Fine Efficacy: An Experimental Study of the Effect of Daily Fines on Borrower Return Habits

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Fine efficacy: An experimental study of the effect of daily fines on borrower return habits.

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Abstract: Fines have long been seen as a method to ensure items are returned on time. Recently the need to charge patrons for not returning items has come into question. Many libraries have gone fine free to gain good will with their patrons and reallocate staff. To better determine the impact incremental fines have on patron behavior, we conducted an experimental study, charging one group fines and not charging the other. We found that there was not a statistically significant change in either fines accumulated or amount of material borrowed. The data suggests patrons keep the item for as long as they need it and return it when they are done.

Keywords: fines, overdue, borrowing habits, experimental study
**Introduction**

For most librarians, the efficacy of daily fines\(^1\) is not in question. Fines motivate patrons where it matters: their bank account. The assumption is: if the patron knows they are being charged daily (or hourly) for overdue books, they are more likely to return them. While most librarians believe it, the true effect of fines on return rate has not been adequately researched. This experimental study examines how fines affect how long items are overdue, as well as the change in user habits when the threat of fines is removed. Our goal was to examine the effectiveness of fines on educated patrons.

Several researchers have studied the impact of fines. Most of the research is case studies which compare fines generated before and after updating policies. While such studies are important, the participants in the compared groups are not the same when research is done over a period of years. As the subjects are not the same, it is a significant limit to the findings. Our study is designed to minimize the difference in participant groups.

**Literature Review**

Libraries have many reasons for implementing fines. Researchers found that controlling inventory, creating revenue, and teaching patrons responsibility are the major reasons to charge patrons for late material (Adomi, 2003, Yau Ching 2005, Mosley, 2004). The same reasoning has also been debated. Mosley (2004) described the costs of charging fines in staff labor, training patrons and staff on policy and procedure, and in the physical space needed to maintain paperwork. Paired with declining circulation numbers, the author challenged the belief that fines are creating revenue. She also questioned the need to control decreasing inventory as librarians

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\(^1\) For this paper fines are incremental charges assessed hourly or daily to a user who has not brought back an item by its due date/time as a method of motivation or penalty. This is separate from processing fees or replacement charges assessed to fund the replacement of a long unreturned item or additional staff handling time.
weed collections and purchase online content. The argument to teach patrons responsibility is debated. Mitchell and Smith (2005) argued that punishing patrons to make them better caretakers of library material is ineffective at best and unethical at worst. Patrons have incurred real world impacts from not returning material, including being unable to receive transcripts required to apply to jobs or graduate programs, loss of borrowing privileges from fines accrued while a minor, even prison sentences (Mitchell & Smith, 2005, "Serious about overdues", 1998).

Most of the research around fines is on the impact of going fine-free, with little study on the effectiveness of fines in getting material returned on time. Libraries who went fine-free are discussed at length below. Studies of the impact of fines have been described by Shontz (1999). He studied returns over multiple years and found that there was "some effect" on return rate for fined books. The variance in the sample and other mitigating factors are a limit to the study. Surrounding the effectiveness of fines is the unfounded assumption that patrons are familiar with their library's policies. Yau Ching (2005) argued that circulation employees should be more active in user education so patrons are aware of the borrowing policy before they generate fines. Considering the issues that surround fines, some libraries have decided to eliminate charging patrons.

**Libraries that have eliminated fines**

The College of William & Mary; Brigham Young University; New York University (NYU); Eastern Kentucky University (EKU); Vancouver Island University; and Texas A&M University have all eliminated daily fines as part of a reassessment of circulation policies (Boyce 2014, Wilson 2014, Rupp, Sweetman and Perry 2010, G. Mitchell 2000, Reed, Blackburn and Sifton 2014, Mosley 2004). As each of these libraries made other changes concurrently with eliminating fines, it is not possible to say with certainty which of the changes, both positive and
negative, could be attributed to eliminating fines. All libraries reported that their changes were, overall, positive, but there were also drawbacks observed.

