

# **Recycling in the Residence Halls**

## Survey and Recommendations to Improve Student Recycling Habits and Facilities in Hedrick Hall, UCLA

Research Team Leaders:

Victoria Ortiz - [vortiz@ucla.edu](mailto:vortiz@ucla.edu)

Michael Tank - [mt@michaeltank.org](mailto:mt@michaeltank.org)

Research Team Member: Natalie Stauffer

Environment 99/199: Spring 2008

Faculty Advisor: Carl Maida, Ph.D.

Education for Sustainable Living Program – Action Research Teams  
A project of E3: Ecology, Economy, Equity & the Institute of the Environment at UCLA

## **Executive summary**

Our Action Research Team has focused on the waste stream of UCLA's residence halls, often called "the Hill." Our team's principal objective was to provide meaningful recommendations to help the UCLA Housing Administration meet a mandate that 50% of the waste stream be diverted to recycling. By taking a brief inventory of the latest developments and current status of the Hill's recycling programs, we established a baseline for recommending further improvements. We then assessed the efficacy of existing recycling programs by administering a survey to the residents of Hedrick Hall, providing data on actual and perceived student habits and knowledge concerning recycling methods and facilities. Our survey also functioned as an educational tool for raising awareness about the recycling program. We established that recent changes in the recycling program on the facilities end had greatly increased the convenience and efficacy of recycling; however student involvement in the recycling program still stands to be improved by increased education and student empowerment.

## **Recommendations and next steps**

- Ensure that every room comes equipped with a recycling bin and a convenient way to recycle its contents
- Create a standardized sheet detailing what is and is not recyclable and display this sheet on every recycling bin
- Actively teach students through their floor orientation the details of how to separate recyclables, garbage, and (in the future) biodegradables/compostables
- Creates opportunities for sustainable student role models within each building, such as the student recycling committees at University of Texas
- Provide students with the ability to decide amongst roommates which bin will be trash and which will be recycling
- Provide a "water station" where students can refill water bottles and clean recyclables
- Purchase recyclable or biodegradable packaging to use in student dining facilities

## **Our initial research objectives**

Our Action Research Team has focused on the waste stream of UCLA's residence halls, often called "the Hill." Our team's principal objective was to provide meaningful recommendations to the UCLA Housing Administration in order to increase the percentage of the waste stream that is recycled within the residence halls. By taking a brief inventory of the latest developments and current status of the Hill's recycling programs, we established a baseline for building further improvements. We then assessed the efficacy of existing recycling programs in the residence halls at UCLA by administering a survey to the residents of Hedrick Hall, a typical residential environment on the Hill. This survey provided data on actual and perceived student habits and knowledge concerning recycling as well as student perceptions of the recycling facilities available to them in the residence halls; our survey also functioned as an educational tool for raising awareness about the recycling program as it was administered. Based on this data, and our initial baseline, and a comparison of the recycling program on the Hill to similar programs within other housing organizations, our team has developed a list of recommendations to improve the recycling programs within UCLA Housing.

## **Meeting the needs of our stakeholders**

In keeping with the process of action research, we aimed to actively engage with the Housing Administration and the Office of Residential Life throughout the research process in order to incorporate institutional needs into our research. In April 2008, our team leaders met with several members of the two aforementioned offices, including Assistant Vice-Chancellor of Housing & Hospitality Pete Angelis from Housing

Administration and Residential Director Rob Kadota from the Office of Residential Life. During these meetings we outlined our objectives and explained how we wished to incorporate their interests into our research.

Carisa Narvez in Housing Administration outlined the severe disconnect between the facilities and student operations in the residence halls: HA and Facilities are not aware of what students are doing and students do not know what Facilities is doing. Carisa provided important information about the methods of recycling, specifically that each Residential Director (in the Office of Residential Life) is in charge of determining the recycling practices in their hall. The students are responsible for moving their small blue bin to the larger 50-gallon bin, which is picked up by janitorial staff (employed by Housing Administration, not ORL) and moved to the pick up location for Athens.

Mr. Kadota cleared up our misconceptions about Athens, which the campus had recently hired in January 2008 to take the place of the former, less favorable waste management service. Employing Athens Services as the primary recycling service has significantly increased the quality as well as the possible tonnage of recycling on campus. Kadota offered us contact information for Athens and other key players on the Hill and expressed his desire to extend the recycling program on the Hill to reflect that of the City of Los Angeles. Assistant Vice-Chancellor Angelis, also a new hire on the Hill, revealed what he knew of the history of the recycling programs in the residence halls. For example, as late as 2006, students were required to take their recyclables all the way out to the street; Angelis made progress by placing large recycling containers in the laundry rooms of each hall, making it much more convenient to recycle. Much progress had also been student initiated.

