The Effects of Participative Goal Setting on Future Sustainability-Related Behaviors and Attitudes

Tracy McDonald, PhD
Professor Emeritus
Department of Management
California State University, Chico

Marc Siegall, PhD
Department of Management
California State University, Chico

ABSTRACT

A study was conducted using a modified participative goal setting approach to create a behavior change over the course of a semester. Two approaches to goal setting were used. Student subjects set goals regarding switching from one-time use plastic or paper bags to reusable bags when grocery shopping. They monitored their behavior on a weekly basis. We hypothesized that the participants would report: 1) an increase in the degree to which they used reusable bags on shopping trips, 2) being more committed to acting in an environmentally-responsible manner, 3) voluntarily adopting additional sustainability-related behaviors that are not required as part of the exercise, and 4) attempting to affect sustainability-related behavior in others. Additionally, the following research question was posed: Would any behavior change be accompanied by changes in attitudes towards sustainability? Results indicated that goal setting was effective in increasing the reported frequency of using reusable bags when shopping, though there was not significant change in attitudes. A more simplified approach was almost as effective as a more complex. If our results can be generalized, they suggest that managers can use a simplified goal setting technique to increase the frequency with which employees engage in sustainable behavior. Further, a change in attitude may not be necessary for this effect to occur.

Keywords: sustainability, goal setting, behavior change, environmental responsibility, sustainable behavior

Introduction

To maintain competitive advantage, today's organizations must engage in and make public their commitment towards sustainable practices. Reducing energy costs, recycling and/or reusing components of production, innovating processes that reduce waste, and creating a culture that values sustainability are all crucial for maintaining market position and continued profitability (Esty and Winston, 2009). At the United Nations General Assembly meeting in 1987, the Brundtland Commission (1987) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Building upon this definition, many businesses have come to embrace the idea of a "triple bottom line (Savitz and Weber, 2006)" which measures success as it relates to profit, people, and planet. Rather than viewing short-term profit as the sole indicator of success, such companies engage in practices that minimize their impact on the environment, strive to treat all stakeholders in an ethical fashion, while at the same time maximizing profit.

According to Dow Jones:

> Corporate sustainability is a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental, and social developments. (SAM and Dow Jones, 2010, p.1)

Engaging in sustainable operations has been shown to reduce costs, maintain a solid customer base, attract new investors and customers (Lazlo, 2010) and help organizations prepare for anticipated legislation regarding sustainable operations (McClean, 2010). Further, sustainable practice can play a large role in innovation (Elvins, 2007) and brand management (e.g., "Ford Goes Sustainable," 2010). One need only to examine the shelves in the business section of any bookstore or to peruse the table of contents of business journals and magazines to witness the importance businesses are now placing on sustainability.

Across the world, universities are incorporating sustainability into their curricula and engaging in activities to promote sustainability (McDonald, 2011). Having a strong curriculum in the area attracts not only students, but recruiters as well. We have witnessed a surge of students enrolling in degree programs that focus on sustainability (*USA Today,* 2009). Fundraising efforts may also be enhanced as donors become more concerned with the future competitiveness of American business.

Many companies now demand that business students have a background in sustainability and greater numbers of students are seeking business degrees that have some emphasis in sustainability (Bunch, 2009). A joint survey conducted by the United Nations and Accenture found that 72% of chief executive officers believe that including sustainability in the business curriculum is key to the creation of more sustainable companies (Weybrecht, 2009). Finally, the

Association to Advance Collegiate Schools of Business has endorsed the importance of sustainability as evidenced by the yearly Sustainability Conference it sponsors (2011).

As organizations increasingly demand that managers and employees possess the knowledge, skills, and abilities to perform their jobs in an environmentally sustainable manner (Willard, M., Wiedmeyer, C., Warren Flint, R., Weedon, J., Woodward, R., Feldman, I., and Edwards, M., 2010), business schools must prepare students to meet this demand both as employees and as future managers. A brief Internet search of business school websites will show that most have a statement of the importance the school places on sustainability. Many have courses exploring sustainable business.