NYU experienced a 33% decline in fine revenue generated, despite increasing reserve fines and billing fees to compensate for the loss of daily fine payments. They also saw a small increase in number of overdue books even though loan periods had been extended. However, "the number of books that went into a billed-as-lost status dropped 65%" in the first year of using the revised policies (Rupp et al. 2010, p. 168). While more books were slightly overdue, many fewer were kept until they were severely overdue. Simultaneously with eliminating fines, NYU also increased the number and frequency of overdue notices, which may explain this beneficial change.

William and Mary was able to reallocate a substantial portion of the position formerly dedicated to billing after eliminating fines (Boyce 2014). Since they simultaneously extended undergraduate loan periods, many fewer books were billed as lost, which required a manual process. Part of their decision was due to the fact that the amount of revenue generated by fines had been less than the cost in staffing to collect those fines. Gregory Mitchell (2000) stated that this was also true at EKU, but neither author went into detail about how the cost of collecting fines was calculated. Texas A&M also found they were spending four times more to collect fines than they were gaining by charging them (Mosely, 2004). Mosely’s calculations took into account all of the staff time involved with collecting fines including filing, cash handling, processing appeals, explaining fines to patrons, and time spent by university staff at financial offices outside of the library. Mosely points out that a library eliminating fines and saving staff time will still have a decline in revenue unless staff is laid off. She also warns that whatever
processes replace the fine system "must not be so cumbersome that they consume all of the recovered staff resources" (p. 15).

Gregory Mitchell (2000) provided statistics regarding the overdue and lost book rates before and after fines were eliminated at EKU and showed in the year after fines were eliminated, more books became overdue. The amount of money collected for lost and billed books nearly doubled as well. However, the rate of lost books for which replacement fees were paid per circulation transaction was only .129%, approximately 55 books during the year after fines were eliminated. He writes that both patrons and staff were pleased with the change.

Vancouver Island University chose to eliminate fines partially because with decreasing print circulation, fine revenue was no longer sufficient to justify the cost in staff time and patron goodwill (Reed et al. 2014). It was also an effort to encourage more use of the print collection, which sadly was not among the observable results. In the year after fines were eliminated, a smaller percentage of checked out books became overdue. They also chose to forgive any fines that had previously been accrued, which anecdotally led to many happy patrons returning to use the library after avoiding it (Reed et al. 2014).

When Texas A&M eliminated fines for main collection items, they designed a system that would prompt users to return books without imposing a financial penalty except for "the most irresponsible of users" (Mosely 2004, p. 17). A lost book processing fee of two dollars is added after 45 days overdue, but is forgiven if the books are renewed, and this can be an unseen renewal (users do not need to bring the books to the library). Until books are returned or renewed, library privileges are also blocked. If books are not returned within 60 days, the replacement cost is also charged to the account. At this point, books must be brought in person to be renewed, a conscious decision to add an inconvenience as a punishment to replace the
financial punishment of fines. In this new system, all fees are forgiven if the books are returned within 90 days of when they became overdue. The results of the change were positive; the addition of the small lost book fee got patrons' attention and they were motivated to return or renew, while forgiving the fee in the majority of cases meant that there was still an improvement in patron satisfaction and staff time was saved.

While all six of the libraries discussed above have eliminated daily fines for their main circulating collections, at least five (NYU, VIU, BYU, William and Mary, and Texas A&M) retain fines for reserve items and/or recalled items (Rupp et al. 2010, Reed et al. 2014, Wilson 2014, Boyce 2014, Mosely 2004). The sixth, EKU, did not mention any remaining fines after the policy revision (G. Mitchell 2000).

