

DataShare: Show and Tell Your Databased Work

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DataShare is to be a regular column featuring a quick show and tell of behaviorological research going on in our community. Datashares use clear, short, minimally edited descriptions of research using charted rates of behavior and plain English discussion of results and significance. Contributors want feedback from readers, so be sure to contact the authors of each *DataShare* (who will include at least their email address). Today's *DataShare* concerns the use of online writing tools to teach adults to monitor and modify daily rates of chain smoking:

Learner:

40 year old adult male.

Dependent variable(s):

Daily rate of cigarettes smoked.

Independent variable(s):

Participation in Online Self-Management course.

Tools used:

Personal computers, America Online, daily email, chat room, behavior charts.

Learner Goals:

Reduce (decelerate) smoking rates to 20 per day or lower.

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Work with this Learner involved a personalized changing-criterion element, but in an a-b-c sequence of (a) baseline, (b) cost analysis with behavior charts, and (c) a changing criterion rule with home charting worksheets. This learner counted his cigarettes smoked per day, then he emailed those data each evening. He participated in online chat room discussions about his project, and received customized behavior charts displaying his smoking rates, contingent on course participation.

Learner's results and discussion

The chart shows the total course data for this project, using a StatView Standard Celeration Chart (ssc) in the new 3v format. (Email Dr. Steve Graf at zerobros@aol.com for more information about new SCC formats.)

The baseline phase lasted 23 days. During baseline, this Learner smoked a mean of 57.83 cigarettes per day (CPD), with a range between 92 and 44 CPD. During baseline, this Learner smoked a total of 1,330 cigarettes, for which he paid \$135.26, making an average of \$5.88 spent per day.

Weekday smoking levels remained in the high 40s to 60 CPD range throughout baseline. During weeks one through three, the Learner showed a stable smoking rate between 40-50 CPD, with notable accelerations of smoking occurring on weekends. Such frequency outliers recurred on all weekends except for week four (see Eshleman, 1997 for discussion of frequency outliers and the SCC). Weekends may hold independent variables (such as social activities with smoking cues) which accelerate smoking. Based on discussions of daily emailed data, both Learner and Instructor soon began to plan for control of weekend smoking in addition to weekday smoking.

During Intervention one, which began on Wednesday of week four, the Learner experienced gradual decelerations of his weekday smoking rate, with weekend rates remaining higher than weekday rates, but decelerating when compared with prior weekends. Intervention one lasted 77 days, in which the Learner smoked an average of 30.6 cigarettes per day. During Intervention one, smoking ranged from 15-68 cigarettes per day, with the Learner smoking a total of 2,361 cigarettes, at a cost of \$240.11. The Learner spent an average of \$3.12 per day on cigarettes during Intervention one. This was a decrease of \$2.76 per day from the average spent per day during baseline.

During online chat sessions, the Learner expressed his satisfaction with his smoking performance during Intervention one. The Learner noted that he had saved \$212.52 during Intervention one. He felt that the cost analysis was particularly effective at reducing his smoking rate by directly pairing each cigarette with a visibly increasing cost measurement. The Learner also felt that behavior charts were useful because he was able to see numerical data in the form of levels, trends, and weekend jumps.

By week eleven, the Learner seemed to reach a "smoking floor," both for weekday rates (from 17-23 cigarettes per day) as well as weekend rates (from 25-30 cigarettes per day). During week 12, the last week of Intervention one, the Learner had experienced his first serious "uptick" in smoking rates, with a visible acceleration in weekend smoking. This onset of accelerating smoking rates after periods of consistent deceleration (referred to by the Learner as a "loss of control") led him to discuss and adopt Intervention two.

Intervention two, a changing criterion with home charting worksheet, continued for only three weeks before the Learner resigned from the course. During the 20 days of Intervention two, the Learner smoked a total of 428 cigarettes for an average of 21.4 cigarettes per day. The total cost for cigarettes was \$43.53, with a mean cost per day of \$2.18. This constitutes a further decrease in costs compared to the level of costs in Intervention one, which itself was better than the rate of daily smoking in baseline. The Learner resigned from the online course due to a job and schedule changes.

The results from this project illustrate that high rates of “binge” smoking can be decelerated via the use of online self-management coursework. During the course, the applicability of “cost monitoring per cigarette” as an Intervention became apparent. Cost monitoring seems to provide especially powerful behavior changing stimuli when arranged in the manner of Intervention one. Having a Learner attach a dollar cost-per-cigarette may transfer to each cigarette an additional, verbally mediated response-cost. In one online chat session, the Learner remarked: “I thought about how much I was spending when I smoked... I thought about how much I was saving when I smoked less.” The Learner’s costs-per-cigarette (and savings per reduction) can be effectively delivered to (and echoed by) the Learner in an online chat room, in addition to the mechanics of daily data reporting.

