Abstract
To extend prior findings on the motivational value of tiny, nonfinancial incentives, we conducted two quasi-experiments on the relationship of extra credit micro-incentives (ECMIs, worth ≤1% of course grade) and response rates for online course evaluations. Study 1 involved two advanced undergraduate psychology courses taught by the same instructor for 14 semesters, the first 7 of which used paper-and-pencil evaluations and no incentives, with average response rates of 57%. After a switch to online evaluations with no incentives for two semesters, response rates fell to 30% or lower. Following introduction of ECMIs for several semesters, the response rates rose significantly, to 84%. In Study 2, we randomly assigned ECMIs or no incentives to eight sections of an introductory psychology course. Response-rates with ECMIs were significantly higher, 84% versus 51%. Favorability of ratings did not differ significantly. Higher response rates with ECMIs raise questions for research, educational policy, and classroom practice.

Keywords
course evaluation, response rate, incentive, extra credit, online survey

Many colleges and universities have replaced paper-and-pencil questionnaires for soliciting students' evaluations of courses with online surveys (Berk, 2012). Research into online evaluations has generally found lower response rates than with old-fashioned paper-and-pencil questionnaires (e.g., Cook, Heath, & Thompson, 2000; Morrison, 2011; Stowell, Addison, & Smith, 2012). Lower online response rates bring greater sampling error and potentially more bias from well-known sources, like volunteer and nonresponse biases (Bordens & Abbott, 2011). Reduced validity of course evaluations based on low response rates makes them less dependable for educational decision-making (Berk, 2012).

Research on survey methodology has identified many factors related to improved response rates, including features of questionnaire design (Roberson & Sundstrom, 1990), administration (Cook et al., 2000), and incentives (Toepoel, 2012). Empirical research on online course evaluations has found incentives among the most effective practices for boosting response rates (Berk, 2012), such as chances to win lotteries (Laguilles, Williams, & Saunders, 2011) and offers of extra course credit (Dommeyer, Baum, Hanna, & Chapman, 2004).

Regarding extra course credit incentives, we found only one published empirical study. Dommeyer et al. (2004) examined “a cross-section of lower and upper division core courses . . . required for business majors” (p. 614), including 32 classes taught by 16 instructors with a total of 1,367 students. Response rates for online course evaluations with no incentive were significantly lower than the response rates for evaluations using traditional, in-class paper-and-pencil surveys to evaluate instructors teaching different sections of the same courses. Offering even trivially small extra credit incentives (0.25% of students’ grades) toward students’ grades for completing online evaluations yielded response rates (86.7%) equivalent to response rates for in-class written surveys (87.0%). Dommeyer and colleagues also tested for differences in students’ average evaluation scores for instructors in conditions of online versus in-class written evaluations as a function of incentive and found none. This study (Dommeyer et al., 2004), conducted in 2000, was done well before online evaluations became familiar. Considering the rapid spread of online course evaluations in the decade since this study was conducted (Berk, 2012), to what extent are such extra credit micro-incentives (ECMIs) still effective for increasing the response rates for online course evaluations?

The dearth of empirical research on extra course credit incentives for course evaluations may reflect controversy about benefits and risks of offering academic credit for what is
arguably an administrative task. Besides improved response rate benefits of course-based extra credit incentives may also include reinforcement of expectations that a student’s role includes responsibility for offering feedback for use in improving teaching, learning, and course design. The main risk of offering extra credit incentives is that this practice may be seen by some instructors as a form of bribery, and therefore ethically questionable, particularly if evaluation is used more for administrative purposes than for improving students’ learning.

One way to minimize some instructors’ ethical reservations about extra credit incentives for course evaluation is to use only micro-incentives of miniscule value. Trivially small incentives for motivating pro-social or productive behavior have precedent in other areas of research. For example, very small financial incentives (like US$1) have boosted response rates for some kinds of surveys (Bordens & Abbott, 2011). Also, very small, short-term, nonfinancial bonuses in the form of oral praise from an individual’s supervisor elevated subsequent performance (Bareket-Bojmel, Hochman, & Ariely, 2014). Applying the idea of micro-incentives for completing online evaluations, we hypothesized that response rates for end-of-term evaluations of college courses are higher if students receive ECMIs (worth ≤1% of course grades) than if they receive no incentives.

