



Action Research Team  
Winter/Spring 2010  
*Greening Grad Housing*  
Final Report  
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***Lead Stakeholders:*** Robert Gilbert

## Table of Contents

|  |           |
|--|-----------|
| <b>Executive Summary .....</b>           | <b>3</b>  |
| <b>Overview .....</b>                    | <b>4</b>  |
| <b>Background/Current Policies .....</b> | <b>6</b>  |
| <b>Initial Conditions .....</b>          | <b>7</b>  |
| <b>Research Methodology .....</b>        | <b>8</b>  |
| <b>Cost Analysis .....</b>               | <b>9</b>  |
| <b>Key Findings .....</b>                | <b>10</b> |
| <b>Recommendations .....</b>             | <b>12</b> |
| <b>Conclusions .....</b>                 | <b>14</b> |
| <b>Appendices .....</b>                  | <b>15</b> |

## **Executive Summary:**

Our mission as the “Greening Graduate Housing Team” was to assess the current sustainability of a specific complex, Weyburn Terrace, and determine ways in which we could improve it. After meeting with our stakeholder Robert Gilbert, we concluded the best ways to bring the current facility up to its potential capacity of “sustainability” would be to make improvements to the recycling program and educate the graduate students about ways in which they could improve their own personal living habits.

In order to accomplish this we first surveyed the students that live at the complex. We targeted 3 specific facets of living habits – waste, water, and energy. Our questions were directed at specific features of apartment life that would reflect the individual’s overall energy toward being contentiousness of their environmental impact. Majority of our questions were qualitative, such as “How often do you recycle?” with responses like “‘always’, ‘frequently’, ‘infrequently’ or ‘never’.” While we surveyed we also chatted with the graduate students gaining more qualitative information about their opinions and preferences. In the end we saw that they demonstrated a decent interest in environmental concerns, but usually followed through on this interest if it was convenient. One student complained that the recycling area wasn’t well marked, and he was unaware of its location. This demonstrated to our group that these students really need the infrastructure to very obvious for them to utilize it.

Recycling, our group conferred, was the best way to bring the building up to its full sustainability capacity and could later provide incentive for potential action research teams in the future expand waste options to composting. Recycling was a meaningful target also because majority of the building’s water facets and lighting are fairly sustainable (low flow and fluorescent lighting). In order to improve recycling we ordered blue recycle bins for every unit to encourage every resident to recycle. This is the first in a potentially a growing list of sustainability items that each unit would be entrusted with upon move-in. The bins will not be allowed to be removed from the apartment upon move-out. We also expanded the availability of battery recycling to each laundry facility rather than just the main rental office. Our stakeholders at Weyburn Facilities were incredibly cooperative and agreeable in this effort. They also are planning on changing the recycling signage in the floor receptacle areas to the well designed

signage currently on the Hill, so that residents will be completely aware of what is acceptable to recycle.

In order to educate the residents we compiled educational information on all three target areas – waste water and energy and purchased incentive items to pass out – CFLs and water bottles. We interacted with students using these tools at the Earth Day fair on campus and we are planning on attending the resource fair at Weyburn Terrace in September to promote sustainable living to the next year's residents. This will also allow for us to promote our efforts on recycling. Our efforts to improve sustainability education and infrastructure will be best measured next year when everything is implemented.

### **Overview:** *Defining Objects and Final Project Goals*

Our team, Greening Graduate Housing, had a very broad task facing us at the beginning of winter quarter. We could choose any graduate housing complex and any sustainability issue within these complexes. We knew this scope needed some refinement and therefore generated a list of ideas we had concerning this project. First, we decided that targeting the Weyburn Terrace building was the best way to reach the most graduate students, since majority are housed in this area. Also the building layout, with a number of buildings clumped in an area close to campus and westwood, was similar to “the Hill” (undergraduate residencies) therefore we had some familiarity with this structure. Now that we had targeted a specific graduate housing complex, we needed to further breakdown our goals. We agreed the possible improvements we could make in terms of living more sustainably fit into three categories – waste, water, and energy. To further refine our goals we met with UCLA's housing and hospitality sustainability coordinator Robert Gilbert.

Our initial meetings with Robert Gilbert demonstrated two main things; first that the building where we were working already had a fair amount of sustainable infrastructure and second that graduate student programming was lacking and the students could use more information about their own personal decisions. This shifted our original project aims significantly. Originally we hoped to install new shower heads, create price incentives for reducing energy use (students pay their energy bill directly), or even create a composting program. Robert directed us to perhaps an aim that worked to maximize the potential already

within the buildings and to improve existing programs. For example the recycling program needed improvement and proper use before expanding to composting would be a real consideration. We could work to teach students exactly how they could best use the infrastructure that existed. This was as simple as spreading awareness about proper thermostat use, to improve recycling procedures in the building.

We therefore decided that our best course of action was to survey the students and see what their current opinions about sustainability were and how they could best improve their practices. Also, we decided to get personal recycling bins for every unit to encourage better recycling usage, as well as expand the battery recycling options. We used the survey to make sure our education was effective. We included sections on waste, energy and water, which we determined to be our main educational components. Surveying the students, analyzing their responses, and even taking into consideration many of the conversations we had with the students we were able to generate educational material to be distributed using the Weyburn Terrace newsletter, as well as through 2 main educational events – Earth Day and the Resource Fair at the beginning of Fall 2010.

Initially we hoped to host a Weyburn educational event, in which compiled a number of resources and information to use. It was due to many failed communications with the WTRA in our planning of this that we had to cancel the event. If a graduate housing team works in Weyburn in the future, it would be extremely useful for them to meet with a WTRA representative during the first few weeks of the project. We didn't know the association even existed, as they have very minimal publicity, until the end of winter quarter. This made it difficult to meet in order to plan the event with enough forewarning for the fire marshall, facilities, etc by our expected date of April 22<sup>nd</sup>. This was a main disappointment for our team, but we strived to be just as effective by targeting graduate students at earth day and expanding our educational opportunities to move in week in the fall. This makes even more sense in the end, because the recycle bins will be implemented, as will the new signage and battery recycling before the beginning of the next school year.

## **Background and Current Policies:** *Closer look at Weyburn Terrace*

The project goal is to make graduate housing at Weyburn Terrace, one of the options for graduate student housing, more environmentally friendly. This project was significant because it was the first time an ART team had looked at graduate housing on a project. Weyburn Terrace consists of seven buildings, and has 840 units. Unlike some of the other grad housing options, this complex is strictly for single students, so no families live there. The complex consists of a combination of studio apartments, two-bedroom/two-bath apartments, and two-bedroom/two-bath townhouses. Most units are unfurnished but a limited number of units are offered furnished at a higher price. As mentioned earlier, the project had a limited scope because it wasn't economically feasible or realistic at this point in time to make major changes to the buildings.

Therefore, our group had to abandon ideas of installing energy or water saving appliances. It is positive though that all the buildings at Weyburn Terrace have fairly new infrastructure, it is therefore just a matter of utilizing it in the most environmentally friendly way. This is demonstrated by the fact that: all lighting is fluorescent, saving energy and money; all the showerheads are relatively new and although aren't as low-flow as they could be, they do reduce the use of water; they have a nice recycling system that we re-outfitted with new signs to increase resident awareness and use; and they have electronic waste and battery disposal, which we expanded to every building.

Part of the difficulty with working in the graduate housing is that the graduate students do not have the same programming as undergraduate students. It was therefore hard for us to understand exactly what residential life at Weyburn Terrace was like. There is a lot less interaction between the school, any housing administration, and the residents at Weyburn Terrace than there is in any undergraduate dorm on campus. This is because they don't have RAs and other people who run programs for them. We wanted to fill in this gap by providing information to the students at Weyburn in a way that would affectively target their differing needs. We decided we wanted the residents to understand the impacts their choices were making so that they could choose to change and become more sustainable. Surveying in the building developed a presence for our team in the complex. That was the start of our conversation with them, and our own analysis of effect ways to reach them. Targeting them at events they either choose to attend on campus, or seem pertinent to their housing experience, rather than extraneous

more “social” gatherings seemed like the best way to reach these more illusive students. The differences between undergraduates and graduate students was an integral part of our project.

**Initial Conditions:** *Lack of Education, but Decent Infrastructure*

Going into the project, we faced several difficulties. One of these was that we did not have an initial connection with Weyburn Terrace. Because the graduate housing has a different infrastructure than the dorms and we did not initially have a person to contact who worked directly with Weyburn Terrace, it was somewhat hard to assess the sustainability needs of the graduate students and to figure out viable options for improving sustainability at Weyburn Terrace. Towards the beginning of the project, we spent a lot of time getting in touch with the Weyburn Terrace Residents Association and the facilities at Weyburn Terrace to make these connections.

