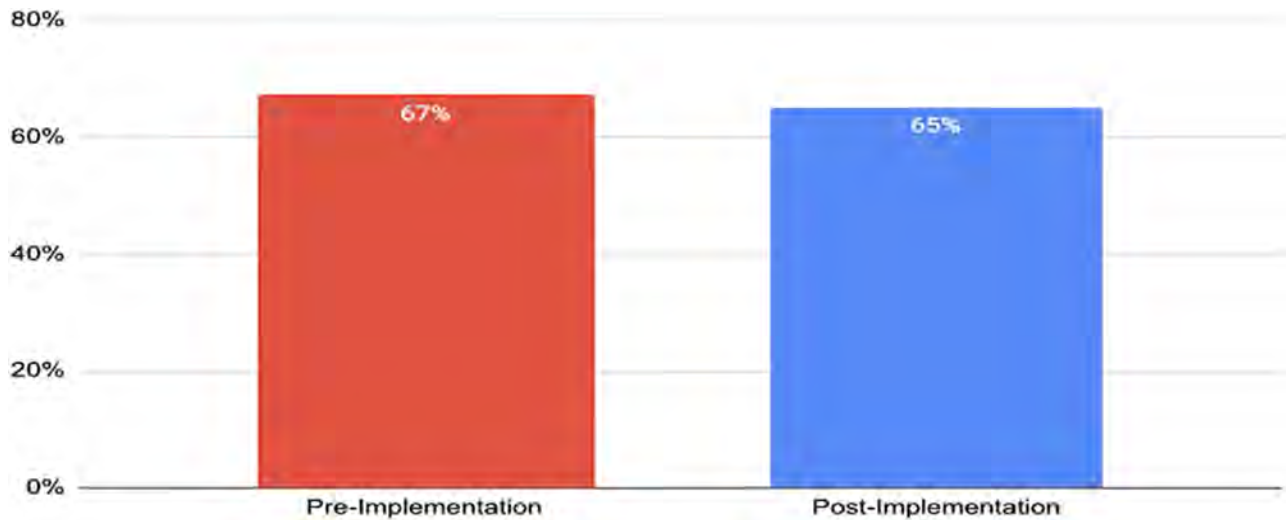
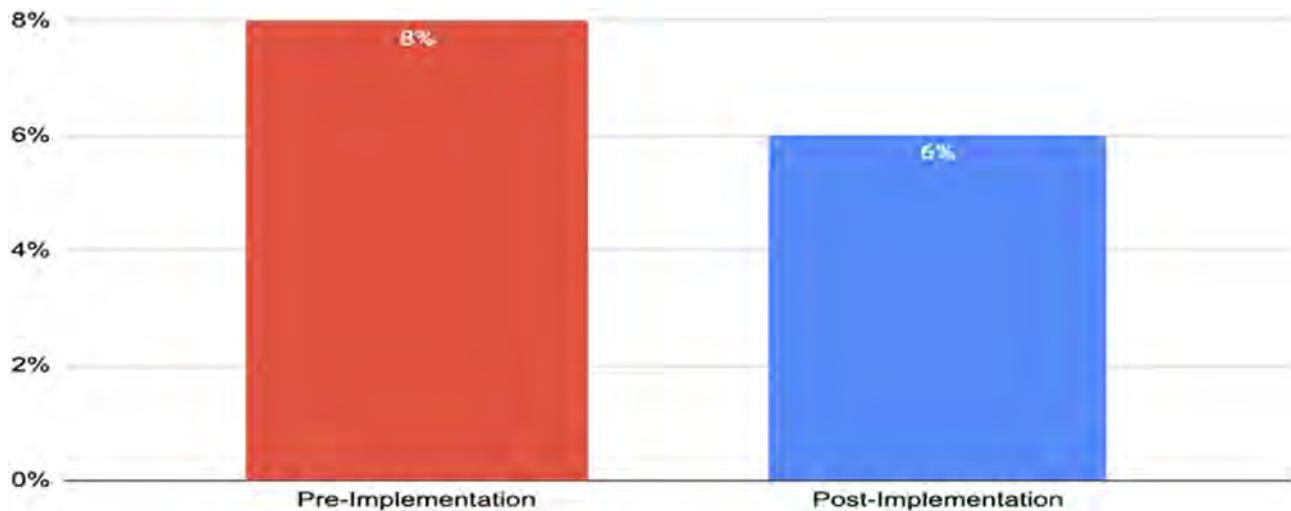


Figure 6

Percentage of Students in Targeted Classes on Honor Roll Before and After Implementation

**Figure 7**

Percentage of Students in Targeted Classes on Academic Performance Before and After Implementation



performance. Others admitted that they frequently cheated on assignments—clearly a separate problem for the school—and so there was little difference for them personally before or after the implementation. The few students that said they felt less prepared offered various explanations. The most common was that they “appreciated being able to practice the material they learned during class outside of class” and felt as if they no longer had that opportunity. However, as [Figure 4](#) shows, those students represented a very small percentage of those that were participating.