However, an examination of the literature shows very little research examining the precise means by which colleges of business are providing students with the tools to create a more sustainable workplace. Indeed, Sherman and Hanson (2010) call for a more focused approach in teaching sustainability across the business disciplines. It is easy to present information about sustainability and its importance to business and to lead students through an exploration of what companies are doing to address the problem. But ultimately we must teach our students to be effective agents of change and to lead in a manner consistent with the core values of a company that promotes sustainability. For such learning to occur, we must provide learning experiences that result in the acquisition of applied skills that will allow these future managers to make the workplace more sustainable and create a culture of sustainability. What experiences can we provide so that our students are equipped to work in organizations that hold sustainability as a core value?

This article describes one specific approach in which students are challenged to make a change in their own behavior by acting in a more sustainable fashion. If students are successful in changing their own behavior and actually experience the process that created that change, then they will then possess a skill set that will allow them to help those they manage adopt new behaviors and thus, carry out work in a more sustainable fashion. Employee behavior is difficult to change and new habits are hard to form. If the approach described here is effective, organizations and managers will have a tool for inculcating and fostering environmentally responsible behavior. Employees engaging in newfound sustainable behaviors can have a powerful effect on other employees, as environmentally responsible behavior becomes the norm (similar to the anti-cigarette smoking campaign of the '70's.). Training programs can be designed so that managers may become adept at empowering change in their subordinates.

The study described here uses a modified participative goal setting approach to manifest a gradual behavior change over the course of a semester. Decades of research have shown goal setting to be an effective means of behavior change in countless settings (e.g., Locke, E. and Latham, G., 2007; Cunningham, T. and Austin, J., 2007). Using this approach, students set goals regarding switching from one-time use plastic or paper bags to reusable bags when grocery shopping. We hypothesize that participants will report: 1) an increase in the degree to which they make use of reusable bags on shopping trips, 2) being more committed to acting in an environmentally-responsible manner, 3) voluntarily adopting additional sustainability-related behaviors that are not required as part of the exercise, and 4) attempting to affect sustainability-related behavior in others. Additionally, the following research question is posed: If the above hypotheses are supported, will behavior change be accompanied by changes in attitudes towards

sustainability? This question is posed in light of the general axiom in psychology that attitudes are correlated with behavior.

Method

Participants and Overview

A convenience sample of 447 undergraduate students (Mage = 22) at a western university completed surveys regarding their own sustainable behavior at two points in time. Participation was anonymous and voluntary (except as noted below). Two hundred and thirty participated at Time 1, and 187 at Time 2. Most students were enrolled in a Foundations of Management course, but as described below, one group of students was enrolled in a Managing for Sustainability course. In order to match their responses over time, subjects were asked to create and remember their own "secret codes."

There is a multitude of behaviors students may engage in to act in a sustainable fashion. For purposes of simplification of this study, it was necessary to choose one behavior that could easily be performed by all students and that required an equivalent amount of effort across all participants. It was also important to choose a behavior that had a low probability of being one in which students already engaged (e.g., recycling). The behavior of bringing one's own reusable (i.e., made of cloth or recycled materials) bags when grocery shopping was selected as meeting the above criteria.

Procedure

All classes completed a survey during the fourth week of the Spring 2010 semester (Time 1), and a Time 2 survey ten weeks later. Both surveys were completed anonymously.

Conditions.

There were four conditions. Each class was assigned to one of the conditions; that is, all of the students in any given class participated in the same condition.

Full Treatment Group. This group (N = 63, Time 1; N = 60 Time 2) did an in-class goal-setting exercise. Students initially coached each other in pairs to set goals regarding the use of reusable bags over the next 10 weeks of the semester. Each student took a turn as coach. Using goal-setting terminology (i.e., measurable, time related, participatively set, difficult but not impossible, feedback), pairs set sub-goals leading to an end-of-the-semester final goal. They were instructed to determine what preparations they needed to take in order to commence working on their goals and what barriers they could foresee. Each student was required to turn in an initial plan paper based on this one-time coaching session. As the semester progressed, students turned in weekly reports detailing how well they perceived they did each week, how they could improve, and what they planned to do in the next week to improve their performance.