**Patron attitudes towards fines**

Unsurprisingly, patrons do not like to be charged fines. Edewor (2010) found that university staff, especially, resented paying their employer, while Davies and Sen (2014) found that students were unhappy with fines charged by their British public university as tuition rates increased. Students reported negative emotions when they are fined, but also reported that if they truly needed the book, a fine, while unpleasant, would not convince them to return it (Davies and Sen 2014). Mosely (2004) notes that in situations when a library fee appears as a line item on students' tuition bills, they may feel that being charged additional late fines is unjust and expect more lenience regarding late books. While patrons dislike paying fines, they frequently support the policy of charging fines (Edewor 2010, Adomi 2003, Davies and Sen 2014, Bhatt 2011). When surveyed, more patrons than not agree that fines are necessary to ensure others use the library responsibly.
Incentives to return books on time

When Brigham Young University eliminated fines, they also looked at loan periods and concluded that increasing undergraduate loan periods would decrease the number of renewals needed, reducing the number of forgotten renewals and fines. Another concern was ensuring other patrons have access to checked out titles. The library began sending notices to any patron who had a book another patron requested, without placing a recall with a new due date. Informing the patron that someone else wants the book sometimes leads them to return it, and if they did not, an interlibrary loan request was placed (Wilson, Frazier, and Harter 2015).

Another possibility is discussed by Sung and Tolppanen (2013), who compared book return rates at their respective universities. One offers a 10-day grace period, while the other offers no grace period. The grace period reduces the workload involved in collecting small fines while the fine still provides an incentive for patrons to return books. The university with the grace period did not have a statistically significant difference in on-time returns compared with the university without a grace period.

The same paper also compared graduate student return rates before daily fines were imposed and afterwards, and found that the fine did not make a statistically significant difference. Both before and after the daily fine was added, a billing fee was charged for severely overdue books, and the authors speculate that that was sufficient incentive on its own. Finally, they also compared faculty behavior at the two universities, one which had no penalties for faculty for any book which was eventually returned, one which charged both daily fines and, eventually, a billing fee. Faculty at the no-penalty school were more delinquent, but it was not possible to say whether this was due to the daily fines or the billing fee (Sung and Tolppanen...
2013). Wilson (2014) and Rupp, Sweetman, and Perry (2010) also argue that a billing fee for severely overdue books is a sufficient replacement for a daily fine.

Another strong incentive available to academic libraries is the ability to prevent students from registering for the next semester's classes, graduating, or receiving transcripts until books have been either returned or paid for. This will not prevent patrons from keeping books somewhat longer than their due dates, but it does provide some protection for the collection. G. Mitchell writes that the Eastern Kentucky University Libraries decided to change blocking patrons from a last resort to the first line of defense, and eliminated fines for books until they are considered "seriously overdue" (p. 19) and billed, at which point library privileges are also blocked. Reed, Blackburn, and Sifton (2014) and Mosely (2004) also indicate that blocking patrons is part of their fine-free policies.

Some libraries have gone to methods that are not punitive to encourage timely returns. One library attempted to encourage on-time book return by offering a reward, rather than a punishment (W. B. Mitchell and Smith 2005). However, after several years of offering a chance to win a gift card to any student who checked out books and returned them all on time, there was no observable effect on book return rates. Sifton (2009) argues for the abolition of fines in public libraries; however, if this is not possible, he suggests ways to reduce the burden of fines, such as offering "food for fines" canned good drives or reduced or waived fines to specific groups, such as senior citizens. Yau Ching (2005) wrote that user education can encourage better behavior from patrons as well as ensure that users will feel less upset with the library when consequences such as fines do arise. Two areas identified as causing friction with patrons are recalls and late renewals (renewing a book that is already late sometimes generates a fine, but patrons may not
realize this). Suggestions include posting library policies at the circulation desk, and including circulation instruction with other library instruction.

**Description of institution**

Bowling Green State University (BGSU) is a large, public, research university in Ohio. In an examination of active undergrads, we found that 65% had checked out at least one item since starting college. The library circulates the typical monographs, government documents, reserves, and periodicals as well as phone chargers, laptops, and other personal use equipment. Items from the main collection circulate for 21 days to undergraduates and have unlimited renewals, but students are required to present their books at the end of the semester. Equipment can be borrowed for a few hours to be used in the library.