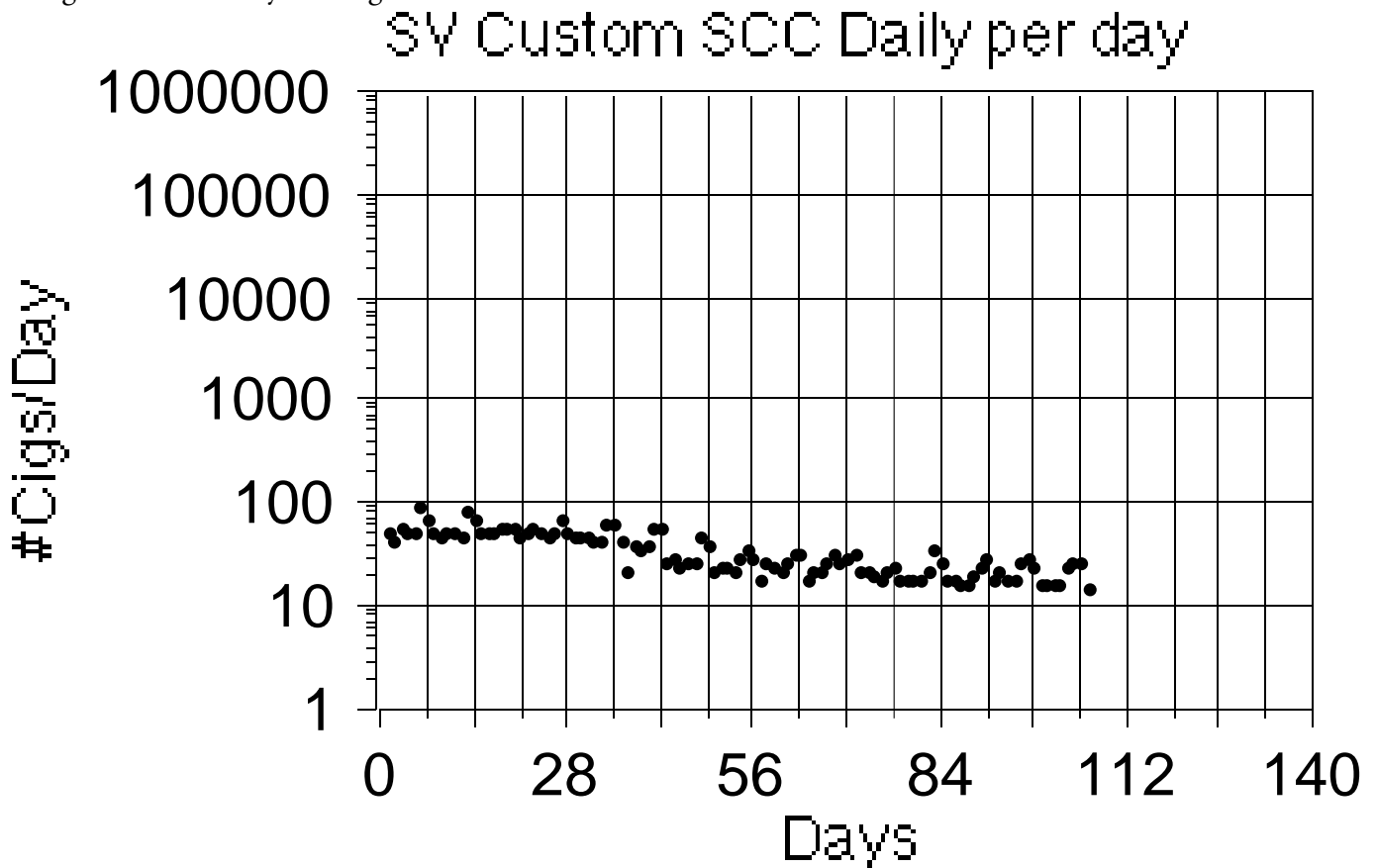
Cost-per-cigarette measurements are also easily projected into future savings. The resulting verbal stimuli might mediate further behavior. For example, a year of smoking at this Learner’s baseline rate would cost over \$2100. In contrast, a year at the reduced rates of Intervention two would cost about \$800, a savings of \$1300. Repeating these facts (e.g., from reading a note on a bathroom mirror) might reduce the probability of “post-course” smoking.

The results of this study support further investigation of online writing for self monitoring and management of smoking and other lifestyle changes.

Editor’s note: Send your “DataShares” to the editor (at the address elsewhere in this issue). And when your research reaches a completion point, consider submitting it to *Behaviorology Today*.✦

Resources

- Eshleman, J. W. (1997, March). The standard celeration chart: A brief introduction. Paper presented at the ninth annual convention of The International Behaviorology Association, Plymouth, MA.
- Feeney, D. R. (1997, October). Online precision teaching: Databased online instruction with applications in smoking control, weight control and study skills. Presentation at the thirteenth International Precision Teaching Conference. Hartford, CT.
- Feeney, D. R. (2002). Creative lifestyle management through on-line, real-time applications of the behaviorological education practices of precision teaching. In S.F. Ledoux. *Origins and Components of Behaviorology—Second edition* (pp. 259–295). Canton, NY: ABCs.
- Ledoux, S.F. (2002). Successful smoking control as an example of a comprehensive behaviorological therapy. In S.F. Ledoux. *Origins and Components of Behaviorology—Second edition* (pp. 243–258). Canton, NY: ABCs.☺



SCC View of daily smoking rate for this Learner.