Another problem we faced was access to the graduate students themselves, since they have less of a centralized community than the undergraduate students. For example, when we were discussing where to have a sustainability fair for graduate housing during Green Week, it was hard to come up with a location because we could not think of a central location where graduate students all spend time together. Also, when we wanted to survey graduate students about their sustainability habits for example, we initially wanted to send out the survey in e-mail. However, unlike with undergraduates, the school is unwilling to release graduate student’s email addresses. Also, it was hard to access the housing units themselves, since we did not have a key to get in. We also heard about other difficulties that had occurred with efforts towards sustainability: composting had been opposed and improvements for recycling signage had come to a halt.

Initially, we considered attempting to make structural sustainability changes to the graduate housing, but we were encouraged to focus on the personal sustainability habits of the graduate students instead since attempts to make structural changes would probably be opposed. From our survey, we discovered that many graduate students had some knowledge of sustainability in general, but a lack of knowledge about sustainability within their housing unit. For example,

though many graduate students said they recycled frequently, many said they did not know where the recycling units were located in their building.

### **Research Methodology:** Determining the Focus of our Education and Providing Recommendations for the Future

Our research methodology consisted of gathering qualitative research through a survey given to Weyburn Terrace residents. Our intent in administering this survey was to gather valuable information that would help us determine the current sustainability practices taking place at Weyburn. We were curious to know exactly what sorts of things the graduate students residing in Weyburn were doing to be sustainable. By evaluating this research we would be able to have a more clear understanding of what sort of direct action would need to be taken to provide further sustainable options and educational information to the residents.

We began writing the survey by dividing up into pairs and coming up with questions in one of three categories: water, waste, and energy. After discussing all of our ideas we came up with a quick, concise questionnaire. Our survey consisted 18 multiple choice questions, a comments/suggestions section, and a small personal information section that asked the person's major/area of study and their email (optional). In order to evaluate how residents were conserving water we posed questions that asked the length of their showers, the frequency of their showers, if they turned off the water when soaping up, if they left the water running when shaving or brushing teeth, and if they conserved water by using a refillable water bottle. In order to evaluate the level of energy efficiency at Weyburn we posed questions that asked if they turned off lights when leaving a room, if they unplugged electronics/appliances when not in use, if they left their computer or TV on when not in use, and how often they purchased CFL's. Questions in the energy efficiency category also asked if residents used a heater or air conditioning, if they knew what was the most energy efficient temperature to set their thermostat to, and the temperature of the water they uses to do laundry. In order to evaluate how residents were disposing of waste we posed questions that asked if they recycled, if they had a personal recycle bin in their room/apartment, if they knew what was ok to recycle, if they properly disposed of hazardous waste such as batteries, and if composting were available would they participate. The answer options for the majority of these questions were yes, no, or sometimes,

and always, frequently, infrequently, or never. So, our main methodology was to gather qualitative information about water conservation, energy efficiency, and proper waste disposal.

We originally planned to email it to all Weyburn residents in hope that we would have a decent response rate, but we were not granted access to the residents' email addresses so we decided to conduct the survey personally. We researched the floor plan and the layout of Weyburn Terrace in order to determine a site for us to conduct the surveys. We positioned ourselves right in front of the campus shuttle bus stop with the intent of having residents willingly take the survey while they waited for the bus, right after they got off the bus, or as they were walking by to get to their building. Since Weyburn is a seven-building, 840-unit complex, we knew we could not cover the entire residency so we aimed at getting as many participants as possible. Some of us even went into the buildings and met residents to get more survey participants. After one week of conducting the survey we ended up with 150 total surveys that provided plenty of helpful information. Administering the survey in person was in the end more helpful than an online survey because we were able to speak with students about their opinions and get a general sense of the "sustainability vibe" at Weyburn.

#### **Cost Analysis:** Implementing our Project's goals

Our costs included sustainability education materials and "incentive" items for grad students. One of our main events was our table at the Earth Day fair where we provided education and resources on how to be more sustainable in Weyburn Terrace. For the Earth Day fair, one of our members purchased 50 compact fluorescent light bulbs for about \$106 from a website that sold CFL's. These were handed out as prizes at the fair for people that could get a set of sustainability-related quiz questions. The purpose of the CFL's was to introduce people to a way of saving energy by choosing a more sustainable lighting option. Our team members were reimbursed with TGIF funds. For the Earth Day fair, another one of our members ordered 65 personalized fortune cookies for \$42 from a fortune cookie website. These cookies included sustainability fortunes such as: "Confucius say: Turn off lights and appliances when not in use." These cookies were handed out at the fair to anyone who visited the table and wished to take one. Our team member also got reimbursed through TGIF funds. Another incentive item that we had at the fair was Klean Kanteen reusable Stanley steel water bottles. These 36 bottles were

purchased by Isis for \$347. They were also handed out as prizes for people that could answer more sustainability-related quiz questions. The purpose of these bottles was to encourage people to create less waste by using reusable bottles. One of the team leaders purchased more educational materials for the fair. This included posters and flyers with data that we had gathered from our surveys and additional information.

At the fair we had water taste testing to see if people could tell the difference between filtered tap water and bottled water. We also had rosemary and cilantro seed planting in handmade newspaper pots. The cost for the water, the cups, the seeds, and the soil was around \$20, and the person that purchased this did get reimbursed through TGIF funds. The purpose of the water tasting was to educate people on the benefits of drinking filtered tap water vs. bottled water. The seed planting was meant to encourage people to plant some of their own food and to learn about the positive impacts of seed planting. These items were used in a very helpful way to engage students at the Earth Day fair. We still have a significant number of these items that we will be using again to engage students at the Resource Fair at Weyburn in the fall. Overall these costs were fairly low and the money was spent directly on individual students to encourage their personal habits.

All of the items mentioned above were purchased for the Earth Day fair, but aside from that, we had previously thought that we would have to purchase the 840 recycle bins for Weyburn Terrace. Fortunately, after meeting with people from Weyburn facilities management, we found out that we would not have to pay for the bins. This was made possible by the research our team leader did on the costs of buying the bins in bulk. One company called Clean It Supply gave us a quote of \$5.23 for each bin. Another company called Discount Office Items gave us a quote for \$5.27 for each bin. By showing the facilities management people these costs, they were able to make the decision to pay for the recycle bins themselves. This was a very generous offer by Weyburn facilities since the overall order would amount to over \$5000. Overall, the amount of money that was spent and reimbursed with TGIF funds was around \$515.

**Key Findings:** *Residents have some knowledge, but have room to learn more!*

Our key findings are taken from a survey administered to Weyburn Terrace residents, the full results of which can be found in the appendices. Based on our survey results, we have concluded that Weyburn Terrace residents generally have a good understanding of how to live sustainably, and an evident willingness to do so. However, there is still significant room for improvement in some areas, which could perhaps be remedied through better informational/educational strategies. In addition—especially in the area of waste—residents seem to lack some of the facilities/materials necessary for being more sustainable. On the other hand, it is also important to consider that respondents may, in fact, have exaggerated their sustainability habits and knowledge, in order to look better personally. When speaking with residents it was clear they typically ranked their own habits higher than they conveyed during conversation. For example most said they recycled, and knew what to recycle, but in conversation admitted being unsure of where the recycling bins were on their floor. For these cases, the results may not be as promising as they appear. Overall, despite this exaggeration, students are very interested in improving their sustainable practices. We broke our results into three categories – waste, water, and energy.

#### Water:

Most residents have a good idea of how to be sustainable with their water use habits. However, there is a significant portion of residents whose water efficiency can be improved through simple changes. For example, we asked residents if they turn the water off when brushing their teeth or shaving, to which nearly 28% replied that they “never” or “infrequently” do so. In addition, only 20% admitted to turning off the water (“always” or “frequently”) when they “soap up” in the shower, a personal decision that could easily and significantly improve water use efficiency.

#### Energy:

There is noteworthy room for improvement in terms of energy use habits. 60% of respondents admit to leaving their computers and/or television sets turned on when unattended, and over 68% choose not to unplug electronics or appliances when not in use. These decisions constitute major energy drains, and can easily be improved through better energy use habits. In addition, nearly 60% use a heater and/or air conditioning “always” or “frequently,” but less than 25% know the

most energy efficient temperature at which to set the thermostat. (68°F in winter, 78°F in summer) Furthermore, less than 21% admit to using cold water for washing their clothes, a step that could significantly reduce water-heating costs and improve energy efficiency, compared to using warm or hot water. Finally, over 47% do not buy carbon fluorescent (CFL) light bulbs. On the bright side, 88% admit to turning off the lights “always” or “frequently,” when leaving a room.