Patrons who do not return main collections items on time are charged $.25 per day overdue. Reserves and equipment are charged $.25 (umbrellas) to $7.50 (laptops) an hour. Items which are long overdue are charged a $36 processing fee per item and the cost of the item as advertised at a major retailer. In fiscal year 2016/17, the library circulated approximately 190,000 items and generated around $60,000 in overdue and replacement fees. Of the items circulated, 7377 (4%) were fined. Patrons reduced their fine, by returning the material or appealing the charge, in 5% (n = 365) of cases.

**OhioLINK**

BGSU is also part of the OhioLINK consortium. Circulation through OhioLINK accounts for approximately 20% of our borrowing. Overdue and replacement charges for these items are set centrally and members are required to enforce them. To better understand how we charged patrons, we surveyed other OhioLINK institutions via the pcirc listserv. The goal of the survey was to determine how local library policies differed from OhioLINK fine policies, regarding
both OhioLINK loans and local items. We also wanted to determine how circulation staff members felt about current fine policies and whether there was a general openness to rethinking fines.

Sixty-nine people responded to the survey, from a mix of institution types that correspond roughly to those of OhioLINK members. Most respondents indicated that their local fines were smaller than those charged on OhioLINK items. 18% of libraries do not charge local daily fines at all, and an additional 32% of libraries do not charge local fines for faculty (thus, 50% of libraries do not charge local fines to faculty). For 61% of those libraries with daily local fines, it is less than the 50 cents charged for OhioLINK books.

We asked about how strictly they enforce fines. 59% of libraries “mostly” follow the OhioLINK policy, while 6% say that they simply do not follow the policy. This means that only 1/3 of libraries enforce the current policy as written. 76% of libraries allow fine appeals (either for their own or for OhioLINK items) and of those, 30% reported that they grant more than half of the appeals they receive while 35% grant fewer than 10% of appeals, indicating a wide variation in leniency among institutions.

Finally, we asked questions to determine attitudes toward fines. Two possible reasons were given for collecting fines: ensuring the book’s return and generating revenue. For 87% of institutions, getting the item back was more important than generating revenue. For 64% of that group, revenue was 10% or less of their library’s reason for fines. Only 13% said that revenue was important or more important than getting the item back. When asked whether they felt fines were effective, the most frequent response was a simple “Yes”. Participants at 45% of institutions we unsure or felt that fines were ineffective. Comments on the survey ranged from satisfaction with the high billing fee as a tool for getting items back; dissatisfaction with the idea
of a financial punishment which could be shrugged off by wealthier patrons and devastating to less wealthy patrons; and a sense that fines are not a strong enough incentive to change behavior.

**Methodology**

**Participants**

To recruit students for this study we employed several methods but were unable to meet the 200 members we had planned on. The first method we used was to directly email students who fell within our parameters and invite them to a short session about the study. Potential participants would be treated to pizza and soft drinks while we talked about the study and signed them up. This method garnered us approximately 20 students. As we had set times it didn’t fit into student’s busy schedules. To make the sessions more accessible, we went to the second method of hanging up flyers, spreading word around campus through our student workers, talking about the study during class sessions with amenable professors, speaking at a student government meeting, and sitting at a table in the library with candy. During these sessions we were able to explain the study and sign up an additional 50 or so people. We had 79 participants in the study.