Discussion and Implications

Overall, the data are extremely encouraging and suggest that reducing homework had a significant, positive improvement on students' mental health. The aim of this project was to reduce the number of students reporting moderate to high levels of stress by 30%. [Figure 1](#) shows that the percentage decline from the baseline data to the final data collection in May was 32% which means the aim was met. Establishing direct causation is not possible, but additional data collected does suggest a correlation between the amount of homework students are receiving and their stress levels. Specifically, [Figure 3](#) shows that before the implementation of the change, 48% of students attributed most of their stress to out-of-class assignments and after the implementation only 14% did. The students' comments in the open-ended questions affirmed this; as their teachers reduced the amount of homework the assigned, the students' stress levels decreased.

The academic data were equally encouraging as well. In the early days of researching the issue of mental health at St. Patrick's, one of the drivers that emerged was the large amount of content and skills teachers felt compelled to teach. Ultimately, this led to them assigning homework to help cover their full curriculum, even though research showed this was not a particularly effective practice. Nevertheless, one concern from teachers about this project was that reducing homework would negatively affect their students' academic performance. While many factors affect students' academic performance, the data suggests no noticeable drop after reducing homework. And, to some extent, there might even be a positive effect. [Figure 6](#) shows that only 9% of students said they felt less prepared for class after receiving less homework; 91% of students said they felt equally or even more prepared for class. [Figures 5, 6, and 7](#) show that students' average report card grades as well as the number of students on the honor roll and academic probation lists were generally unchanged. The aim of this study stated that the reduction in students stress levels could not negatively affect students' academic performance; this data suggests that the aim was fully met.

There are a few limitations to this data. There are many factors that affect a student's level of stress; many of those factors are beyond the control of this project. At the same time, stress levels are highly variable and students' answers to the survey questions might have been significantly different had the survey been given an hour earlier or an hour later.

Similarly, there is no precise way to measure academic achievement. Grades are impacted by so many factors beyond the scope of this project. And, because homework is a part of how grades are calculated, the reduction (or elimination, in some cases) of homework means that other grades like tests and quizzes count for more. Depending on the student, that might inflate or deflate their grade; regardless, it certainly makes any comparison imperfect.

Despite these limitations, the data strongly suggested a positive effect on students' mental health when homework was significantly reduced and a neutral effect—which is arguably a positive—on students' academic performance. Students who received 50% less homework reported a significant

decline in their stress levels while the academic averages remained almost the same. While it is impossible to assign direct causation, the aforementioned data and the fact that the number of students who attributed most of their stress to out of classwork declined by over 30% suggests that reducing homework was extremely beneficial for the students of St. Patrick's High School.

There were also tangential benefits, one of which was a reduction in instances of academic dishonesty. The initial survey indicated that cheating was almost the norm for out of school work: students said that their peers cheated on more than 60% of assignments despite a widely known academic dishonesty policy. In fact, the subjects where teachers were most protective of their homework—for example, math—were the subjects where students were most likely to admit to cheating and to accuse their classmates of cheating. With homework being greatly reduced, so too were accusations of academic dishonesty which, while unintended, was a positive outcome. Responses from students corroborated this; some openly admitted they cheated on homework assignments in the past and so the reduction of homework reduced both the opportunities and the instances of academic dishonesty.

Recommendations

St. Patrick's teachers were assigning their students an arguably immense, excessive amount of work. While surely this was not done with the intent to overwhelm the students to the point of breakdown, the impact was often just that. While this problem was exacerbated by the problems that Covid-19 caused for education and teenagers, it existed long before that. However, this intervention has provided a possible avenue to reduce the stress and improve the mental health of St. Patrick's students. Within two weeks of the initiative being implemented, over 60% of students were reporting at least a 30% decline in their stress levels. If the school is truly dedicated to creating a culture centered on *cura personalis*, continuing to focus on the students' mental health is prudent.

While this initiative proved successful, it needs to be expanded. About 50% of the school's students were in classrooms that participated in this change idea. Among those 50%, there was a 32% drop in the number of students reporting moderate to high stress levels. To truly understand the effect that reducing homework has on students' mental health, the entire faculty needed to be on board so that all of the student body participates. While researchers still have a lot to learn about student mental health, it is well known that it is not something that is compartmentalized; thus, stress from a math class will still affect a student in their history class, regardless of whether the history teacher has taken steps to reduce the amount of work being assigned. Creating a universal program would help to more effectively evaluate the impact the change had on students' mental health.

St. Patrick's is also not just focused on high school. As mentioned, one of the school's most frequently shared statistics is about the percentage of students who graduate from college.

Successfully graduating students from St. Patrick's is one thing but providing them with the skills they need to continue to succeed once they have left the school is another. Thus, the long-term effects of all actions must be considered. It is fair to question what impact students having less homework in high school would have on them in college. It may be that they gain valuable experience for the types of tasks and independent studying they will be asked to do in college. Or it may be that they are then unprepared for the intense demands and high stress that college academics provides. Further research here would be extremely valuable.

The mental health crisis plaguing St. Patrick's students is not unique; in many ways, it is a national pandemic. Yet, potential solutions need not be so distant. This project has proven that when teachers are willing to take risks and try new things, improvement can happen. If St. Patrick's is truly committed to its mission, it must continue to maintain high academic standards while simultaneously ensuring that its students mental health is cared for. The results of this trial show that both are possible.

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