Our stakeholders desired a behavioral study of the students recycling behavior in order to understand how to make recycling convenient in the hopes of reducing the waste stream. A limited recycling program was already in place, but there has been no monitoring of the success of the program to date. The stakeholders expected these reforms to come at minimal cost to them.

### **Hedrick Hall before the survey**

In developing this project, our team hoped to examine and survey different living situations within UCLA Housing, since each building has slight variations in living situations, both with respect to room layout (dorm rooms vs. suites) and to how student responsibilities are distributed (do housekeepers come into the rooms?). However, due to the limited time frame and small research team, we chose to focus solely on one residence hall - Hedrick Hall - as our sample population.

Hedrick Hall is a high-rise residence hall with six stories of residential rooms, each divided into two “halls” – north and south. Each of these twelve halls functions as the primary organizational unit with separate Residential Assistants and floor governments. Each dorm room is given a small blue recycling bin and a larger gray trash receptacle at the beginning of the school year. Each of the twelve halls has one large 50-gallon recycling bin in the recycling room, which is emptied daily. Each hall also has a garbage chute to dispose of student’s non-recyclable waste.

## **Our survey**

We created a multiple choice and written response survey (Appendix A) that measured individual students' knowledge and habits regarding recycling as well as their roommates' behavior. Our goal was to gather surveys from 20 residents per hall. In total, we administered 185 written surveys.

We also performed an extended "super survey" where we took out the room's trash and recycling bins in addition to administering the written survey. We then measured the proportions of trash and recyclables in both the recycle bin and the trash bin to get an idea of the accuracy of the data collected by our general survey as well as an idea of how students were separating their waste incorrectly.

## **Residents' perception of their own recycling habits**

In the interpretation of this data, we have divided much of the information from the whole into demographic categories based on room type, roommates or respondents, and self-identified recycling habits. We define "respondents" as those people who personally completed our survey. "Roommates" refers to the roommates of the respondents, and "residents" is defined as the sample of the total population of Hedrick Hall composed of both respondents and roommates. We consider "recycle everything" or "recycle when convenient" to both be satisfactory or "positive" recycling habits.

Of the 185 respondents surveyed, 47 percent are committed recyclers who "recycle everything." The next 40 percent recycle when it is convenient for them. These respondents reported that 35% of roommates recycle everything, and that 45% of roommates recycle when convenient. The perceived recycling habits of residents average

out to 40% who recycle everything and 42% who recycle when convenient; 12 percent of residents recycle when they remember to and only 6 percent do not recycle. Therefore on average, 82% of the residents in the dorms claim to have positive recycling habits when given convenient recycling infrastructure.

It appears from the data that respondents in double-occupancy rooms (60% recycle everything) have an easier time recycling than respondents of triple-occupancy rooms (42% recycle everything). However, respondents living in doubles also tend to view their roommates' habits (58% positive) more harshly than respondents living in triples (80% positive). It is unclear from our study whether or not triple rooms have a stronger environment for peer pressure to support positive recycling habits, or if respondents in double rooms simply have stronger negative feelings about their roommates. Roommates score consistently weaker in their perceived recycling habits than do respondents.

According to our data, elected floor leadership and staff do recycle more than the average resident (58% recycle everything, 91% positive). However, in our interactions with students we found that elected leaders do not necessarily hold much of a role model position within the floor.

### **Residents' knowledge of recycling do's and don'ts**

When we asked students if they knew what is and is not recyclable, respondents who claimed to "recycle everything" were generally better at identifying those items which were definitely recyclable than respondents who had less committed recycling habits. People who "recycle when it is convenient" and people who "recycle when [they]

remember to" were less accurate as a group in identifying recyclables. However, all respondents shared in uncertainty on what is not recyclable: only 29% answered correctly that pizza boxes are not recyclable, and 23% answered the same for milk cartons. Respondents who claimed to "recycle everything" were in fact no better at identifying items that are not recyclable.

When presented with a partial list of what is and is not recyclable at Hedrick Hall, 73% of all respondents reported that there was new information on that list, including 79% of people who "recycle everything." This indicates a general lack of knowledge within Hedrick Hall about what is and is not recyclable. About one quarter (47 of 185) suggested in question 12 that more signage and education is needed.