### Waste:

Residents seem to have a very good grasp of how to be waste-efficient, but perhaps lack some of the materials necessary for doing so. For example, over 87% admit to recycling “always” or “frequently,” and 91% seem to know what is ok to recycle, but over 35% do not own a personal recycle bin. In addition, upon being asked whether they “properly dispose of hazardous wastes, such as paint, batteries, and electronics,” nearly 48% responded “no” or “I don’t know”; however, this may be due in part to the lack of hazardous waste recycling at Weyburn Terrace, as opposed to personal choice. Finally, over 90% of respondents claimed they would take part in composting (“yes” or “maybe”), if it were made available to Weyburn Terrace.

**Recommendations:** *With education and recycling improvements underway, there is room for an expansion of sustainability infrastructure next year!*

To kick-start a future group’s efforts, we have a multitude of recommendations that will enable the process to run more smoothly. The first thing we recommend is to check up on Weyburn Terrace’s recycling, and determine if the implementation of in-unit recycle bins is actually a physical success. When we first looked at the recycling center in Weyburn Terrace, it looked fairly empty which motivated us to put in recycle bins in every single unit to spur waste diversion. By looking at the recycling center once again to determining recycling success based on its density, it would be easy to see if residents are utilizing their bins.

The group also should have a stakeholder that works directly at Weyburn Terrace at the start of the program. This would ensure the execution of specific projects. This expert could provide insight about how projects are completed and supply a greater connection to the facilities on site. This was a point of difficulty for us. Our lack of a strong connection at Weyburn at the

beginning of our project was problematic when we were trying to plan our sustainability education event, as well as when determining the feasibility of infrastructure changes. We had to devote an excess of time and energy trying to get in touch with the correct people. That was also a main roadblock in planning the sustainability event our inability to contact the correct people and illicit their responses in a timely manner.

Weyburn is not like the dorms in that it does not have a well-organized residential life program comparable to the Office of Residential Life on the Hill. It would be wise to include Ken McKenzie, who is in charge of Weyburn Facilities, as a stakeholder. He will be able to help out with any plans regarding Weyburn Terrace. Another important person to contact is Stan Markowitz, his assistant. It would be smart to establish a contact with whoever is the current president of Weyburn Terrace Residents Association (WTRA) as well. Instead of getting in touch with these people, we were in contact with Robert Gilbert, who is the Sustainability Director on the Hill. His assistance was incredibly useful. He was able to direct us to many of the options we had for our project, but it would have been very helpful to know what was going on directly at the building from the beginning.

One of the projects we wanted to do was install water-saving showerheads in all the units, such as the ones that were put in the Wooden Center. This would save a lot of water and not require any effort on the residents' behalf, making it a non-controversial change. However, the reason we were unable to make this structural change is because we were not in contact with the right people early enough, and were discouraged from structural changes (as mentioned before). Now that we have established an educational program and improved the existing structural programs, there should be room for greater expansion. A future team should push for this.

We also thought it would be beneficial to start having the residents pay for their utilities. This would motivate the residents to use less water and electricity, but it would be easy to pay since the bill could still be through "myhousing". We did ask our stakeholders about this and they basically rejected the idea, but if a team focused all their energy on determining the feasibility of this idea and the positive aspects of its implementation it could be a great way to incentivize students to reduce.

Since the recycling program received a lot of improvement we could also push to expand the recycling program to composting. We had an extremely positive response to the possibility of

composting from our survey that could be used to push for the program next year. Since Weyburn residents, unlike undergraduates, cook in their apartments this could divert a lot of the waste generated by students. If this program was in combination with a compost program in the dining halls (by the Sustainable Foods Systems team perhaps?) this could be economically feasible, since it would be such a large scale.

Lastly, we recommend initiating a program that would expose the residents to sustainability in a guided welcome tour at the beginning of move-in. This would get the students involved mentally, and would hopefully encourage them to engage in more sustainable practices. They could be introduced to the different energy/water/waste saving components of the complex from the offset.

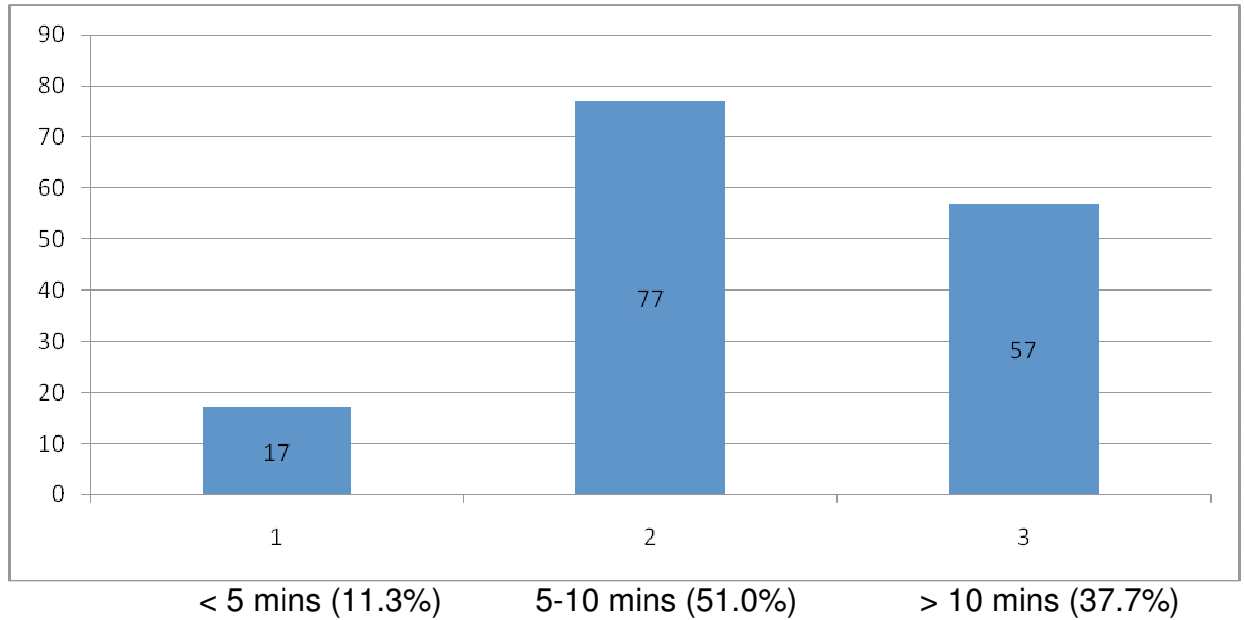
## **Conclusion:**

In conclusion we have successfully expanded and improved the recycling infrastructure at Weyburn, which could be the first of many strong moves toward greater waste diversion in the complex. We were able to complete this task by getting in contact with facilities at Weyburn, Ken MacKenzie in particular, who valued our research and feedback about the affordability of improvements and the perceived need for this program after we spoke with residents. Our educational component, though still underway, has so far been a success. We were able to speak with many graduate students and even just providing some exposure to small things they can do in their apartment not only gives new students a sense of how UCLA values sustainability, but provides information they may not have received in their undergraduate programming. Our education fills the gap for the lack of programming for graduate housing.

Though we can across some roadblocks, primarily because of a lack of understanding of who controls what (such as programming, facilities, etc.) at Weyburn, we were able to complete our ultimate goals and have set the foundation for an even greater expansion of sustainability initiatives in graduate housing. The future is looking bright for Weyburn Terrace and the continued improvement of its environmental impact.

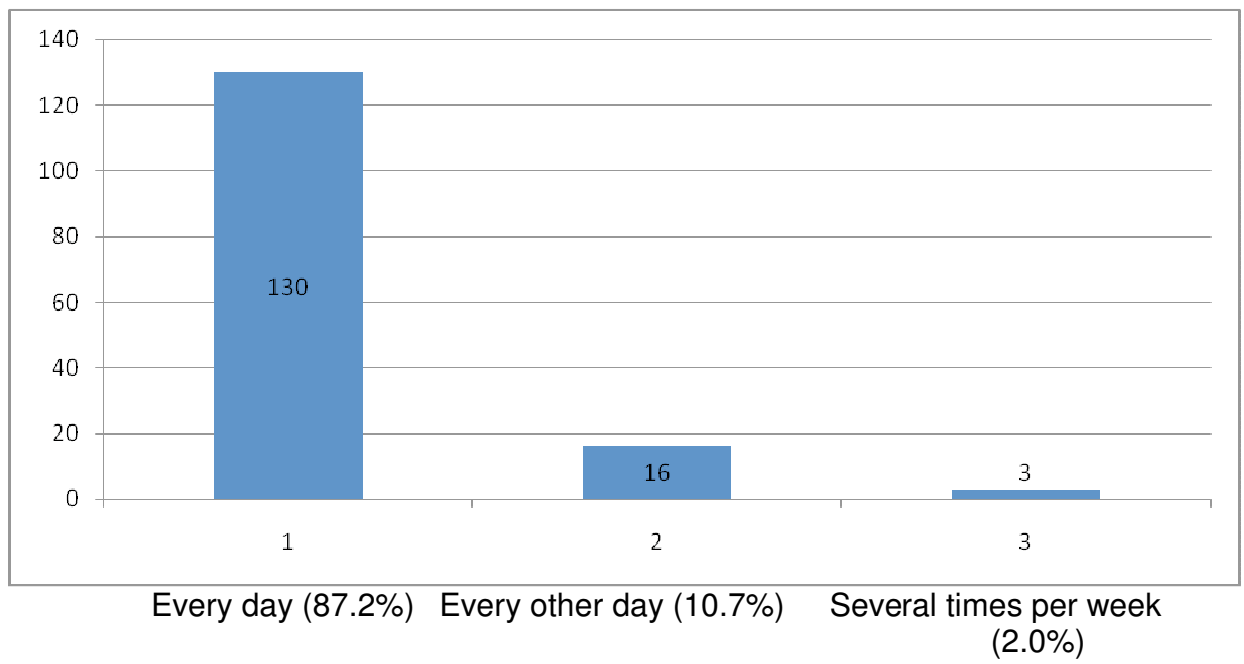
## Appendices:

### 1. How long do your showers normally last?



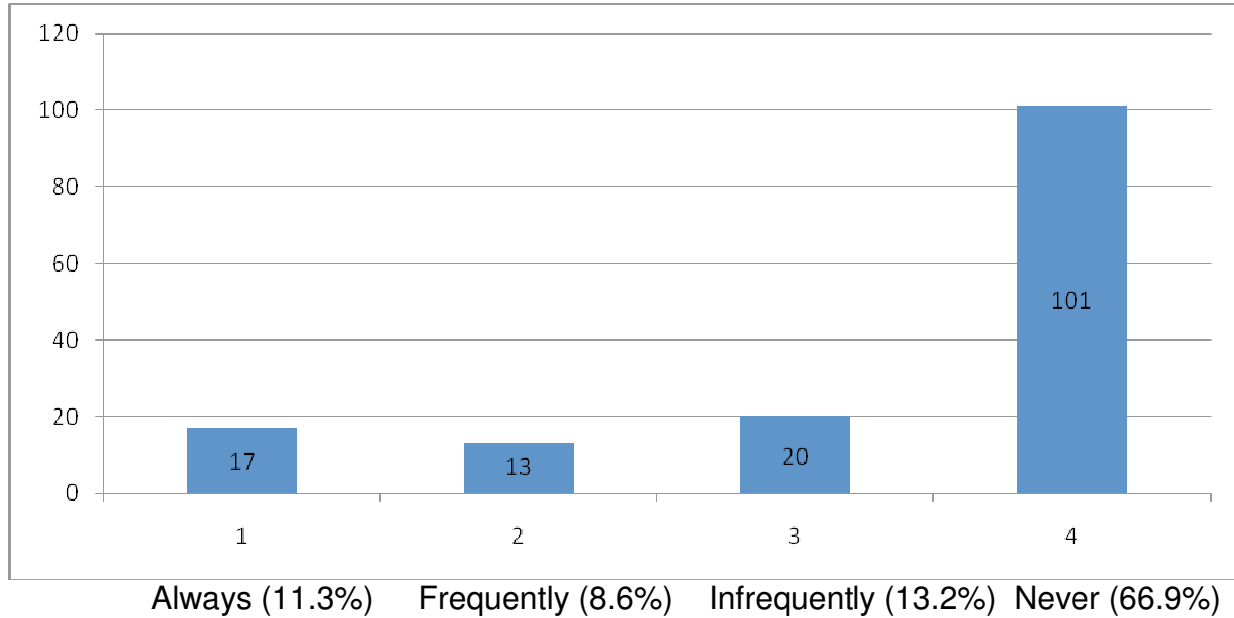
Total responses = 151

### 2. How often do you shower?



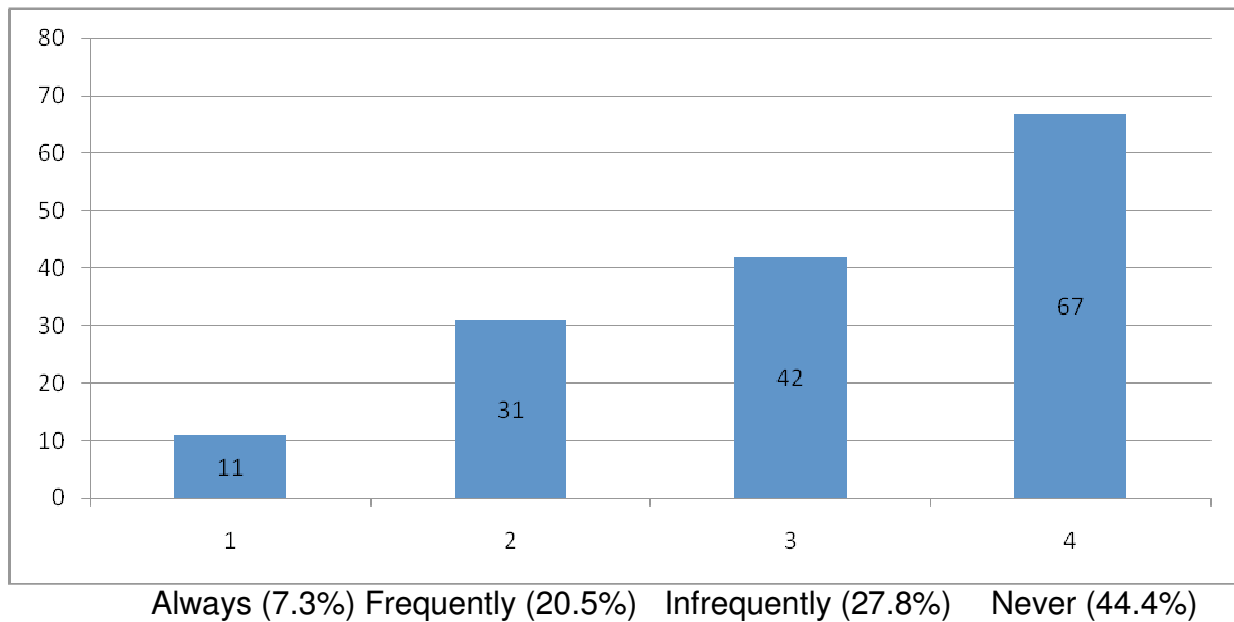
Total responses = 149

3. Do you turn off the shower when you soap up?



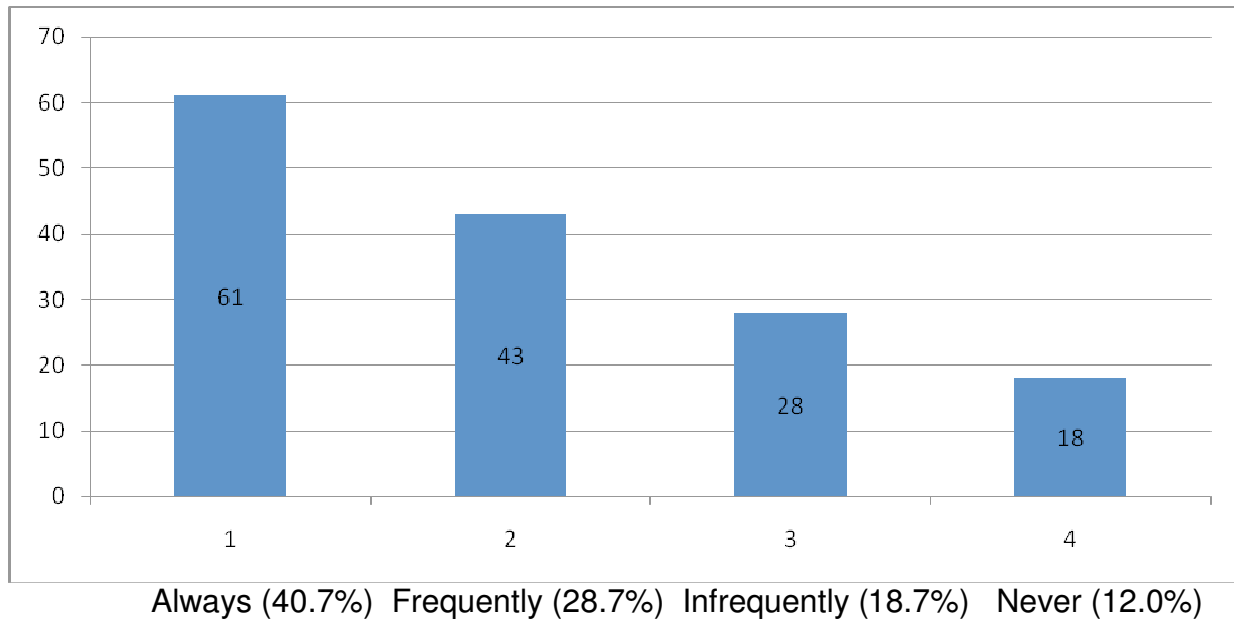
Total responses = 151

4. Do you leave the water running when you shave or brush your teeth?



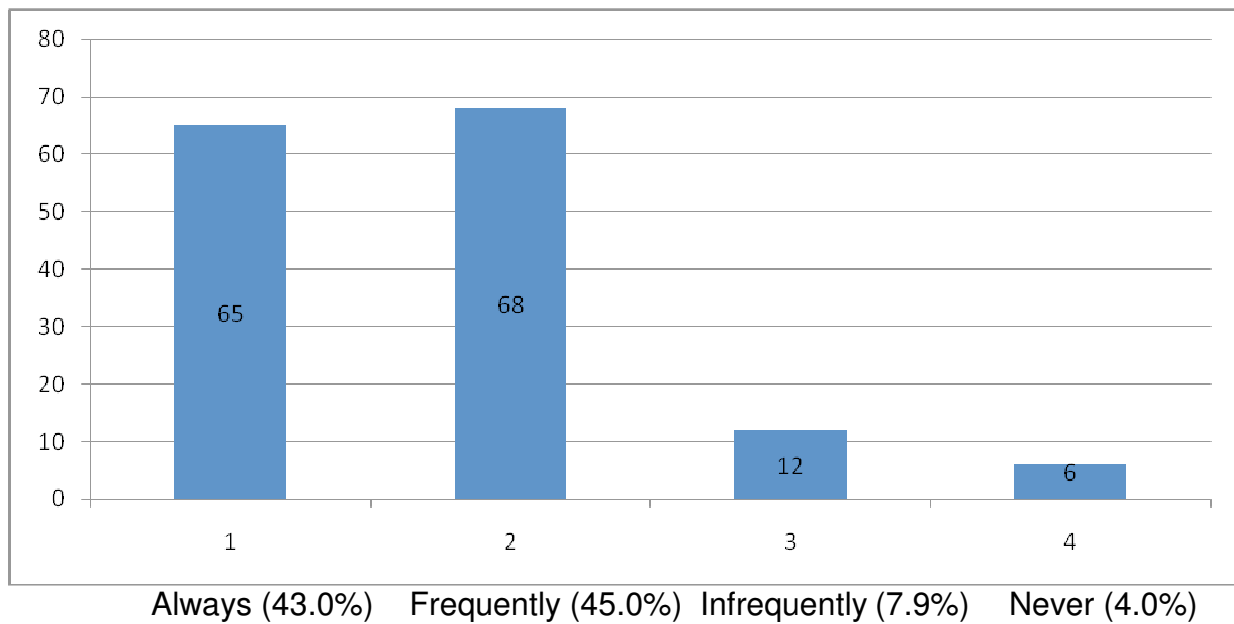