We tested this hypothesis in two quasi-experiments (Shadish & Cook, 2009) involving archival data on response rates to course evaluations. Study 1, an interrupted time series, tracked response rates in two advanced undergraduate courses taught by the same instructor for 14 semesters, before and after lagged introduction of online evaluation and ECMIs. In Study 2, we tracked course evaluation response rates in eight sections of introductory psychology randomly assigned either to an ECMI condition or to a no-incentive condition.

In both studies, we established conditions designed to optimize response rates via practices besides offering incentives that prior research has found related to high response rates (Berk, 2012). We included early, repeated communications describing purposes, processes, and uses of the evaluations; multiple oral and written reminders to complete the evaluations; allocation of class time for completing the evaluations; and announced procedures to assure anonymity (paper questionnaires) or confidentiality (online).

Study 1

Method

Research Design

A longitudinal, archival study (and interrupted time series quasi-experiment) had repeated measurement of response rates for students’ evaluations in two courses over 14 semesters. Paper-and-pencil evaluations with no incentives (seven semesters) were replaced by online evaluations with no incentive (two semesters). Then a micro-incentive was introduced (four or five semesters).

Setting

The study took place at a public university in the southeastern United States in two one-semester psychology courses, spring 2007 through fall 2013, taught once or twice per academic year by the same instructor (the first author). Both courses had substantially similar requirements and grading through the period of the study. Course research methods (RM), an upper division research methods course, was required of psychology majors. Course organizational psychology (OP), an upper division elective, was cross-listed with management and available for graduate credit. Class sizes (initial enrollments) ranged from 31 to 50.

Participants

The population consisted of 340 students enrolled in RM and 540 enrolled in OP, 2007–13 (excluding withdrawals), for N = 880, consisting mainly of third- and fourth-year psychology or management majors. All were at least second-year students, typically ≥20 years old, though our archival data sources had no information on age, gender, employment status, or other demographic characteristics. Students who completed course evaluations reported their class standings and whether they had taken the course as part of their major. Students in RM who returned course evaluations were 97% psychology majors and included 1% sophomores, 33% juniors, and 64% seniors. Students in OP who returned course evaluations were 73% psychology or management majors and included 1% sophomores, 21% juniors, 70% seniors, and 6% graduate students.

Procedures

For classes designated for study, we retrieved class rolls to determine counts of students who received grades (excluding withdrawals). We obtained summary reports of responses to the course evaluations from the university office responsible for collecting, analyzing, and reporting them campus wide, yielding counts of students per class who completed course evaluations on paper or online.

Course evaluations for the first seven semesters (through spring 2010) used paper-and-pencil questionnaires. The same evaluation form—tailored to lecture-discussion format—was used in both classes in all years. Administration followed a standard procedure used campus wide, calling for anonymous response (no individual, identifying information) and distribution and collection by a student volunteer with the instructor absent from the room. Three weeks before the semester ended, all students received e-mails inviting them to complete course evaluations and explaining the process. Supplies of standard machine-readable paper-and-pencil forms (and pencils) were delivered to the instructor with instructions to schedule and announce a time during class when questionnaires would be completed and collected. For all classes in this study, evaluations were scheduled for the last meeting of the semester. In class that day, the instructor solicited a student volunteer to
administer the questionnaires, reviewed the procedure, and exited to wait outside the classroom. The student volunteer distributed the questionnaires, collected them when completed, and personally delivered them to an office on campus. After scoring and analysis, reports were prepared and forwarded to the instructor.

Online course evaluation replaced paper-and-pencil questionnaires campus wide in fall semester, 2010. Students and instructors received e-mails describing the new procedures, built around a link to the online version of the applicable questionnaire. (Online and paper surveys had the same items and response formats.) Students were invited to complete separate evaluations for each course in which they were enrolled; they could choose to complete none, some, or all course evaluations, in one or in multiple sessions, any time, and in any order. Paper surveys were anonymous; online evaluations were confidential, as they went through university e-mail accounts. Instructors never had access to any student's individual data. Students could choose to share evidence that they had completed the online evaluation; otherwise, instructors only had access to response rates during the availability period. Students could complete online evaluations anytime during the 3-week availability period between when the link became active until midnight the day after the last day of classes. Even so, as suggested by Berk (2012), the instructor actively encouraged students to use class time to complete the online course evaluation on their laptops, tablets, or smart phones during the question and answer segments of the final sessions of all classes targeted for study.