### **The adequacy of recycling facilities and services**

The data shows that respondents take their garbage out slightly more often than recycling. However, recycling seems to be slightly easier to do than taking out the trash; half of respondents reported that it was "equally easy" to take out their trash and recycling; more responded that recycling was easier (50) than responded that trash was easier (35).

An overwhelming majority of respondents found that the large 50-gallon bins are "always" (68) or "sometimes" (88 of 185) full when they take out their recycling. When this happens, many respondents reported that they attempt to overfill the big bin (50 of 185), put their recycling bag aside the big bin (23), or wait until the recycling has emptied (42). Few will throw their recycling in the trash chute (6) or travel to another floor's recycle bin (5). A simple analysis of the size of the bins reveals that 50-gallon bins need



to be emptied four times a week to accommodate the waste generated weekly (which seems to be the average frequency) by the 40 rooms per floor. Housing Administration reports that the 50-gallon bins in the laundry room are emptied daily. Based on our hard data, this frequency should be ample to accommodate the waste generated by the residents during a week. However, as we knocked on doors to administer our survey, we found that residents' recycling bins were often overfilled. We speculate that if residents are more likely to take out the recycling on certain days (such as weekdays when more residents are in their rooms), then this could explain the high frequency with which residents find the large recycling bin to be full.

### **In the garbage**

The super surveys, in which we dug through one in five respondent's garbage and recycling, aligned well with our written survey results. We found that approximately 75% of recycling and 85% of the garbage were correctly cleaned and sorted.

### **Frequency of pickup by Athens Services**

The statistics of what is actually picked up from Hedrick Hall by Athens was also interesting information for us. Athens picks up five recycling bins and three trash bins from Hedrick Hall, location 250 De Neve Dr, six times per week. Also four three-yard compactors for trash (including construction materials) are also used to dispose of Hedrick Hall's waste. Three compactors are picked up six times per week, and one is picked up three times per week. In addition, the dining hall in Hedrick has four trash bins and four recycling bins picked up six times per week.

## **Student input**

As stated above, our team received overwhelming feedback from students supporting more education on recycling, such as information on what exactly can be recycled, whether or not it needs to be washed, what happens to products once they are recycled, the benefits of recycling and the consequences of not recycling. Some suggested posting pictures within the halls (after all, a picture is worth a thousand words) or to make resources available online (which is already being implemented on the Housing Administration website). However, students suggested that it would be most helpful to have information physically posted right above the recycling bin in the laundry room, on a laminated sheet on the back of the doors, or on a sticker stuck to their recycling bin. While surveying students, our team noticed bulletin board displays on some hallways devoted to recycling – and while these are certainly an awesome start in motivating students, they were often not attention-grabbing and included too much information in a small space. We recommend standardizing and implementing a simple, colorful list with the most pertinent information people need to know to recycle – to be posted right above every recycle bin. In addition, it may be effective to post pictures on the trash chutes that strongly convey the importance of reducing our impact on the planet.

Additional student concerns included the need for public recycling bins on the Hill, the importance of standardized recycling bins in every room (according to students, some buildings have not yet received recycling bins). Larger collection bins or more frequent service to existing bins would help alleviate the number of times that students find the collection bins to be full; recycling chutes in renovated buildings could also serve

this purpose. A few students suggested that providing incentives to recycling (as the California Redemption Value is intended to function in wider society) would help create positive habits for students – especially in converting those who initially don't care enough to recycle. Students also reiterated the need to reduce and reuse as well as recycle. One student suggested that residence halls give quality reusable water bottles to students upon move in, or make them available to buy inexpensively from the residence halls front offices. While the upfront cost of giving water bottles away could be significant, savings garnered from decreased tonnage of recycling hauled could be equally significant and merits further study.

### **Recycling within similar housing administrations**

While many schools boast great technological advances such as LEED certified buildings, it was difficult to find specific information on recycling plans at other residence halls. We do, however, have two primary examples for comparison. The University of Texas (UT) offers a complete guide for how to implement a successful recycling program into the residence halls. Their primary recommendation, which we support, includes establishing a student recycling committee within each residence hall whose primary objective is to educate the students. This committee empowers ordinary students to create fliers and bulletin boards that explain why students should recycle, what is and is not recyclable, and how students can get involved – filling the “sustainable student role model” niche that currently does not seem to exist within our sample of the UCLA residence halls. UT also recommends educating RAs as sustainable role models,

and using social networking sites like Facebook to spread awareness of the need for recycling.