Total responses = 151

*5. Do you use a refillable water bottle?*



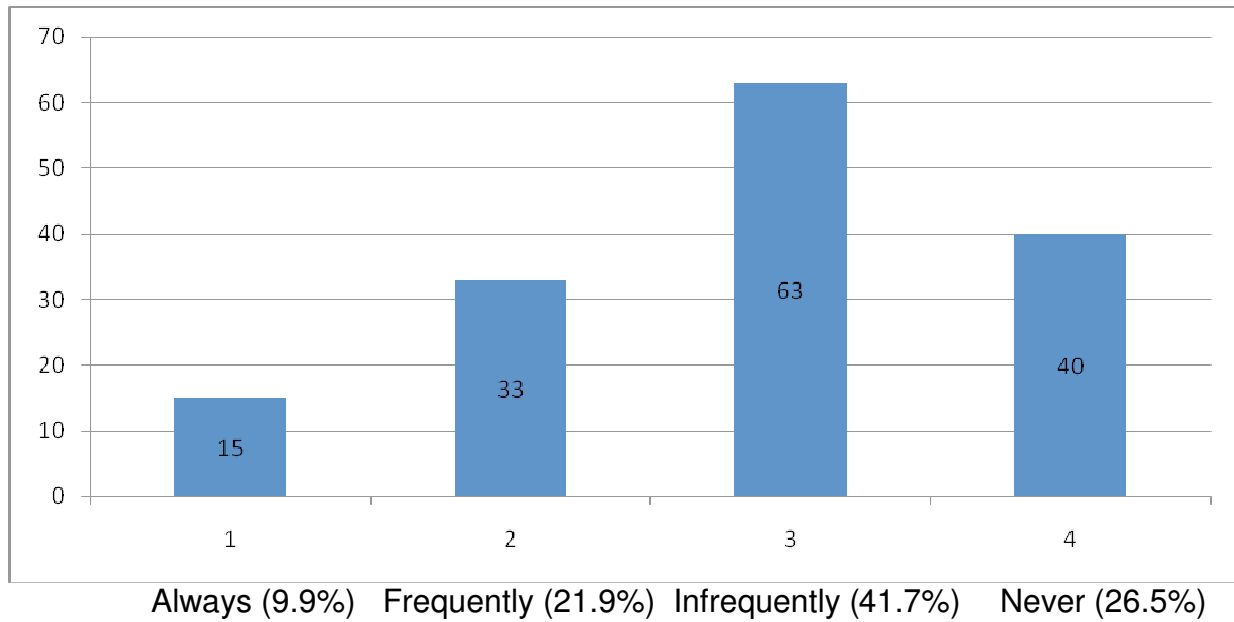
*Total responses = 150*

*6. When you leave a room, do you turn the lights off?*



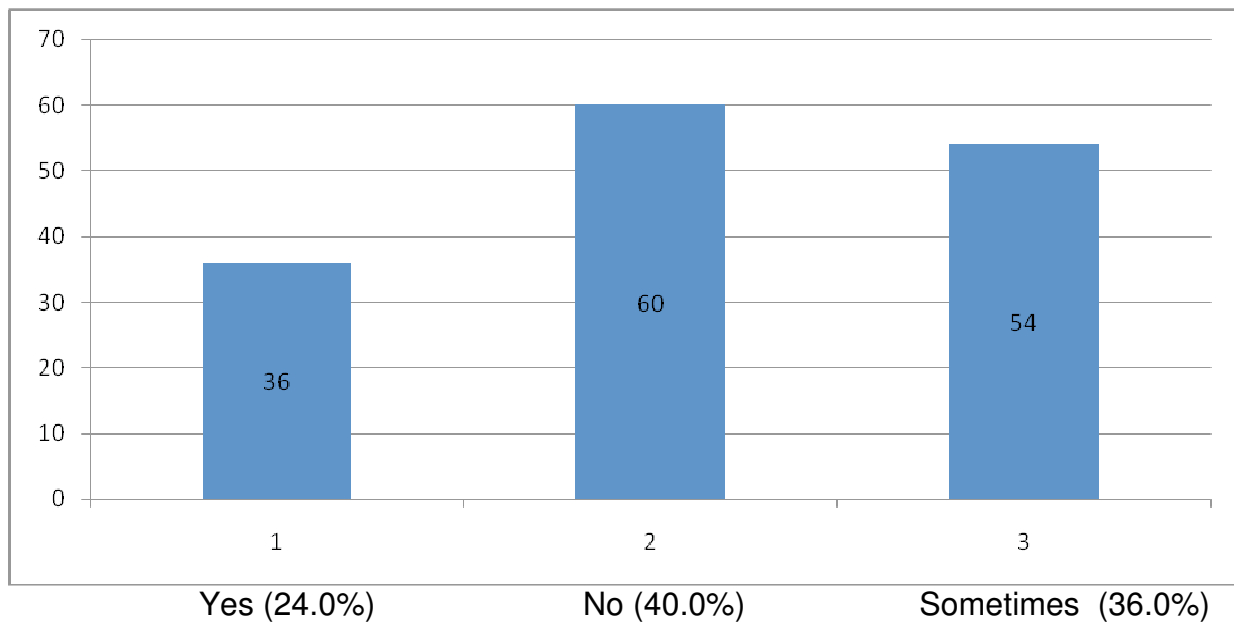
*Total responses = 151*

7. Do you unplug electronics/appliances when not in use?



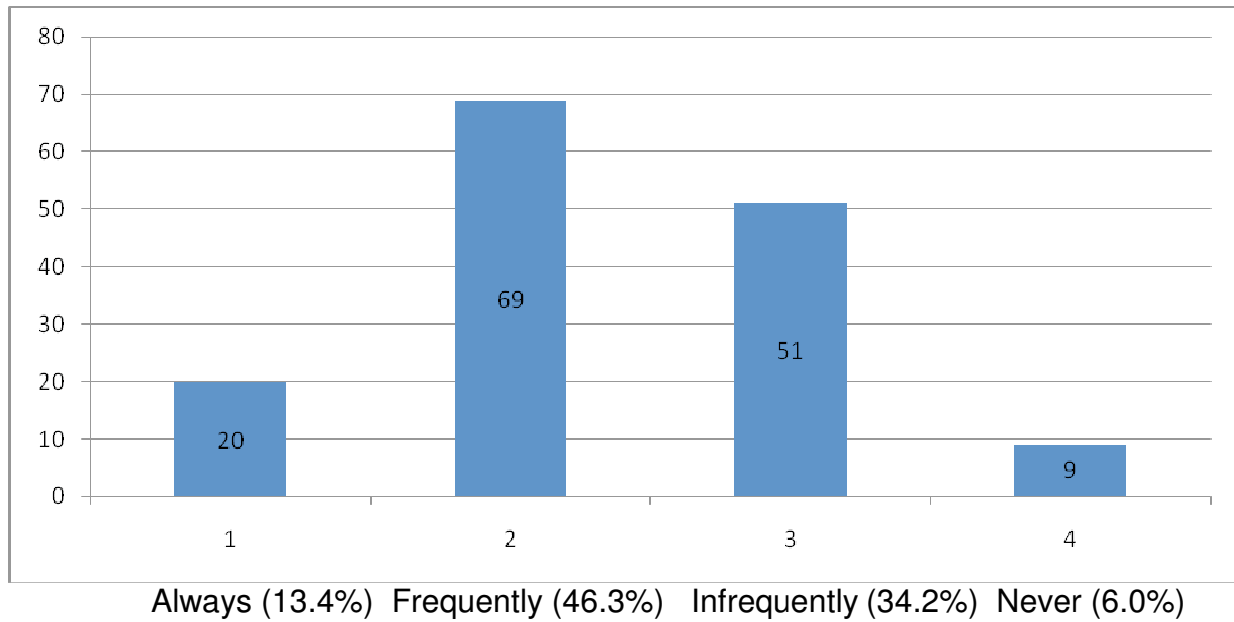
Total responses = 151

8. Do you leave your computer or TV on when unattended?



