

The Second Day-Care Center Study

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1. The design

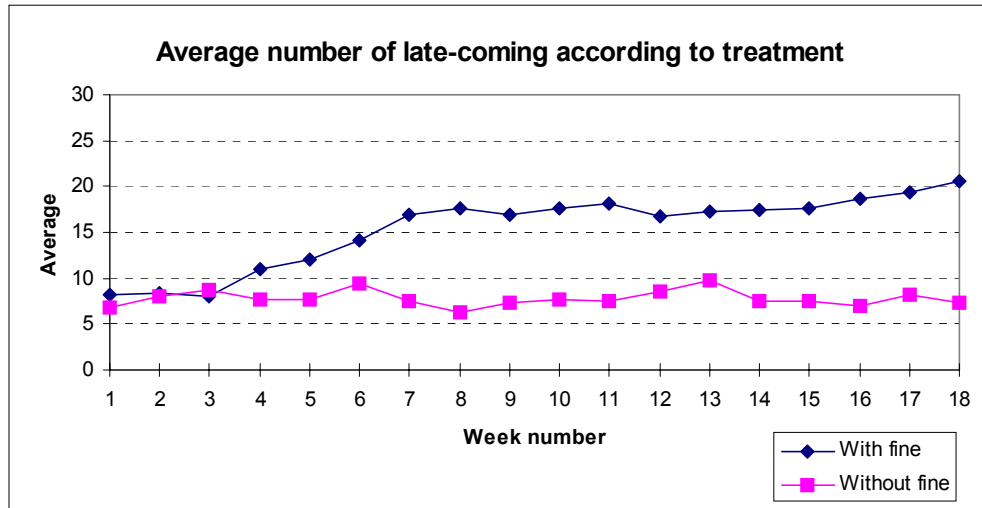
The design of the field study is the same as in the previous one, reported in “A Fine is a Price.” It was designed as a follow-up to the original study. The main difference between the original study and this follow-up is the unit of measurement: whereas in the original study we had only the average data per daycare per week, in the new study we also collected the individual parent data. In addition to the original design, we made some changes as suggested by Rubinstein, most notably, we got the approval of the managers of the daycares that he will call them and ask about the study.

In this study we had ten daycare centers, for a period of 18 weeks. We used four of them as a control. A small fine of 10 New Israeli Shekel (NIS) was introduced at the beginning of the fourth week, with a message on the bulletin board of the center. The fine was charged for each occurrence of a delay. The fine was removed at the beginning of the 16th week. We have in conclusion three periods, a first of four weeks, a second of 11 weeks (from the 5th to the 15th) and a final third period, weeks 16th to 18th. We collected data on the delay of each family in every week.

The practice of giving an NIS 10 fine is not our creation, but rather a part of the menu of choices that managers in those daycares have. They all belong to a private organization, which recommends to the managers either to give no fine or a NIS 10 fine. One of the coauthors interviewed some parents at random and was told that the fine was indeed collected at the end of the month.

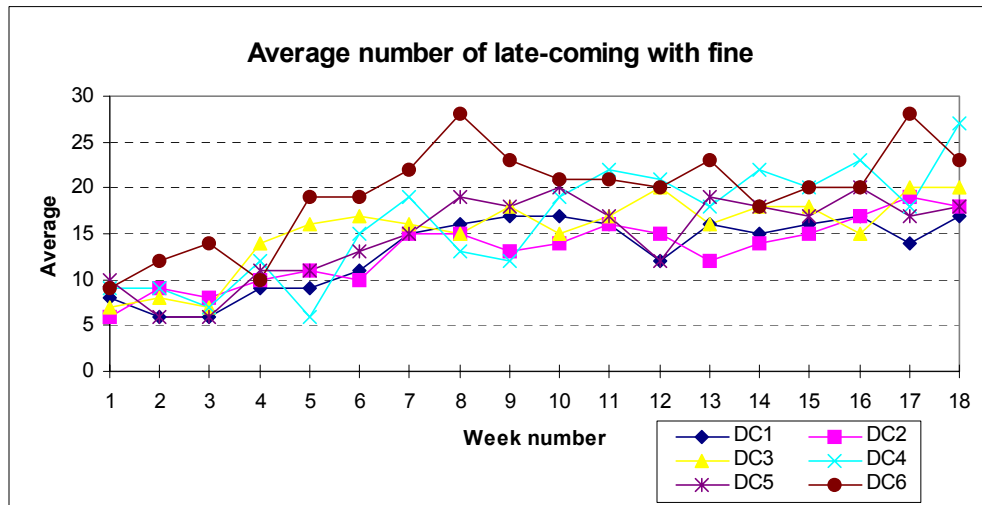
2. The Results

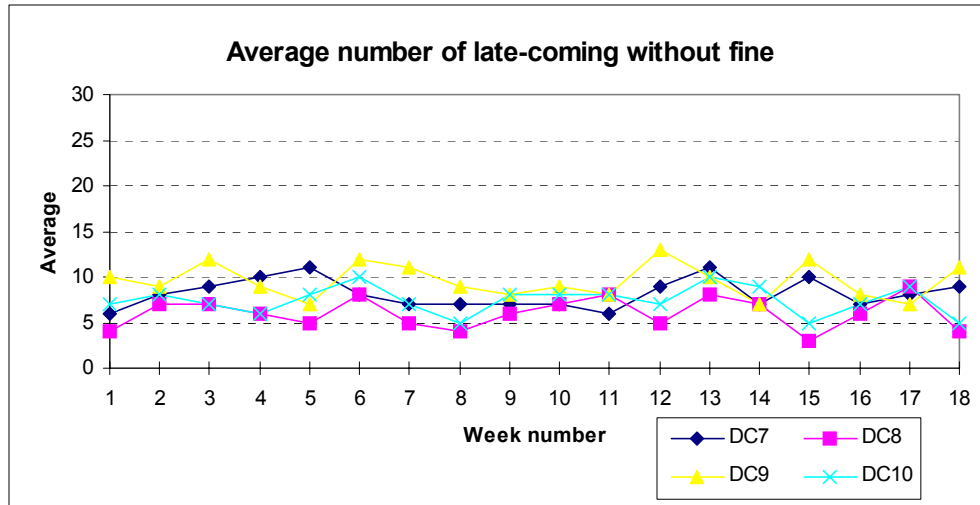
The results are summarized in the three figures below.



The number of late arrivals of parents is constant in the control, with no significant difference across the weeks. The number of late arrivals goes up in the six centers where the fine is introduced, and does not go down after the fine is cancelled.

The next figure shows the aggregate number of late arrivals in detail for each of the six experimental Centers, and for the four control centers.





For reasons that we already discuss in the *JLS* paper, standard non-parametric test are not entirely correct statistical estimates of the significance of the effects, but they may be useful for a first analysis of the effects.

The differences are significant. The Wilcoxon-Mann-Whitney (WMW) signed rank test of the number of late arrivals in the first period shows that the number is higher in the second than in the first period, in the experimental group: $Z = -5.544, p < 0.00001$.

Here are two interesting new finding.

In this study the number of late arrivals in the third period (after the removal of the fine) is higher than in the second: for the WMW test, $Z = 2.841, p = 0.0045$. In the original study the number was higher, but not significantly so.

Second, the data disaggregated per family show a persistency in the delay: families who are more likely to be late in the first period are also more likely to be late in the second and third: this is true in the non fined centers as well. In the centers where fines were introduced, the increase in the number of delays is higher in the families with higher delays in the first period.

A more detailed analysis of the data and the result is in preparation.