**No-Incentive Versus ECMI Conditions**

The first seven semesters provided a natural, no-incentive baseline for students’ response rates under conditions intended to optimize students’ motivation to complete course evaluations. Distribution, collection, and delivery of paper-and-pencil questionnaires by a student volunteer assured anonymity. Syllabi for both courses showed in-class course evaluations scheduled for the last class session (as part of a semester review) and mentioned no incentives. When introducing the course on the first day, the instructor previewed the course evaluation process and its timing, described the purposes (notably learning from students’ reactions and modifying course designs accordingly), and mentioned at least one refinement in the course prompted by responses to earlier evaluations (such as changes in tests or assignments). Later students in all classes received one or two “countdown” e-mails announcing end-of-semester dates for a semester review and in-class evaluation on the last session, devoted to a review of the course content and objectives.

No-incentive conditions continued in both courses for a year after campus wide adoption of online course evaluations (fall 2010 and spring 2011). ECMI for completing online course evaluations were offered in both classes fall 2011 through fall 2013. When introducing course evaluations on the first day, the instructor announced that students who completed the end-of-semester evaluation online—and showed a copy of the confirmation screen—would receive one point of extra credit, worth $1/425th, or 0.24%, of the course grade. About 3 weeks before the last class, concurrent with an campus e-mail announcement that the online course evaluation site was active, the instructor repeated the incentive orally and in the “countdown” e-mail and added a second incentive: if 70% of students still in the class completed the evaluation, all in the class (even “free riders”) would receive a second point, making the incentive worth 0.5%. The same ECMI was offered in through fall 2013. With variations in the grading formula, the incentive was worth as much as 0.7%. The university had no formal policy regarding incentives for students to complete course evaluations.

**Measurement of Response Rates**

For course evaluations response rates were computed as the number of enrollees per class who received grades (except W) divided by the number enrollees in the class from whom completed evaluations were received. For paper questionnaires, the count included those collected by the student volunteer in the last session. For online evaluations, the count was the number of students in the course from whom evaluations were received by midnight the day after the last class.

**Results**

Figure 1 summarizes the results of Study 1 in a line graph of response rates in the two courses over the 14 semesters under two no-incentive conditions and the micro-incentive condition. In the no-incentive plus paper-and-pencil condition (first seven semesters), the graph shows response rates in RM and OP varying around averages of 60% and 55% per class, respectively. (Final enrollments varied, so average response rates per class differed slightly from response rates computed as the percentage of all individuals in the condition who returned evaluations divided by all individuals.) In the two semesters with no-incentive online evaluation, the graph shows sharp drops in response rates to 22% and 30% in RM and OP. The drop in response rate after the switch to online evaluations (no incentive) occurred despite the fact that the online portal was available for 3 weeks at any time of day or night. In contrast, the paper-and-pencil evaluation was available for a much briefer time, just the last 15 mins of one class session. After ECMI for the last four or five semesters, the response rates for online evaluations rose to 84% and 85%.

To test the hypothesis that response rates were higher with micro-incentives, we conducted separate chi-square analyses for each of the two courses, comparing numbers of students across all classes in the two no-incentive conditions (paper and online) and the micro-incentive conditions who did and did not complete the course evaluations. (We did separate analyses because the two courses had different cell sizes in incentive and no-incentive conditions.) Table 1 displays the results of the chi-square analyses, which yielded the same outcome for both courses. For RM, the proportions of students who did and did
not complete the course evaluations differed significantly as a function of the three conditions studied: no-incentive + paper-and-pencil, no-incentive + online; and micro-incentive + online ($\chi^2 = 39.0; df = 2; n = 340; p < .001, V = 0.34$). Similarly in OP proportions of students who did and did not complete the course evaluations differed significantly across the three conditions ($\chi^2 = 85.5; df = 2; n = 540; p < .001, V = 0.39$).

To test whether the drop in response rates following the shift from paper-and-pencil to online-only was significant, we conducted additional post hoc analyses for the two courses comparing only the two conditions with no micro-incentives. For RM, the proportions of students who completed course evaluations (response rate) differed significantly ($\chi^2 = 16.0; df = 1; n = 259; p < .001, w = 0.25$), with a higher response rate for paper-and-pencil (55%) than online only (22%). Results were similar for OP ($\chi^2 = 14.4; df = 1; n = 352; p < .001, w = 0.20$), favoring paper-and-pencil (54%) over online (30%).