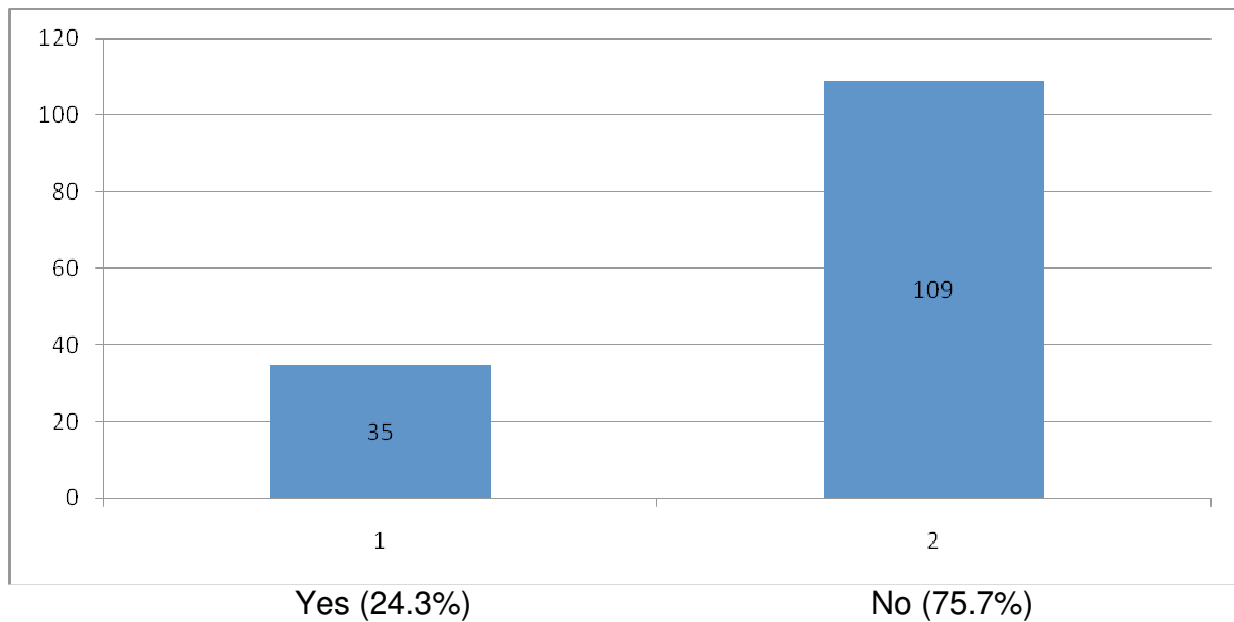
Total responses = 150

9. Do you use a heater or air conditioning?



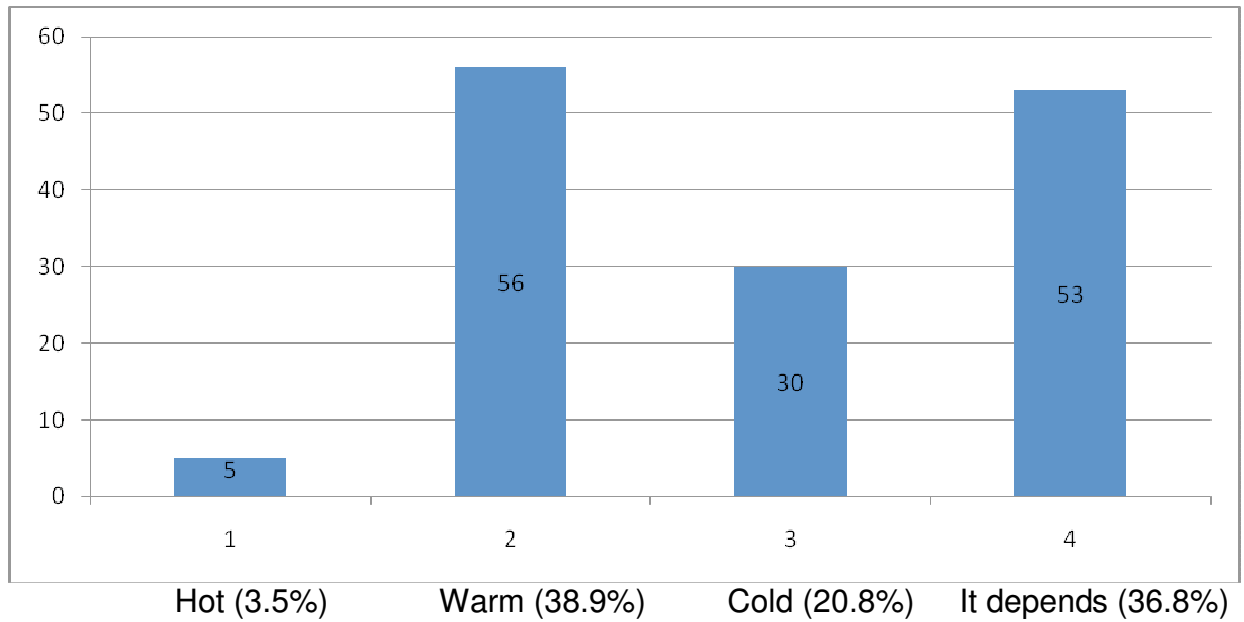
Total responses = 149

10. If so, do you know the most energy-efficient temperature at which to set your thermostat?



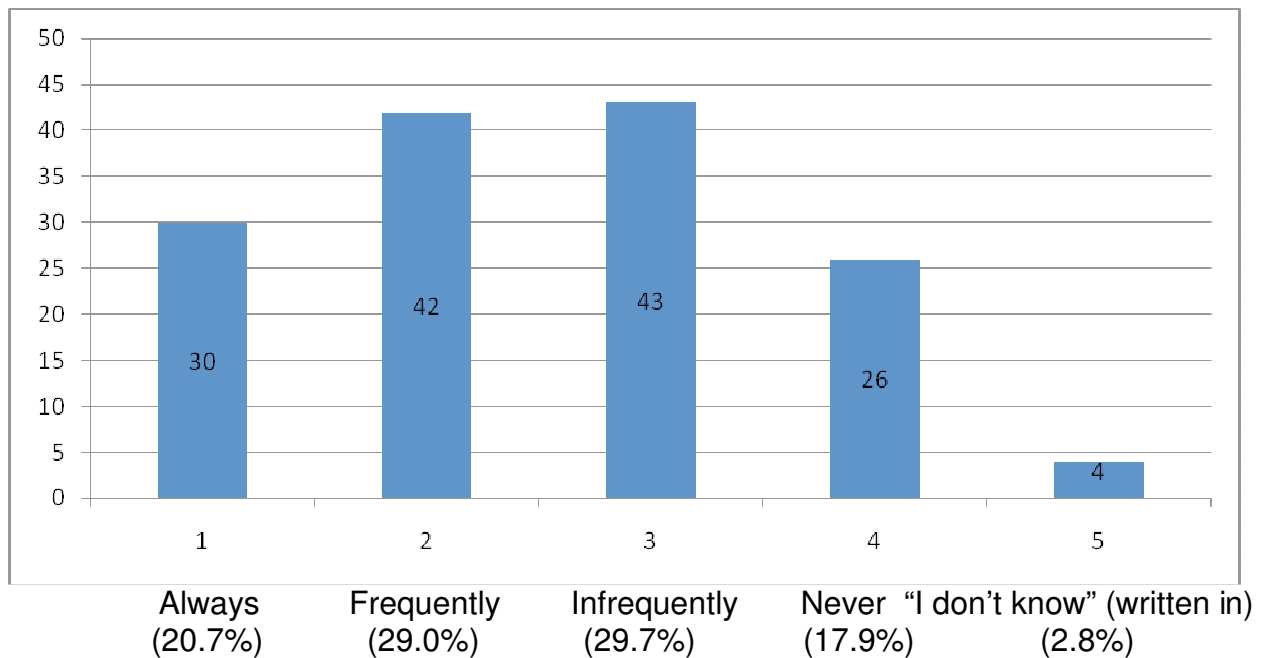
Total responses = 144

11. What kind of water do you use when washing your clothes?



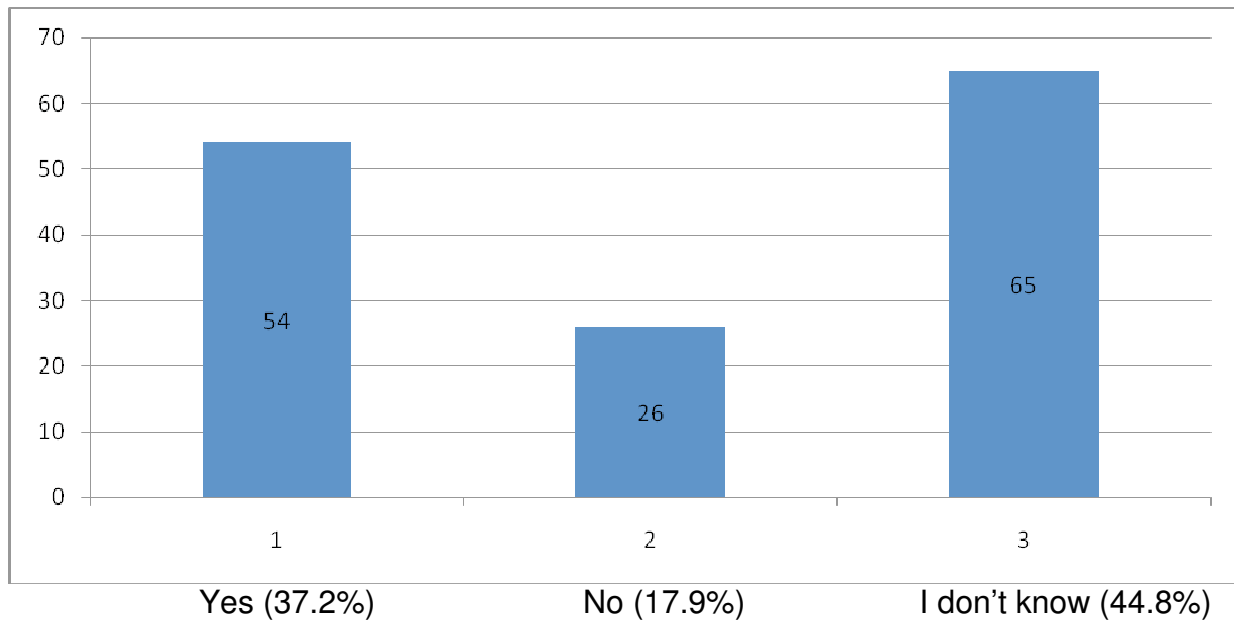