In addition, the recycling program at the University Cooperative Housing Association (UCHA), a student owned and operated residence hall near UCLA that is managed by its 450 residents, deserves a close look. As current and former residents at UCHA, several members of our team are familiar with the recycling practices there. While there are no statistics concerning the efficacy of their recycling program, their method of educating residents on how to recycle has been well executed. At the community orientation every year, residents are taught what is and is not recyclable through a series of games and relays – learning to distinguish the subtle differences between a soiled pizza box or an unwashed glass jar and their clean counterparts. We recommend that activities similar to this be incorporated into floor orientations at the beginning of the year, as they effectively build strong floor community as well as teach detailed recycling know-how.

### **Our recommendations**

Currently, Hedrick Hall has made a lot of progress towards achieving its goals with regards to waste management, and is certainly ahead of its counterpart, Facilities Administration, on UCLA campus. However, there is always room for improvement and innovation. Our team makes the following recommendations:

**Education:** The single largest barrier we encountered is that students do not positively know how to sort their recyclables to meet Athens sorting requirements. We recommend a standardized signage on all recycling bins, large and small, reminding

students how to sort their waste. We also recommend that Residential Assistants (RA's) and floor governments actively teach what is recyclable during first week floor orientation exercises, providing students with the ability to distinguish between clean, cleanable, and soiled recyclables (and in the future, compostables!).

**Student empowerment:** The University of Texas' creation of student recycling committees creates sustainable student role models within each building. These students would not only take on visible leadership roles within their student community and promote a recycling culture, but may have the ability to initiate student-led projects requiring significant investment with funds from The Green Initiative Fund.

**Facilities:** While the bins in the laundry rooms seem large enough, students may need an increased capacity to recycle in their rooms. The simplest solution would be to provide each room with two stickers: one to indicate trash and one for recycling. The roommates can decide together which bin is which. This would eliminate the need to purchase new bins. Facilities could provide a place for students to refill water bottles as well as clean their recyclables. Also, Housing Administration has already demonstrated the desire to implement composting in the dining halls, and the ability to purchase recyclable or compostable packaging. We hope that HA continues to pursue this path in reducing landfill waste overall and increasing biodegradable products as they become feasible.

## Appendix A. Survey distributed to Hedrick Hall & Survey Results

### EDUCATION FOR SUSTAINABLE LIVING PROGRAM ACTION RESEARCH TEAMS - RES HALLS SURVEY

Building: \_\_\_\_\_ Floor: \_\_\_\_\_

I live in a: Single \_\_\_\_\_ Double \_\_\_\_\_ Triple \_\_\_\_\_

1. Are you an elected floor leader or ORL employee?

Yes \_\_\_\_\_ No \_\_\_\_\_

2. Which best describes your recycling behavior?

- I recycle every single item – it's easy! \_\_\_\_\_ .
- I recycle when it's convenient. \_\_\_\_\_ .
- I recycle when I remember to. \_\_\_\_\_ .
- I don't recycle. \_\_\_\_\_ .

3. Which best describes your first roommate's recycling behavior? (Leave blank for no roommate.)

- S/he recycles every single item! \_\_\_\_\_ .
- S/he recycles when it's convenient. \_\_\_\_\_ .
- S/he recycles when I remember to. \_\_\_\_\_ .
- S/he doesn't recycle. \_\_\_\_\_ .

4. Which best describes your second roommate's recycling behavior? (Leave blank for no roommate.)

- S/he recycles every single item! \_\_\_\_\_ .
- S/he recycles when it's convenient. \_\_\_\_\_ .
- S/he recycles when I remember to. \_\_\_\_\_ .
- S/he doesn't recycle. \_\_\_\_\_ .

5. When in your dorm room, where would you dispose of each of the following items? Please CIRCLE the bin that you would use for each item. If you're unsure, circle both the bin you would use and the word "unsure."

Plastic bottles: Recycling    Unsure    Trash

Pizza boxes: Recycling    Unsure    Trash

The Daily Bruin: Recycling    Unsure    Trash

Milk cartons: Recycling    Unsure    Trash

Dirty napkins: Recycling    Unsure    Trash

6. How often do you or your roommate(s) empty the blue recycling bin in your room?

- Once a month or less \_\_\_\_\_ .
- About twice a month \_\_\_\_\_ .
- About once every week \_\_\_\_\_ .
- Twice a week or more \_\_\_\_\_ .
- We don't recycle. \_\_\_\_\_ .