We only included undergraduate students in this study. We requested that only sophomores, juniors, or seniors participate. The average number of years at BGSU of our 79 participants was 2.94 and ranged from 1 to 7 based on the date their patron record was created. (Because students may have transferred to BGSU, or may have completed a number of class hours that doesn’t match the number of years they have been at BGSU, we used the patron record creation date as a standard.) Because we used a convenience sample to gather participants, more of our participants were library employees than would have been expected in a random sample. However, the majority of the participants were not library employees.
When students signed up for the study, they completed a questionnaire about their library behavior and their attitudes towards fines. Most students (44) said they checked out about 1-5 books from the main stacks in a typical semester. Sixteen students indicated that they checked out more than 5 books in a semester, and eighteen indicated that they usually did not check out any books. Two-thirds of the participants indicated that they had never paid a library fine in the past, either because they never returned anything late or because they had never checked anything out at all. Only nine participants indicated that they had ever paid a fine on a book from the research collection in the past, which was the subject of this study.

When asked whether they felt fines were beneficial overall, 68 out of our 79 participants said that they were. One student even suggested that fines should get “exponentially larger” the longer they are overdue as an additional incentive. When asked what usually prompts them to return a book, twenty-five students responded that avoiding fines is one of their reasons, more than gave any other reason. The second most common reason was simply that they were finished using it. Sixteen students indicated that an email from the library was their cue, either a courtesy notice or an overdue notice.

Students’ responses on this survey should be taken with a grain of salt. When comparing students’ patron records with their self-reporting, some students would appear to be overestimating their past library use or misremembering their fine history. During the study period, only thirty of our participants checked out any books from the main stacks collection, fewer than the 61 students who reported that they typically check out at least a few books in a semester.

At the end of the data gathering period, students were asked to complete another questionnaire, with different questions for members of the experimental and control groups. This
survey was completed online, and participation was required to be entered into a gift card drawing, but still fewer than half of the original participants completed it (thirteen control, twenty experimental). Students were asked whether participation in the study changed their borrowing habits and similar numbers of experimental (45%) and control (38%) participants said that it had. The experimental group participants reported that they kept books longer (4), checked out more books (4), and paid either more (3) or less (2) attention to their library accounts. People in the control group said that after hearing more about our fine policies, they checked out fewer books (1) or more books (1) and paid more attention to their library account and due dates (3). Because so few students completed this final survey, these numbers can’t be usefully generalized to what might happen if we were to remove daily fines.

Comments shared on the final survey supported the research showing students appreciate the idea of fines, just not always when the fines are applied to them. Because college students are "broke," financial incentives should work, one said. One person in the control group said that they and others like them would never return books if there were no fines. On the other hand, one person in the experimental group said “While I did indeed turn in my books later, I still made sure to read them while they were checked out, take good care of them and then return them before an exaggeratedly long amount of time had passed. Doing this study made me wonder why such strict due date punishments even existed.”

Procedure

As students signed up for the study, we randomly assigned them to be in the control or experimental group. First we looked at their patron account and divided the number of checkouts on their account by the number of years they had attended BGSU to sort them into a low-, medium-, or high-use group. The grouping corresponded to an average number of checkouts per
year of zero (n = 20), 1-5 (n = 30), or more than 5 (n = 29). Then we drew a slip of paper from a supply of slips that was used only for that group. Slips were not returned to the supply once pulled. Students were then informed, either verbally or through email, of their group, and given a printed or emailed copy of what it meant to be in the control or the experimental group. Before they were assigned to a group, we also verbally explained to each student what the study was about and what fines would be waived for students in the experimental group.

Every weekday from October 3, 2017, to May 5, 2018, we gathered data from each participant’s account about the items they had checked out. (A few days were missed due to illness or other unforeseen circumstances.) For the study we only examined items borrowed from the main stacks. We considered main stacks books to include anything from the main collection or the special collections that circulate books for the same three-week period as the main stacks books. Reserve books, technology such as phone chargers, and OhioLINK and ILL books were excluded. We exported the data to a spreadsheet which tracked the patron record number and information about each book including due date and checkout date. Each day we compared the list to the previous day’s list, noted any books which had been returned or renewed, and looked at the item record to confirm the day of the return. If an item had been renewed, the renewal date was considered both the return date for the initial checkout and the checkout date for a new checkout. As we continued to add participants to the study through February 2018, some participants had eight months of data while others had only about two months. Also, some students left BGSU at the end of the fall semester and so they were not eligible to check out books after Dec. 15, 2017.
Results

To answer our questions, we ran a series of t-tests on the patron data. By grouping the data by patron, it allowed us to control for confounding variables.