Students received course credit for this work, but were told that their grade would be based on their initial plan report, their diligence in turning in their weekly reports, and their final report. They specifically were told that they would not be graded on the degree to which they achieved their goals and that as long as they turned in the required work, their grade would not be affected even if they made no progress at all on their goals.

Partial Treatment Group. This group ($N = 65$, Time 1; $N = 26$, Time 2) completed the Time 1 survey and participated in the goal setting exercise. They were not assigned weekly papers, but participation was voluntary and in no way connected to their grade. Weekly, a reporting sheet was passed around the class, asking participants to enter their initials and the percent of the time they used reusable bags during the previous week. This group did not turn in a report along with their percentage of success as did the Full Treatment Group. They completed the Time 2 survey, whether they participated in the exercise or not.

Control Group. These participants ($N = 70$, Time 1; $N = 47$, Time 2) completed the Time 1 survey and went through an in-class, extra-credit goal setting exercise focusing on a topic, improving group performance, that was unrelated to sustainability. The general parameters of the "group performance" goal-setting exercise, the initial paper, and the final report were the same as in the experimental group. Students did not, however, turn in weekly reports. They completed the Time 2 survey, whether they participated in the exercise or not.

"Already There" Control Group. This group ($N = 32$, Time 1; $N = 54$, Time 2) consisted of students taking a senior-level business course in managing for sustainability. We assumed that their attitudes towards, and behaviors in support of, sustainability would be more positive than those of students who had not self-selected into this class. Thus, this group was included as an anchor point against which the performance of the other participants could be compared. These participants completed the Time 1 and Time 2 surveys, but did not do any other work specifically related to this study.

There were no significant differences between the groups in terms of age (mean of 22), political affiliation (about 28% Democrat, 35% Republican, 9% Independent, 24% none/other), or major (about three-fourths Business Administration). While about half of the students in the treatment and control groups were Juniors and a quarter Seniors, about 80% of the students in the "Already There" Control Group were Seniors.

<u>Measures</u>.

For the study, we constructed a survey measuring behaviors, intentions, and attitudes related to sustainability. The survey constructed for Time 1 had 27 questions, while the survey constructed for Time 2 had 37 questions. The full text of all items is in the Appendix. Responses to survey questions were on 5-point Likert scales (1 = *Strongly Disagree* and 5 = *Strongly Agree*). Four attitudes related to sustainability and sustainable business, plus self-reported behaviors related to sustainability were measured

Personal Attitudes Towards Sustainability. This attitude, measured with nine items, demonstrated good internal consistency ($\alpha = .86$). Examples of the nine items measuring this attitude include, "I am willing to pay more for products that were manufactured in a way that causes minimal harm to the environment" and "I am tired of hearing about sustainability" (reverse scored).

Intentions to Act More Sustainably. We measured the intermediate step between attitude and behavior with two items: "I would like to act in a more sustainable manner than I do" and "I plan to learn more about how to live my life more sustainably." Internal consistency was at an acceptable level ($\alpha = .69$).

Social Responsibility of Business. Seven items, such as, "Even if a company makes smaller profits by conducting business sustainably, it should not switch to less costly, non-sustainable practices" and "American businesses will not be able to keep up with foreign competitors if they do not conduct business in a sustainable fashion" (reverse scored) made up this scale. This scale's internal consistency is just acceptable for an exploratory measure ($\alpha = .64$).

Climate Change as a Pressing Problem. We included this scale to measure attitudes towards a specific issue related to sustainability. Among the five items comprising this scale were, "I believe that climate change is a serious problem" and "I worry about climate change." This scale demonstrated good internal consistency ($\alpha = .78$).

Behaviors Related to Sustainability. We used a series of single items to assessed participants' sustainability-related behaviors, using 5-point Likert scales (1 = *Never* and 5 = *Always*). These items served as dependent variables. Of particular relevance to this study was the item, "I bring my own canvas/non-disposable bag with me when I go shopping." The response scale was from 1 to 5 (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *most of the time*, and 5 = *always*). Additionally, at the end of the experimental period, in the Time 2 survey, participants were asked to report "The percentage of time you use cloth bags when you go grocery shopping." The other items are detailed in the Appendix.

Results

In general, we found that goal setting led to more of the targeted behavior, whether or not there were attitudinal changes associated with the exercise.