7. When you take your recycling out of your room, how often is the large recycling bin full?

Always \_\_\_\_\_ Sometimes \_\_\_\_\_ Never \_\_\_\_\_

8. If the large blue bin is full, what do you do with your recycling?

\_\_\_\_\_

\_\_\_\_\_

9. How often do you or your roommate(s) empty the grey trash bin in your room?

- Once a month or less \_\_\_\_\_ .
- About twice a month \_\_\_\_\_ .
- About once every week \_\_\_\_\_ .
- Twice a week or more \_\_\_\_\_ .
- We don't produce much trash. \_\_\_\_\_ .

10. Is it easier for you to get to the trash chute or the main recycling bin on your floor?

Trash Chute \_\_\_\_\_ Equally Easy \_\_\_\_\_ Recycling \_\_\_\_\_

#### The following materials are recyclable:

All glass and plastic (#1-9) food and beverage containers, most paper and cardboard, metal cans, clean aluminum foil.

#### These things are NOT recyclable:

Waxed paper (milk cartons), photos, pizza boxes or other food-contaminated products, toothpaste tubes, plastic wrap.

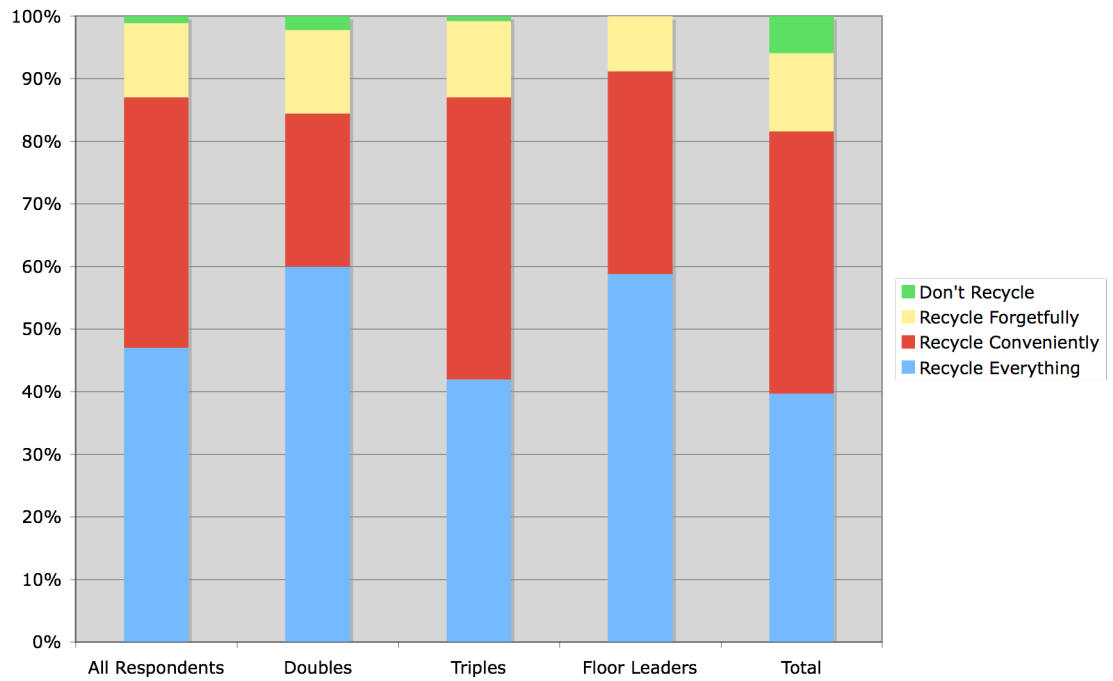
11. Is any of the above information new to you?