Do fines reduce how long an item is overdue?

Over the course of the study 30 participants (fourteen control and sixteen experimental) checked out 180 items. Each renewal was counted as a new use, which made a total of 292 uses of library material during the study period. On average, participants in the control group kept items around 17.21 days (SD = 6.58) before returning or renewing the material. The distribution for the control group was negatively skewed (-.65) and positively kurtotic (1.27). Most patrons kept the item around 30 days. The experimental group kept their items longer, averaging 20.98 days (SD = 11.81) out. The distribution for the experimental group was positively skewed (2.03) and positively kurtotic (3.76) with most patrons keeping the item out in the same 30-day range. The kurtosis for the experimental group falls outside the normal range violating the assumption of normality for this group. On average the control group and the experimental group kept items for the same amount of time, $t_{(29)} = -1.06$, $p = .296$, two-tailed.

Table 1:

<table>
<thead>
<tr>
<th>Group</th>
<th>Participants</th>
<th>Checkouts</th>
<th>Average Days used</th>
<th>Average days under / over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>30</td>
<td>292 (100%)</td>
<td>19.27 ($SD = 9.84$)</td>
<td>-2.59 ($SD = 9.71$)</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>158 (54%)</td>
<td>17.21 ($SD = 6.58$)</td>
<td>-4.57 ($SD = 5.96$)</td>
</tr>
<tr>
<td>Experimental</td>
<td>16</td>
<td>134 (46%)</td>
<td>20.98 ($SD = 11.81$)</td>
<td>-0.97 ($SD = 11.90$)</td>
</tr>
</tbody>
</table>
The distribution for the control group was negatively skewed (-.65) and positively kurtotic (1.27) indicating a high percentage of items being returned just before they were due. For the experimental group the data was positively skewed (2.03) and positively kurtotic (3.76). So, most items were returned just before they were due with a long tail for the few patrons who returned items 30 days after they were due. Both skew and kurtosis were outside normal bounds for experimental items violating the assumption of normality. On average the control group returned their items 4.57 ($SD = 5.96$) days before it was due, and the experimental group returned items .97 ($SD = 11.90$) days before the item was due. This difference was not statistically significant, $t_{(29)} = -1.03, p = .312$, two tailed.

As indicated above, there is no statistical difference between the two groups. The relationship can be seen easily when examining the number of fines. Of the 292 items in this study 33 items (11%) were overdue\(^2\). Items checked out to the control group had the most fines, generating 18 overdue items for a total of $20.25 in fines. Items checked out to members of the experimental group generated fewer fines with only 15 items going overdue, however, the total was $70.50 indicating a longer time overdue. It should be noted that one patron in the experimental group was responsible for 8 (53%) of the fines and, more importantly, $58.25 (83%) of the fine total for the experimental group. Another patron from the control group was responsible for 6 (33%) of the fines and $6.25 (31%) of the fine amount. The fines for the control group were less severe than the experimental. The presence of major outliers in both groups skews the data.

\(^2\) BGSU library does not bill for fines under one dollar. While there were 33 "fines", only 22 (76%) would have been enforced.
Table 2:

**Fines**

<table>
<thead>
<tr>
<th>Group</th>
<th>Items overdue / use</th>
<th>%</th>
<th># patrons fined</th>
<th>Amount owed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>33/292</td>
<td>11%</td>
<td>12</td>
<td>$90.75</td>
</tr>
<tr>
<td>Control</td>
<td>18/158</td>
<td>11%</td>
<td>6</td>
<td>$20.25</td>
</tr>
<tr>
<td>Experimental</td>
<td>15/134</td>
<td>11%</td>
<td>6</td>
<td>$70.50</td>
</tr>
</tbody>
</table>