Students Who Were Tracked Over Time

Seventy-three subjects' Time 1 and Time 2 responses were matched, via their self-created "secret codes," allowing us to compare the same students at both Time 1 and Time 2 ("within subjects" analyses). Of those, 21 were in the Full Treatment Group, 14 in the Partial Treatment Group, 23 in the Already There Control Group, and 15 in the Control Group.

At Time 1, responses to "I bring my own canvas/non-disposable bag with me when I go shopping" were low, as shown in Table 1. A between-groups ANOVA indicated there was a significant difference of means across groups [$F(3,72) = 3.89$, $p = .013$)]. Post-hoc Tukey-B tests indicated that all of the treatment and control groups were equivalent, and the Already There Control Group had a significantly higher self-reported rate of reusable bag use.

Table 1: Self-Reported Use of Reusable Bags – Within Subjects Design

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	1.40_a	1.60_a	$t(14) = .76ns$
Partial Treatment	1.57_a	3.15_b	$t(12) = 4.63**$
Full Treatment	$1.76_{a,b}$	3.52_b	$t(20) = 8.11**$
Already There Control	2.65_b	3.30_b	$t(22) = 2.34*$

Note. Means in the same column that do not share sub-scripts differ at $p < .05$ in the Tukey-B test. * $p < .05$, ** $p < .001$

At Time 2, that situation had changed, so that participants in both treatment groups had caught up with the Already There Control Group, and reported using their own bags at a level significantly greater than that of the Control Group. Further, participants in all groups except the Control Group reported significantly greater reusable bag use at Time 2 than at Time 1. (See again Table 1.)

General Comparisons Over Time

We also looked at the similarities and differences between the students who participated at Time 1 and the students who participated at Time 2, without being able to guarantee that we were measuring the exact same subjects at both times ("between subjects" analyses). The between-subjects results for "I bring my own canvas/non-disposable bag with me when I go shopping" parallel the within-subjects findings, as seen in Table 2.

Table 2: Self-Reported Use of Reusable Bags – Between Subjects Design

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	1.83$_a$	2.06$_a$	$t(115) = 1.05ns$
Partial Treatment	1.77$_a$	2.84$_b$	$t(62) = 3.22$**
Full Treatment	1.62$_a$	3.30$_b$	$t(121) = 8.74$**
Already There Control	2.38$_b$	3.20$_b$	$t(110) = 3.20$*

Note. Means in the same column that do not share sub-scripts differ at $p < .05$ in the Tukey-B test. * $p < .05$, ** $p < .01$

At Time 2, participants were asked "What percentage of the time do you use cloth bags when you go grocery shopping?" and replied by indicating a percentage. Table 3 shows that the treatment groups reported using reusable bags significantly more frequently than the Control Group.

Table 3: Percentage of the Time Use Cloth Bags

Group	Mean Score
Control	14% $_a$
Partial Treatment	45% $_b$
Full Treatment	64% $_c$
Already There Control	49% $_{b, c}$

Note. Means that do not share sub-scripts differ at $p < .05$ in the Tukey-B test.

Thus, from both the within subjects and between subjects analyses, Hypothesis 1 was supported. General attitudes toward sustainability changed in conjunction with the behavioral change are not considered.

As shown in Tables 4 through 7, the attitudinal measures generally showed no change from Time 1 to Time 2. However, there were significant differences reported regarding some of the sustainable behaviors were assessed only at Time 2. Again participants responded on a 5-point scale (1 = *strongly disagree,* 5 = *strongly agree*) to various statements. The first statement was "I have started engaging in new sustainability-related behaviors, such as [recycling trash at home,

avoiding buying goods made of plastic, etc.], that I did not engage in at the beginning of the semester."