Total responses = 144

12. How often do you purchase carbon-fluorescent (CFL) light bulbs (as opposed to incandescent light bulbs)?



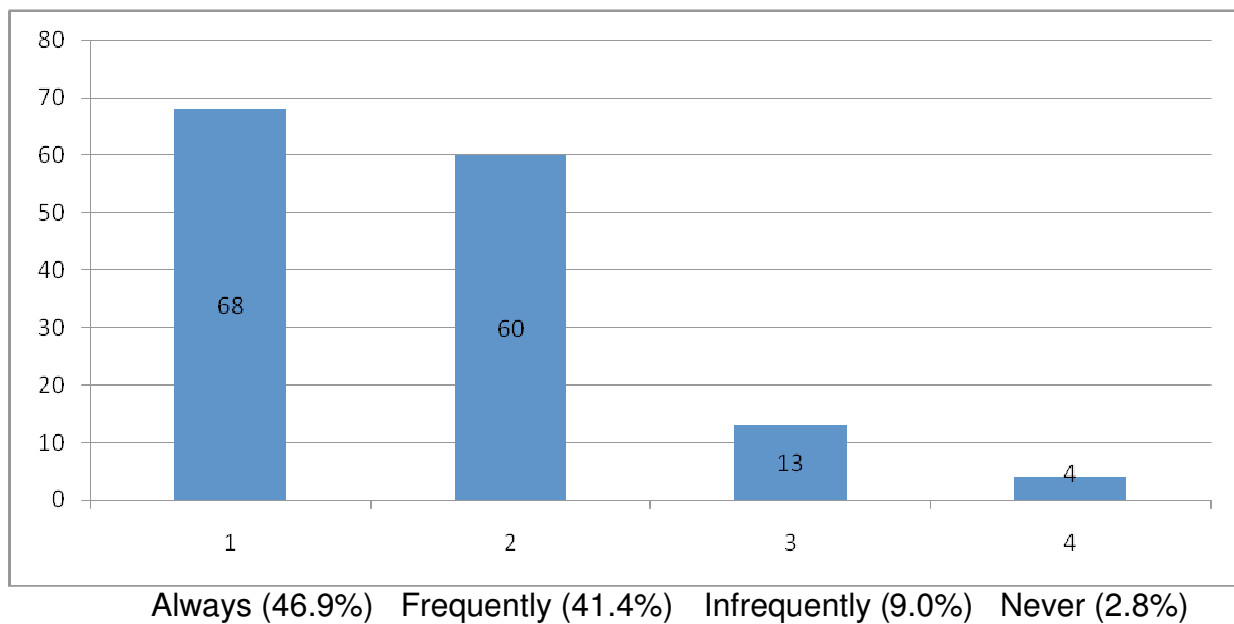
Total responses = 145

**13. Do you use environmentally friendly cleaning products?**



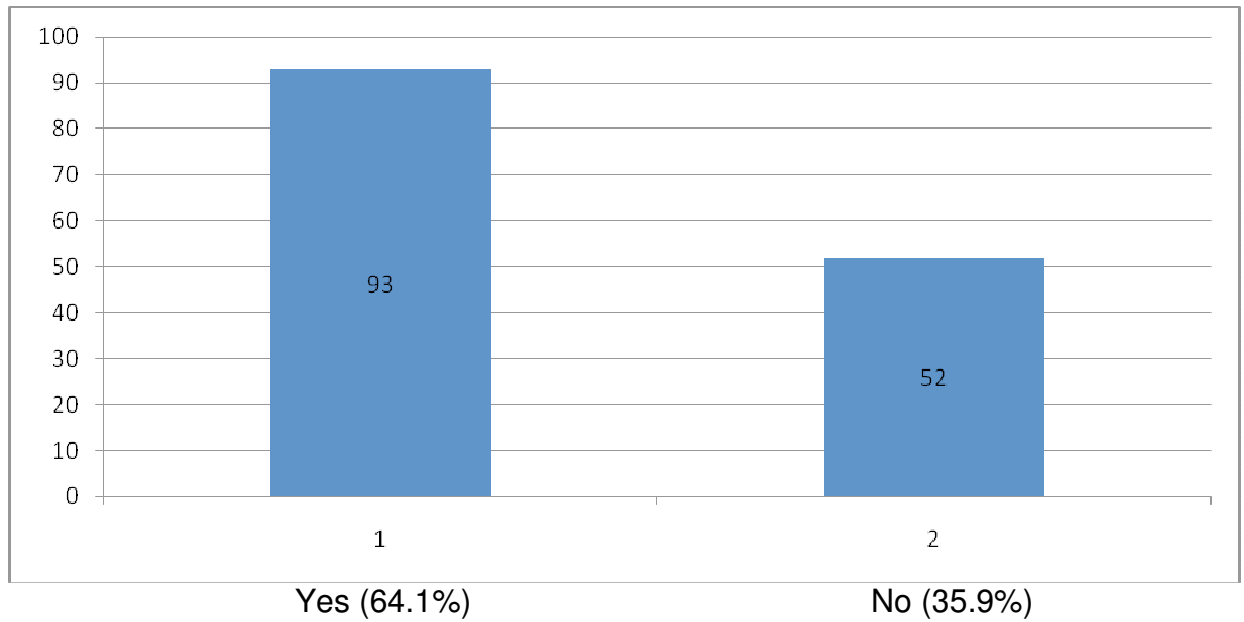
*Total responses = 145*

**14. Do you recycle?**



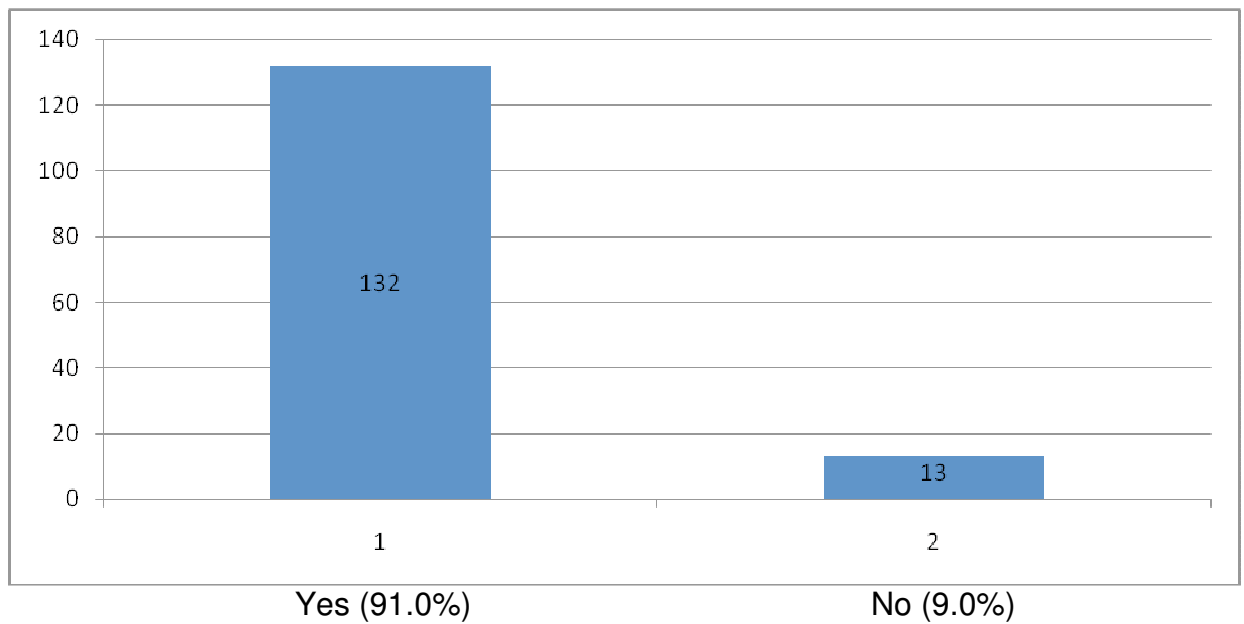
*Total responses = 145*