**Do daily fines affect borrowing habits?**

We examined the effect on borrowing habits in two ways. The first was the number of items checked out. The distribution for the control group's number of checkouts prior to the study was positively skewed (2.07) and kurtotic (3.80) as most participants checked out 0 items. For the experimental group, the distribution was also positive on skew (1.87) and kurtosis (3.274) with a similar skew to 0 checkouts. Both groups violated normality on both skew and kurtosis. During the study the distribution change distinctly. Control skew (2.71) and kurtosis (9.90) were positive, and experimental was similarly positively skewed (3.42) and kurtotic (11.48). The jump in kurtosis could be attributed to the number of patrons who checked out zero items jumping to an additional 9 cases in the experimental group. When comparing the checkouts before and after, the control group checked out fewer books during the study \( M = 6.55, SD = 9.82 \) than their normal average \( M = 8.86, SD = 13.39 \), however, this was not found to be significant \( t_{(38)} = 1.15, p = .257, \) two tailed. The experimental group also found an insignificant increase in items checked out before \( M = 10.59, SD = 23.89 \) and after \( M = 9.09, SD = 11.67 \) the study, \( t_{(38)} = -.41, p = .684, \) two tailed.

Next, we analyzed the average number of fines before and after the study. Simply put, both the control and experimental distributions for fines before and after the study were
positively skewed and kurtotic, with most participants having 0 fines. The control group received more fines ($M = .55, SD = 1.13$) than they did before ($M = .51, SD = .83$), but the that was not found to be significant, $t_{(39)} = -.19, p = .853$, two tailed. The same held true for the experimental group who had an insignificant increase in fine after the study ($M = .74, SD = 1.86$) as compared to before ($M = .53, SD = 1.27$), $t_{(38)} = -.74, p = .412$, two-tailed.

Table 3:

*Skew and Kurtosis for fines before and after study*

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skew</td>
<td>Kurtosis</td>
</tr>
<tr>
<td>Control</td>
<td>1.74</td>
<td>2.16</td>
</tr>
<tr>
<td>Experimental</td>
<td>3.6</td>
<td>11.54</td>
</tr>
</tbody>
</table>

**Conclusion**

We found that fines don't significantly change how long an item is overdue or the patron's borrowing habits. Even with significant outliers, most students returned their items before the due date. There is evidence to suggest that receiving the courtesy notice may be a more important factor in timely returns. Based on the average days used, patrons from both groups typically returned their items on the 19th day of the loan period, while courtesy notices are sent on the 18th day. Our study suggests that patrons borrow what they need and return it when they are done. The lack of change in borrowing habits also indicates that fines are not a deterrent to checking out library material. Our findings are in line with literature review which showed an increase in items returned overdue but no statistically significant change after removing fines.

The study was limited by the small sample size. While we had almost 100 participants, only 30 checked out items. This is more troublesome for the first research question, than the
second. Also, many of our participants were student employees. The effect of using library employees is likely to be small. Employees were divided evenly among the two groups and were the outliers in both. Even though the students knew the library rules better than their peers (if only due to exposure) some still brought their items back later.

It should also be noted that the groups for participants were divided into those who had checked out 0 items, 1 to 5 items, and over 5 items. The grouping was created by pulling all active undergrads and their total number of check outs, then dividing total checkouts by years at the institution. Out of a possible 8820 students, 3067 (35%) have not checked out even a pair of headphones from the library. Paired with a general decline in checkouts we begin to wonder why we should punish our users. As we found in the literature review, some libraries have done away with fines as the labor to process charges is more than the revenue gained. When we surveyed Ohio library staff most respondents said that the timely return of materials was a more important reason to charge fines than earning revenue for the library, but the bottom line is that our data do not show that fines cause materials to be returned more quickly.
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