Since our data archive included course evaluation scores, we could address the additional question of whether students in the ECMI condition gave more favorable course evaluations than in no-incentive conditions. We analyzed three items from the questionnaire that asked for overall evaluations of course or instructor. All used a six-step rating scale (5 = excellent; 4 = very good; 3 = good; 2 = fair; 1 = poor; 0 = very poor). Items analyzed were “Course as a whole; Instructor’s contribution to the course; and Instructor’s effectiveness in teaching . . . .” We compared average ratings on these items for all semesters combined for classes in which ECMI were offered (means = 3.6, 4.0, and 3.7, $SDs = 0.22, 0.20$, and $0.32$, respectively), with averages for classes in which no incentives were offered (means = 3.5, 4.1, and 3.8, $SDs = 0.32, 0.32$, and 0.36, respectively) using a 2-factor multivariate analysis of variance with course type—RM (means = 3.8, 4.1, and 3.94, $SDs = 0.16, 0.20$, and 0.28, respectively) or OP (means = 3.4, 4.3, and 3.9, $SDs = 0.20, 0.20$, and 0.28, respectively).
Discussion

Results from this classroom quasi-experiment—an abbreviated, interrupted time series (Shadish & Cook, 2009) in two separate courses—supported the hypothesized micro-incentive effect on response rates for online (only) course evaluations. Results of a post hoc analysis found that response rates were lower for online evaluation than for paper-and-pencil, replicating prior findings (e.g., Cook et al., 2000; Dommeyer et al., 2004; Morrison, 2011; Stowell et al., 2012). Although online course evaluations were introduced in our study a decade after the Dommeyer et al. (2004) study—at a time when students may have become more familiar with online surveys—we still found significantly lower response rates online, suggesting that previous findings were not simply due to unfamiliarity with new technology.

The sustained increase in response rates in both courses following introduction of ECMIs gave limited support for the desired causal inference—that micro-incentives caused the increased response rates. Also, our finding that ECMIs were unrelated to the favorability of course evaluations, as in the earlier quasi-experiment by Dommeyer et al. (2004), suggested that EMCI did not bias the evaluations. However, the design of Study 1 did allow several of the usual rival hypotheses that apply in this type of quasi-experiment.

Plausible rival hypotheses for the apparent micro-incentive effect involve coincident events (Shadish & Cook, 2009). For example, after the precipitous (and significant) drop in response rates after course evaluations went online, the instructor may have started giving more frequent and/or more persuasive appeals for students to complete the evaluations. Or, after a year of online evaluations in all courses on campus, students may have become more familiar and comfortable using the online format. Further, the instructor’s descriptions of small refinements in course design that coincided with micro-incentives for online evaluation may have given added motivation for students to complete the evaluations. None of these rival hypotheses are ruled out by the research design.

Changes in individual characteristics of students in the classes coincident with the micro-incentives may also explain the sustained boost in response rates. For example, students entering the university in fall 2009 (and reaching their junior years in time to take these courses in 2011 when micro-incentives were offered) might have had higher average academic ability than students in prior years, which in turn might have correlated with motivation to complete evaluations. Also, perhaps both RM and OP had gained reputations as unusually demanding courses at the same time micro-incentives were first offered. If so, a coincidental shift in compositions of the classes may have occurred, toward greater proportions of students high, for example, on academic ability, conscientiousness, intrinsic motivation, and/or other characteristic(s) associated with motivation to complete evaluations.

In view of plausible rival hypotheses for the results of Study 1 that could account for the apparent micro-incentive effect, we conducted another quasi-experiment designed to eliminate some of the factors in the rival hypotheses.

Study 2

Study 2 focused on multiple sections of one course, general psychology, taught by different instructors in a single academic year. In the majority of sections of general psychology at this university, doctoral students serve as instructors, closely supervised by a senior faculty member (the second author). All sections were traditional lecture courses that met face-to-face 2 or 3 days per week for 150 min total, used the same textbook, covered the same core content, and shared some course requirements. However, individual instructors also had a high degree of flexibility in designing many aspects of their course. This introduced variability in the content and persuasiveness of instructors’ appeals to complete course evaluations. The one-semester time span eliminated year-to-year variability in students’ academic ability, familiarity with online surveys in general and with the university’s online evaluation system specifically, and other individual characteristics that might have coincided with the shift to micro-incentives in Study 1. Finally, to facilitate our ability to draw causal inferences about the effect of introducing ECMIs on response rates, we randomly assigned sections of the course to offer either an ECMI or no incentive.