Table 4: Personal Attitude Towards Sustainability

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	3.38$_a$	3.46$_a$	$t(114) = .66ns$
Partial Treatment	3.42$_a$	3.49$_a$	$t(62) = .38ns$
Full Treatment	3.27$_a$	3.49$_a$	$t(120) = 1.74ns$
Already There Control	3.86$_b$	4.08$_b$	$t(110) = 2.13*$

Table 5: Intentions to Act More Sustainably

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	3.77$_a$	3.87$_a$	$t(114) = .73ns$
Partial Treatment	3.77$_a$	3.81$_a$	$t(63) = .94ns$
Full Treatment	3.62$_a$	3.83$_a$	$t(121) = 1.44ns$
Already There Control	4.27$_b$	4.34$_b$	$t(110) = .66ns$

Table 6: Social Responsibility of Business

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	2.65$_a$	2.74$_a$	$t(115) = .86ns$
Partial Treatment	2.58$_a$	2.74$_a$	$t(63) = 1.51ns$
Full Treatment	2.66$_a$	2.88$_a$	$t(121) = 2.26*$
Already There Control	3.14$_b$	3.27$_b$	$t(110) = 1.71ns$

Table 7: Climate Change as a Pressing Problem

Group	Time 1	Time 2	Difference Between Time 1 and Time 2
Control	3.04$_a$	3.26$_a$	$t(14) = .76ns$
Partial Treatment	3.06$_a$	3.16$_a$	$t(62) = .41ns$
Full Treatment	3.01$_a$	3.15$_a$	$t(121) = .76ns$
Already There Control	3.53$_b$	3.56$_a$	$t(110) = .17ns$

Note. Means in the same column that do not share sub-scripts differ at $p < .05$ in the Tukey-B test. * $p < .05$, ** $p < .01$

As shown in Table 8, the treatment groups reported greater frequency than the Control Group.

Table 8: Started New Sustainability Behavior (Disagree/Agree)

Group	Mean Score
Control	2.87$_a$
Partial Treatment	3.48$_b$
Full Treatment	3.72$_b$
Already There Control	4.28$_c$

Note. Means that do not share sub-scripts differ at $p < .05$ in the Tukey-B test.

The next statement was "Compared with the beginning of the semester, I think more frequently about how I can live more sustainably." The results are presented in Table 9. The Full Treatment Group's level of agreement was higher than that of the Control Group, but lower than the Already There Control Group.

Table 9: Think More Frequently about being Sustainable (Disagree/Agree)

Group	Mean Score
Control	3.21$_a$
Partial Treatment	3.60$_{a,b}$

Full Treatment	3.77$_b$
Already There Control	4.33$_c$

Note. Means that do not share sub-scripts differ at $p < .05$ in the Tukey-B test.

The same pattern in the responses was evident in the statement "I have succeeded this semester in convincing one or two friends/family members to live more sustainably." Table 10 presents those results.

Table 10: Convinced Others to be More Sustainable (Disagree/Agree)

Group	Mean Score
Control	2.78$_a$
Partial Treatment	2.92$_{a,b}$
Full Treatment	3.40$_b$
Already There Control	3.96$_c$

Note. Means that do not share sub-scripts differ at $p < .05$ in the Tukey-B test.

In sum, for the most part, the goal setting treatment led to more of the targeted sustainable behavior (use of reusable grocery bags). The results regarding attitudinal change and frequency of engaging in other sustainable behaviors were inconsistent. Though there were some statistically significant changes, such changes may not be practically significant.

Discussion

The results indicate that goal setting was effective in increasing the reported frequency with which participants employed reusable bags when shopping. Increases in frequency of bag use were reported from Time 1 to Time 2 in all groups except the control groups. This result is not surprising given the robustness of goal setting theory over time and across many contexts.

We expected a higher frequency of bag usage among groups that held sustainability as a personal value since carrying one-time use plastic or paper bags is harmful to the environment. Presumably, subjects in the Already There Group held sustainability as a personal value since they chose to take our Managing for Sustainability course, a course that serves either as a requirement for our minor in sustainable management or as an elective for non-minors. The reported level of bag use for this group was significantly greater at Time 1 compared to subjects

in the three other groups. By Time 2, the Treatment and the Partial Treatment groups had caught up with the Already There Group.

One surprise was the change in reported bag usage between Time 1 and Time 2 was <u>not</u> significantly different between the Partial Treatment and the Treatment Groups. One might expect that the more rigorous approach used in the Treatment Group would lead to a greater change over time compared to the Partial Treatment Group. As stated above, Treatment Group subjects submitted weekly reports identifying obstacles, reflecting on the factors contributing to their successes and failures, and provided short action plans for improvement. In contrast, subjects in the Partial Treatment Group set goals at the beginning of the semester and simply reported the percentage of bag usage usage on a list that was passed around the class each week. It should be remembered that subjects in this group did not get class credit for participating, and sustainability was not given special coverage or interwoven throughout the course as it was for the Treatment Group.