15. Do you have a personal recycle bin in your room/apartment?



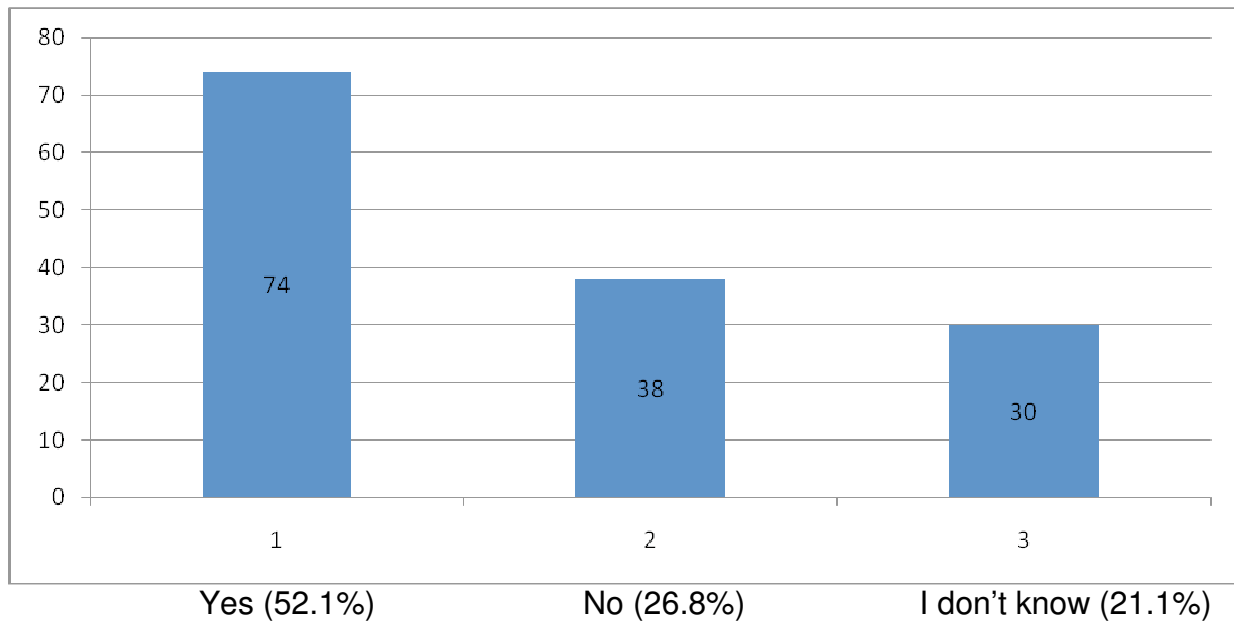
Total responses = 145

16. Do you know what's ok to recycle?



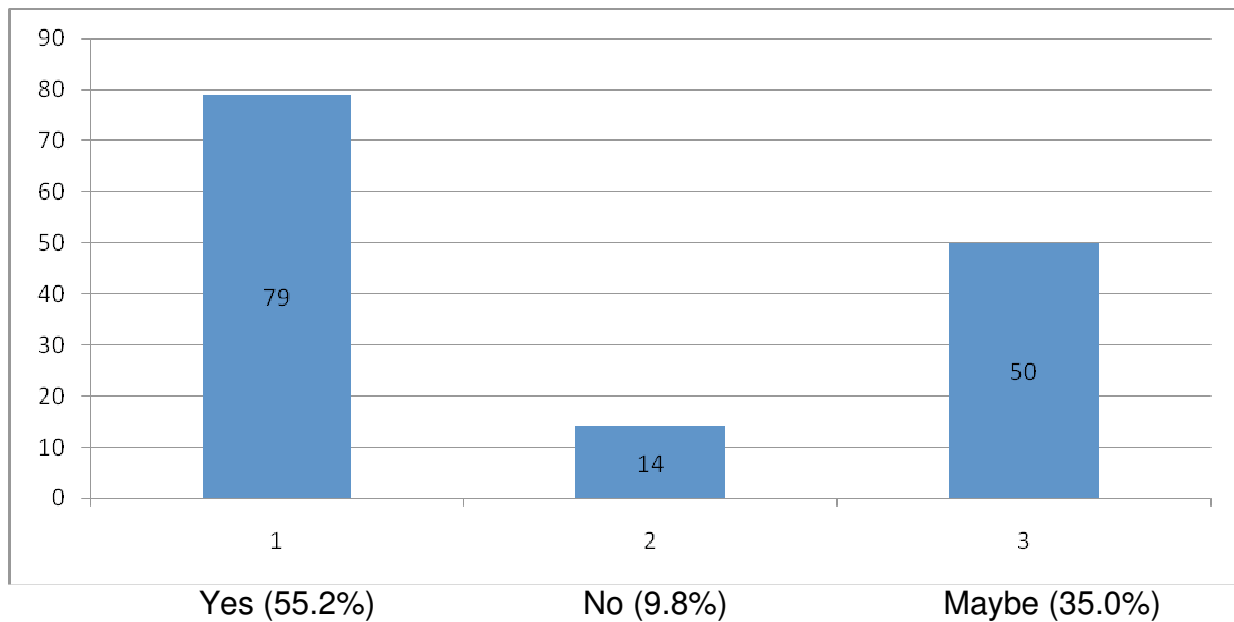
Total responses = 145

17. Do you properly dispose of hazardous waste, such as paint, batteries, and electronics?



Total responses = 142

18. If composting were available at Weyburn Terrace, would you take part in it?



Total responses = 143