Method

Research Design

While we would have preferred a fully randomized experiment incorporating random assignment of individual students to the two conditions, campus enrollment procedures did not support that approach. Instead we approximated the ideal by randomly assigning conditions (ECMIs or no incentive) to multiple, intact course sections, for a posttest only quasi-experiment (Shadish & Cook, 2009) with ECMI sections (N = 4) and no incentive comparison sections (N = 4). We also had data from the same course from the prior semester, taught by the same instructors, who could choose whether or not to offer incentives for course evaluations. This allowed us to compare course sections to which incentives were instructor self-selected versus randomly assigned, and to compare within instructors for whom incentive conditions differed or stayed the same from semester to semester.

Participants and Procedures

Eleven graduate student instructors each taught one section of general psychology in both fall 2013 and spring 2014.
Table 2. Response Rates in Study 2 by Semester and Incentive.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Incentive</th>
<th>Fall 2013 Response Rate, %</th>
<th>Spring 2014 ECMI? Response Rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>83.2</td>
<td>Yes 74.3</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>69.8</td>
<td>Yes 87.3</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td>97.2</td>
<td>Yes 88.0</td>
</tr>
<tr>
<td>4</td>
<td>No</td>
<td>40.0</td>
<td>Yes 91.7</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td>76.4</td>
<td>No 15.3</td>
</tr>
<tr>
<td>6</td>
<td>No</td>
<td>35.8</td>
<td>No 20.0</td>
</tr>
<tr>
<td>7</td>
<td>No</td>
<td>49.3</td>
<td>No 31.0</td>
</tr>
<tr>
<td>8</td>
<td>Yes</td>
<td>74.8</td>
<td>No 60.3</td>
</tr>
</tbody>
</table>

Notes. ECMI = extra credit micro-incentive. In fall 2013, instructors self-selected whether or not to offer an incentive to students for completing the online course evaluations. In spring 2014, instructors were randomly assigned either to offer an ECMI or no incentive. Instructors 3 and 4 taught small honors sections each semester; all other instructors taught larger regular sections.

Results

As in Study 1, we retrieved summary reports of responses to the course evaluations from the university office responsible for collecting, analyzing, and reporting them campus wide, yielding total enrollment per section and counts of students who completed the online course evaluations, allowing us to calculate the response rates for each section. For comparison, we also retrieved summary reports from fall 2013, when instructors self-selected whether to offer an incentive. These data are reported in Table 2 and presented graphically in Figure 2.

In spring 2014, response rates in the four sections randomly assigned to the ECMI condition ranged from 74.3% to 91.7%, with an average of 85.3% and median of 87.7%. Response rates in the four sections randomly assigned to offer no incentive ranged from 15.3% to 60.3%, with an average of 27.6% and a median of 25.5% (the randomly assigned bars in Figure 2). For comparison, institutional data indicated that total response rates across all courses in the college of arts and sciences and in the psychology department were 46.8% and 65.3%, respectively, during the 2013–14 academic year.

In an independent samples t-test, the average response rates in ECMI versus no-incentive sections differed significantly ($t = -4.97; df = 6; p < .01, d = -3.51$).

By chance, two of four sections assigned to the ECMI condition were small honors sections of general psychology
(Instructors 3 and 4 in Table 2); response rates in these two sections were especially high (89.8%). However, results were the same when data from these two sections were excluded from the tests. In the two regular sections (average class size = 110) randomly assigned to the ECMI condition, the average response rate (80.8%) was significantly higher than the average response rate in the four randomly assigned nonincentive sections (31.7%, average class size = 90.8; \( t = -3.13; df = 4; p < .05, d = -2.71 \)).