Yes \_\_\_\_\_ No \_\_\_\_\_

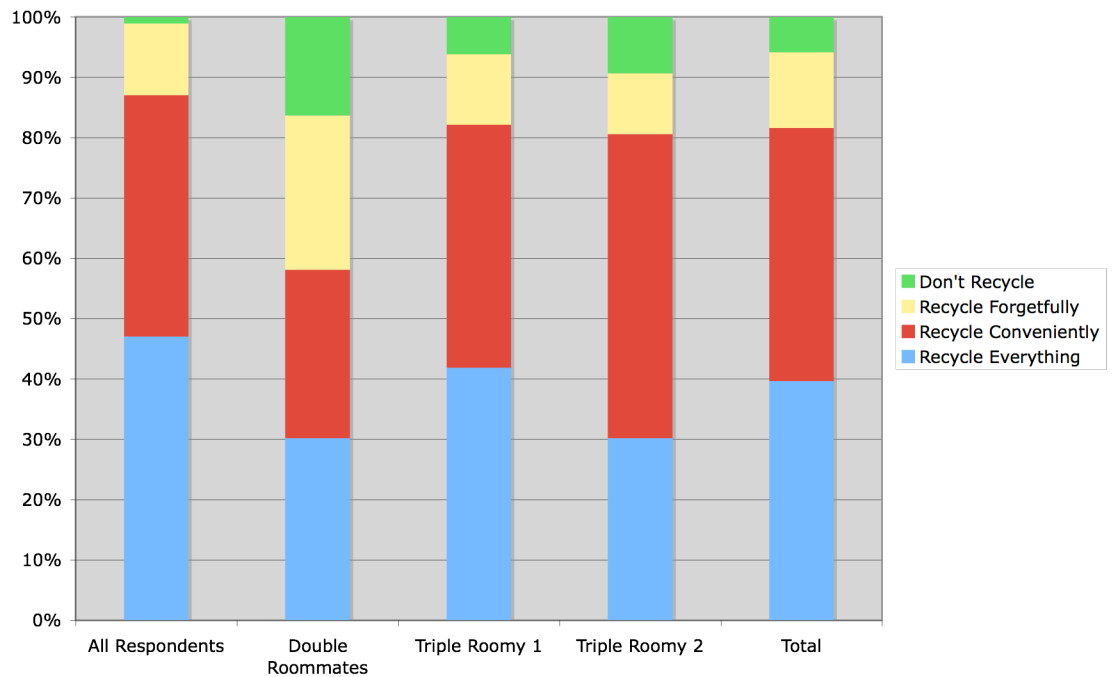
12. What would help you and other students to recycle? Do you have suggestions or anything you'd like to see?

**THANK YOU FOR PARTICIPATING!**

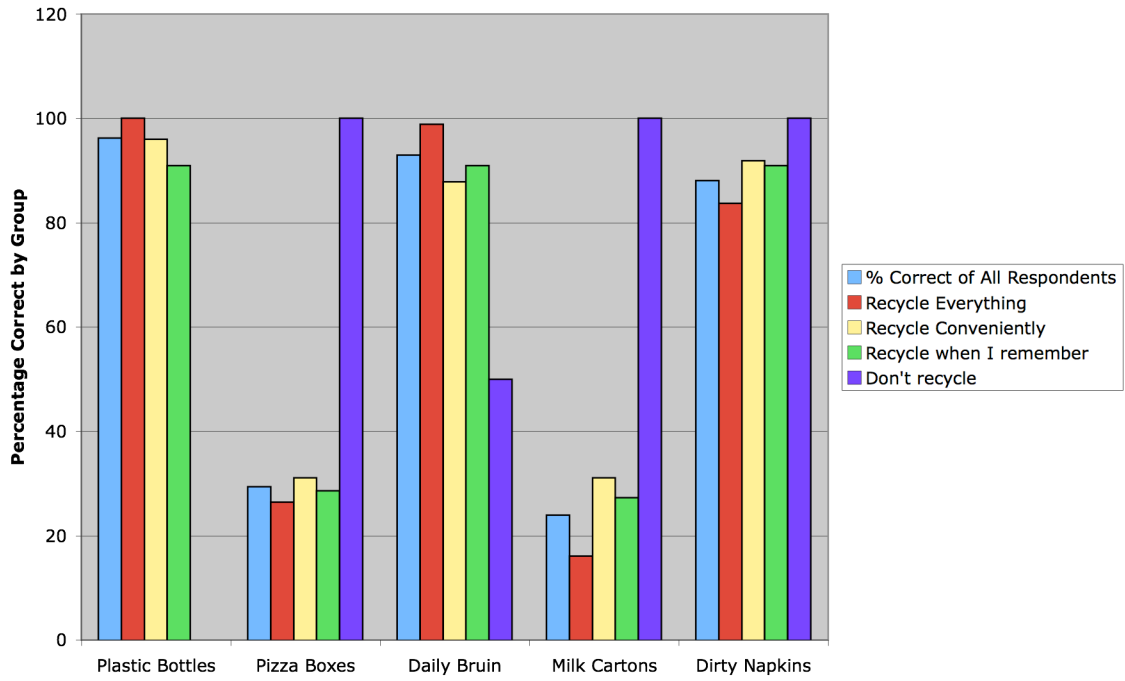
**Respondents Recycling Behavior**



**Roommate's Recycling Habits**



### Are People As Good At Recycling as they say they are?



### Super Survey Results