Since organizations are usually most concerned with change, the finding of greatest import relates to the percentage of time subjects reported using the bags. The group reporting the greatest percentage of bag usage at Time 2 was the Treatment Group, which reported bag usage 64% of the time, compared to 45% in the Partial Treatment Group.

A limitation of this study is that we used self-report data to gather information. It would be fruitful for future research to explore these findings in a context in which sustainable behavior can be objectively measured. For example, if an office wanted to use a goal setting process to increase employee recycling, fairly objective measures could be made by measuring the amount of materials placed in recycling bins over time.

A second limitation is that our sample was comprised of college students. Since students were not randomly selected, it is likely that there are differences in the samples that comprise each class. We intentionally chose the Managing for Sustainability class with the assumption that students in that class would be more committed to sustainable practice. However, there may be systematic differences among the classes that we are aware of. All students, with the exception of the students in the Managing for Sustainability class, were enrolled in our Foundations of Management class. Student demographics in these classes have remained fairly constant throughout the years. The class is an upper-division course required of all business majors. Students in the course represent all areas of business we offer, along with a few students majoring in construction management and in music industry. A factor in our favor is related to economic issues on campus. We have had to reduce the number of sections offered and students did not have the option to the degree they had in previous years to self-select into a particular classes or class time. They were fortunate to secure a seat in a given course. However, to truly know if these results generalize to the workplace, a similar study should be conducted using a broad spectrum of workers as participants.

Another limitation relates to the timeframe of the study. We measured subjects' behavior over a 10- week period. In order to determine whether the changes observed are permanent in nature, further research needs to be conducted in which subjects' behavior is measured over a longer period of time.

Decades of research have shown that certain conditions must be present for goal setting to be effective. As stated above, goals must be specific so as to be objectively measurable. They should be difficult, yet attainable. The individual setting the goal must accept or "own" the goal. Finally, some sort of feedback mechanism must be built into the goal setting process. The elements that contribute to success in the goal setting process were present in both the Treatment and the Partial Treatment Groups. Participants set specific goals for themselves through the process of designating a percentage of time they would utilize reusable bags at the end of a ten-week period (e.g., 95%). We presumed that goals were both difficult and attainable, since subjects were instructed to set goals according to traditional goal setting criteria. Additionally, since subjects were not already engaging in the behavior of carrying reusable bags, it would seem that adopting this new behavior would be challenging. Participants set, and publically committed to, their goals, indicating goal acceptance. Feedback was built into the process because subjects monitored their own performance, as reported via the weekly reports.

A major difference between the Treatment Group and the Partial Treatment groups was that of accountability. Since participation in the Partial Treatment Group was unrelated to course grade, subjects were accountable to no one but themselves. They had nothing to get from the exercise except the adoption of a new behavior and perhaps personal satisfaction. Yet they continued working towards their goals and by Time 2 the reported a degree of change that was not different than that of the Treatment Group. The Treatment Group exhibited a significantly greater magnitude of change; though it is questionable whether that change is practically significant, given the other analyses performed measuring bag usage. Perhaps holding employees accountable may be the factor that is responsible for the magnitude of the difference. Alternatively, Treatment Group subjects were members of the class in which sustainability was emphasized, so perhaps that difference explains the results. Future research is needed to ascertain the potential effect of these different conditions.

Our findings regarding the relationship of attitudes towards sustainability and reported behavior are weak. Personal attitudes towards sustainability, and intentions to act more sustainably, did not change from Time 1 to Time 2. The only attitude change that was significant occurred in the Treatment Group and related to seeing sustainability as a social responsibility of business. This result may have been due to the degree of coverage of the topic in the Treatment Group's class. None of the groups changed their view that climate change is a pressing problem.