Figure 2 also presents several other comparisons between response rates in incentive and nonincentive sections of the course. The self-selected bars in Figure 2 represent online course evaluation response rates from the semester preceding the quasi-experiment (fall 2014) for the 11 graduate student instructors who decided independently whether to offer incentives (\( n = 8 \)) or not (\( n = 3 \)). As noted earlier, instructor-selected incentives in fall 2014 varied, with none worth more than 1% of students’ overall grades. Average response rates were higher for sections in which the instructors offered incentives (80.0%) than no incentives (47.7%; \( t = -6.01; df = 6; p < .001, d = -4.07 \)).

Figure 2 also shows comparisons of response rates collapsed across semesters for all 11 instructors (22 course sections). As shown there, the magnitude of the differences in response rates between ECMIs and no incentive sections was similar for (a) the small honors sections (ECMIs: \( n = 3, M = 92.3\% \); no incentive: \( n = 1, M = 40.0 \)); (b) the larger regular sections (ECMIs: \( n = 12, M = 73.15\% \); no incentive: \( n = 6, M = 38.29\% \)); (c) across all sections (ECMIs: \( n = 15, M = 76.98\% \); no incentive: \( n = 7, M = 38.53\% \)). As in Study 1, we analyzed 3 items from the course evaluations asking for the overall ratings of course or instructor to check for differences in favorability of ratings as a function of incentives for completing the evaluations. On all 3 items (course as a whole, instructor’s contribution, and instructor’s effectiveness), average ratings in the randomly assigned no-incentive condition (means = 4.0, 4.3, and 3.4, SDs = 0.18, 0.30, and 1.54, respectively) did not differ significantly from average ratings in the randomly assigned ECMI condition (means = 3.7, 3.9, and 3.8; SDs = 0.51, 0.43, and 0.46, respectively; all \( |t| < 1.06; df = 6; p > .26 \)).

Discussion
This classroom quasi-experiment incorporated an approximation of a randomized experiment, using nonequivalent comparison groups (individuals not randomly assigned). As in Study 1, results supported the hypothesized micro-incentive effect: response rates were significantly higher in sections in which instructors offered an ECMI than in sections with no incentives.

Although we randomly assigned course sections to ECMIs or no-incentive conditions, and used a standard ECMI in the micro-incentive conditions, it is still possible that differences in response rates consistent with a micro-incentive effect on
response rates could reflect existing differences among the classes. Rival hypotheses include several kinds of differences among classes and instructors. For instance, the results could reflect inter-section differences in students’ attributes: perhaps those in ECMI sections were older and/or more conscientious. Such differences were relatively unlikely, however, considering that the scheduled times of course sections in both conditions were distributed throughout the day. Also, differences in instructor characteristics and/or instructor behavior might account for the results, notably differences in the content or persuasiveness of instructors’ appeals to complete the evaluations. However, to be plausible, rival hypotheses have to account not only for the differences between sections randomly assigned to EMCI and no-incentive conditions but also for the parallel differences between instructor-initiated incentive versus no-incentive conditions in the prior semester.

Results of Study 2 supportive of the hypothesized micro-incentive effect included differences in response rates favoring ECMI conditions over no-incentive conditions that appeared consistently regardless of course type (regular or honors), semester, or previous instructor behavior (incentive or no incentive). Results of Study 2 were also consistent with those of Study 1 and with the earlier study by Dommeyer et al. (2004).

General Discussion
In brief, two quasi-experiments—including one that approximated a randomized experiment—found ECMIIs associated with substantial and significant gains in response rates for online course evaluations. This result appeared in both upper division and lower division courses, in both honors and regular courses, involving both within-instructor and between-instructor comparisons, reflecting both instructor-initiated and randomly assigned ECMIIs for completing evaluations, and when the online evaluation system was newer (Study 1) or established (Study 2).

Our results are consistent with prior studies that found response rates in course evaluations positively associated with incentives (Berk, 2012), and incentives unrelated to favorability of course evaluations (Dommeyer et al., 2004). Even where students are technologically savvy, and online course evaluations are established and familiar, we still found trivial incentives of <1% of students’ grades associated with significantly higher response rates. Whether micro-incentives motivate students to write more or better comments is a question for future research.

Contribution to Current Knowledge
The main contribution of these findings to current knowledge on teaching is the consistent empirical evidence from two studies for a classroom micro-incentive effect on evaluation response rates. We found that even in a context in which students are routinely expected to complete course evaluations online for all of their courses, the addition of an ECMI was associated with higher response rates. This result suggests that instructors cannot simply rely on students’ familiarity with an online system or institutional-culture expectations for evaluation completion to globally enhance the response rates. Rather, individual instructors would seem to be well served by offering ECMIIs in their courses toward boosting their personal response rates.

Our finding that a trivially small amount of extra credit appears to have a substantial, beneficial impact may mitigate concerns over offering academic incentives for what may be seen as an administrative task. If extra credit for course evaluation represents a form of bribery (Berk, 2012), at least a micro-incentive is a very small bribe. However, if the student’s role is reframed as more than learning course content—and includes active participation in the enterprise of education via feedback about learning experiences—extra course credit clearly aligns with the slightly expanded role. Our finding of a micro-incentive effect—if replicated—indicates that students may take on the expanded role for a trivially small incentive. Instructors who are particularly concerned about offering even trivial course credit for such administrative tasks might consider offering ECMIIs in the form of some instructors in Study 2 (self-selected) who made a content-based extra credit quiz available to students, contingent on classroom-wide response rates. Even this kind of ECMI, in which access to an opportunity to earn extra credit was based on completion of the course evaluation, but the credit itself was earned by demonstrated knowledge of course content, seemed to boost response rates significantly.

Our results, like those of Dommeyer et al. (2004), beg the obvious question: Why would a trivially small incentive in the form of extra course credit—worth less than 1% of students’ grades—motivate more than 20% of students to complete online course evaluations? One (complicated) answer is that micro-incentives (1) signal to students the importance of course evaluations to their universities, (2) engage their intrinsic motivation for organizational citizenship behavior (Dekas, Bauer, Welle, Kurkoski, & Sullivan, 2013), and (3) do not erode intrinsic motivation as larger extrinsic incentives apparently can (Deci, Koestner, & Ryan, 1999). The same logic may explain other recent findings of motivational effects of very small, noneconomic incentives (Bareket-Bojmel et al., 2014) and raises questions for future research.

Limitations
Arguably among the primary limitations of these two quasi-experiments is the possibility that the main result—an apparent micro-incentive effect—might be explained by rival hypotheses (Shadish & Cook, 2009). While our findings were consistent throughout many comparisons, and the rival hypotheses for the two studies were different, the findings remain tentative pending further replication.

Other limitations of this research concern the potential generality of the results. The population came entirely from one campus of a state university in the southern United States, and
just three courses in only one discipline, psychology. Study 1 involved only one instructor. Study 2 involved a course consisting mostly of first-year students, all taught by graduate student instructors. Whether the findings apply more broadly remains an open question pending replication.

Another limitation is that having to use course section as the unit of analysis, rather than individual student, limited our power, particularly for the analyses regarding differences in actual course evaluations between the incentive and no-incentive conditions. However, even on items for which the magnitudes of differences were more substantial, the lower ratings were for the ECMI sections. If anything, this pattern of results suggests that incentives do not induce inflated course evaluations (as might be expected if students feel bribed) but induce a potentially more representative sample of students to respond honestly. Future research should examine questions about the relations of response rates, incentives, and actual evaluations using larger samples and analyses with more power.

A relatively minor limitation involves the operational definition of ECMI. In both studies we offered extra credit worth <1% of a student’s course grade, begging the question of whether an even smaller (or more micro) incentive would yield a similar result. This limitation raises the question of the shape of the relationship between incentive size and response rates, which could be addressed in a parametric experiment.

Conclusions

Results of two classroom quasi-experiments offer limited, empirical evidence that micro-incentives based on extra course credit can substantially boost response rates to online course evaluations by more than 20%. The micro-incentive effect found here—and in earlier research—raises empirical and theoretical questions, carries obvious practical implications, and may contribute to continuing, practical debates about incentives for completing course evaluations.

Author’s Note

E. D. Sundstrom and E. E. Hardin collaborated in designing the research and drafting two proposals for the institutional review board. M. J. Shaffer performed the data analysis for Study 1, prepared the tables under the supervision of E. Sundstrom, and drafted subsections of the Results. E. D. Sundstrom drafted the write-up of Study 1 and other subsections; E. E. Hardin drafted the write-up of Study 2 and other subsections; M. J. Shaffer provided critical revisions. All authors approved the final version of the manuscript for submission.

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Declaration of Conflicting Interests

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