In terms of thinking more frequently about sustainability and convincing others to act more sustainably, the Treatment Group reported engaging in such behaviors at a significantly higher level than the Partial Treatment Group. Such changes, if generalizable to organizations, could be of great advantage. If the organization trained a group of employees to engage in sustainable behaviors and that group then attempts to influence other employees, then the results would be a greater number of employees acting sustainably than would be predicted by the goal setting model alone. In addition, employees in the trained group may come to voluntarily adopt more sustainable behaviors on their own. All such generalizations would lead to sustainable behavior becoming the norm in the company.

The implications of the study are significant. The simple process of goal setting can be a powerful tool in transitioning employees to more sustainable behaviors. For organizations that

want to effect significant change in behavior over time, the results suggest they need not engage in a time-consuming formalized and monitored approach such as that used in the Treatment Group. Having employees set goals and report success on a regular basis, without holding them accountable may be sufficient.

Perhaps organizations need not be concerned with changing attitudes. Not having to promote the importance of sustainability and garner employee buy-in is both time and cost saving. Simply engaging in the goal setting process may be all that is needed. This later generalization is not intended to diminish the urgency with which organizations should respond to climate change. Sustainability should be a fundamental value that organizations hold as part of their social responsibility. Further, as previously stated, to maintain competitive advantage, organizations must make efforts to become more sustainable.

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Appendix: All Survey Items

As presented here, the survey items are grouped into their *a priori* subscales.

I. Personal Attitudes Towards Sustainability

2. I am tired of hearing about sustainability.
3. I would rather work for a company that goes out of its way to be sustainable than a company that does not care about sustainability.
5. There are many more important things to worry about than trying to live my life sustainably.
6. I am willing to pay more for products that were manufactured in a way that causes minimal harm to the environment.
9. It is a waste of time for business majors to learn about conducting business sustainably.
10. It is important to me to live my life as sustainably as I can.
14. My individual actions regarding sustainable behavior make little difference in the grand scheme of things.
19. My friends would describe me as someone who cares about sustainability.
25. I think about ways I could live my life more sustainably.

II. Intentions to Act More Sustainably

8. I would like to act in a more sustainable manner than I do.
17. I plan to learn more about how to live my life more sustainably.

III. Social Responsibility of Business

1. Companies have an obligation to society to conduct business in a sustainable manner.
7. Even if a company makes smaller profits by conducting business sustainably, it should not switch to less costly, non-sustainable practices.
11. Most companies are just pretending to act sustainably so that they will get more customers.
13. If conducting business in a sustainable manner negatively affects profits, a wise move would be to stop engaging in any sustainable practices.
15. American businesses will not be able to keep up with foreign competitors if they conduct business in a sustainable fashion.
16. Businesses can save money by becoming more sustainable.
18. The idea of sustainable business is just a passing fad.

IV. Climate Change as a Pressing Problem

4. I believe that climate change is a serious problem.
12. Science will come up with a solution to climate change before things get out of hand.
20. I worry about climate change.
8. I would like to act in a more sustainable manner than I do.
17. I plan to learn more about how to live my life more sustainably.

V. Taking Action to Live More Sustainably

21. I avoid buying goods that are made of plastic.
22. I bring my own canvas/non-disposable bag with me when I go shopping.
23. I recycle my trash at home.
24. I walk, ride my bike, carpool, or use public transportation.
26. I get rid of dead batteries by throwing them into the trash.
27. I try to get my friends and/or family to act more sustainably.

POST TEST ITEMS

II. Attitudes toward sustainability: Personal

29. I think more frequently about how I can live more sustainably compared to the beginning of the semester.
30. I have succeeded in convincing one or more friends/family members to live more sustainably.
33. I plan to take some sustainability-related courses.

IV. Behaviors: Taking action

28. I have started engaging in new sustainability-related behaviors, such as those described in the preceding questions, that I did not engage in at the beginning of the semester.

V. Intentions to act more sustainably

36. Regarding the Minor in Managing for Sustainability:
    I am not interested in it
    I am considering taking it
    I am going to enroll in it
    I am currently in it
    I am not familiar with it

37. Regarding Net Impact (the student organizations focusing on sustainable business):
    I am not interested in it
    I am considering joining
    I am going to join
    I am currently a member
    I am not familiar with it