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Student Recycling Survey Results

Carrots or stick?



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Motivation for the study

In order to develop the next generation of leaders and informed citizens, it is imperative that young people become aware about and active in all levels of government. However, as the saying goes, “All politics are local,” so it is especially important to engage my peers in the political issues of our community. Recycling is one such issue as it affects every individual of the community on an economic level, and it has a larger impact on the environment. If more households participate in recycling, the community can potentially realize savings if the municipality can contract for trash collection services at a lower rate through increased recycling. Furthermore, our environment will benefit if we can encourage people to recycle as much as possible.

Although recycling is not new in Mt. Lebanon, the way that we go about doing it could change in the near future as the contract for solid waste collection and recycling will be up for renewal in five years. Recently the Commission reviewed several options, including Pay As You Throw (PAYT) and Family/Individual Reward Banks. These options represent the ends of the spectrum on a motivation or behavior change scale. In other words, would Mt. Lebanon adopt a stick approach, requiring households to pay an additional fee for waste that isn’t recycled (PAYT)? Or, would Mt. Lebanon adopt a carrot approach, rewarding households for recycling through financial credits at local business (Family/Individual Reward Bank)?

Knowing information of this nature can help commissioners craft policy and make decisions about which direction to go with not only the next contract but also separate ideas and proposals. Of course there are financial considerations that are not reflected in the survey, but the results of the survey provide insight into what motivates people and the policy directives that may ultimately lead to greater compliance.

As a result, I conducted this survey to connect Mt. Lebanon high school students to local government while also collecting information which gives insight into what motivates people to modify or exhibit a specific behavior.

Methodology

In the survey, I asked the students to rank the four recycling options (Pay as you throw-PAYT, Automation, Community rewards bank, and Individual / Family rewards bank). Students ranked these options in their order of preference from 1 to 4, with 1 being the most preferred option and 4 being the least preferred. This ranking allowed me to see whether students responded more favorably to carrot options, i.e. rewards for the desired behavior, or a stick option, i.e. penalty for not following desired behavior. Of the four options, two were carrot options (Community rewards bank and Individual / Family rewards bank). One was a stick option (PAYT), and the automation option was not linked to either a stick or carrot option.

I decided to administer the survey to a selection of students from each grade in order to capture responses from all ages and grade levels. In order to do this in the most efficient way possible and avoid duplication. I chose to ask teachers of capture classes if they would be willing to give their students the survey. A captured class is one that is either required of students in a particular grade, e.g. 9th grade English, World Cultures for all 10th graders, US history for all 11th graders, and for seniors, AP Spanish and AP Physics Electricity and Magnetism.

In total, 206 students participated in the survey; however, only 166 students identified their gender. Surprisingly, there were equal numbers of females and males (83 each) who chose to identify gender on the survey.

Results

The tabulated survey results are included as Appendices to this report. In summary, they indicate that students prefer a rewards program, with a total 73.3% in favor of the Community recycling or individual / family rewards bank as their top choice (ranking of 1).

The results of the survey are extremely robust and unequivocal with respect to students' feelings about PAYT. Students consistently ranked this option as least desirable, with 62.1% ranking it as least desirable (ranking of 4), and only 10.7% of all surveyed students ranking it as their number 1 choice.

Automation, which may be perceived as neither a carrot nor a stick, received mixed reviews, with 20% of Freshmen ranking it as 1 or 2 and 45% of Seniors ranking it as a 1 or 2.

Implications for future policy

The survey results indicate that the majority of students prefer a carrot instead of a stick approach to recycling. In other words, policies that offer positive reinforcement for behavior modification as opposed to penalty for failure to modify behavior are more likely to be well-received, at least theoretically. Of course, if this intellectual preference were to manifest itself as actual behavior remains to be seen.

Challenges / Limitations

Some students interpreted the directions as a system by scale rather than one by rank. For example, some surveys I received had the number 2 next to each of the four options. To preserve the integrity of the data, I omitted these. Additionally, some students either forgot to fill out or chose not to identify gender. I included these surveys in my totals. Fortunately, only a few students didn't take the survey seriously, with only one student reporting gender as a unicorn.

I have also not submitted the data to statistical analysis at this point. For example, I'm not sure if there is statistical significance in the responses according to gender. If this is of interest to any of the Commissioners, I would be willing to run these tests.

Acknowledgements

I would like to thank the Mt. Lebanon Commissioners for their support, and in particular Commissioner Fraasch, who was an early advocate for this research. I would also like to thank Ms. Susan Morgans, Public Information Officer of Mt. Lebanon, for her valuable input on the survey, as well as Mr. Steve Feller, Mt. Lebanon Municipal Manager, for his input on characterization of the recycling options. However, any omissions or errors are my own.

In addition, I am grateful to Mr. McFeeley, Principal of Mt. Lebanon High School, as well as the following teachers: Mr. Dan Petrich, Ms. Julianne Slogick, Mr. Josh Bilak, Mr. Pete DiNardo, and Ms. Sue Quintero.

Appendices

Combined Student Responses

Total: 206

Option	Rank	Percentage
Pay As You Throw	1	10.7%
	2	11.1%
	3	16.1%
	4	62.1%
Automation	1	16.1%
	2	18%
	3	40.8%
	4	25.1%
Community Recycling Rewards	1	29.1%
	2	38.8%
	3	26.7%
	4	5.4%
Individual/Family Recycling Rewards Bank	1	44.2%
	2	32%
	3	16.5%
	4	7.3%

Results by Grade

Ninth Grade

Total: 44 students

Option	Rank	Percentage
Pay As You Throw	1	11%
	2	5%
	3	20%
	4	64%
Automation	1	9%
	2	11%
	3	50%
	4	30%
Community Recycling Rewards	1	36%
	2	43%
	3	18%
	4	3%
Individual/Family Recycling Rewards Bank	1	43%
	2	41%
	3	11%
	4	5%

Tenth Grade

Total: 56 students

Option	Rank	Percentage
Pay As You Throw	1	9%
	2	16%
	3	14%
	4	61%
Automation	1	7%
	2	27%
	3	39%
	4	27%
Community Recycling Rewards	1	20%
	2	36%
	3	39%
	4	5%
Individual/Family Recycling Rewards Bank	1	64%
	2	22%
	3	7%
	4	7%

Eleventh Grade

Total: 51 students

Option	Rank	Percentage
Pay As You Throw	1	14%
	2	12%
	3	10%
	4	63%
Automation	1	20%
	2	14%
	3	41%
	4	25%
Community Recycling Rewards	1	29%
	2	45%
	3	24%
	4	2%
Individual/Family Recycling Rewards Bank	1	38%
	2	29%
	3	25%
	4	8%

Twelfth Grade

Total: 55 students

Option	Rank	Percentage
Pay As You Throw	1	9%
	2	11%
	3	20%
	4	60%
Automation	1	27%
	2	18%
	3	35%
	4	20%
Community Recycling Rewards	1	33%
	2	33%
	3	23%
	4	11%
Individual/Family Recycling Rewards Bank	1	31%
	2	38%
	3	22%
	4	9%

Results by Gender

Girls

Total: 83 students

Option	Rank	Percentage
Pay As You Throw	1	17%
	2	7%
	3	16%
	4	60%
Automation	1	16%
	2	9%
	3	46%
	4	29%
Community Recycling Rewards	1	27%
	2	47%
	3	20%
	4	6%
Individual/Family Recycling Rewards Bank	1	41%
	2	36%
	3	18%
	4	5%

Boys

Total: 83 students

Option	Rank	Percentage
Pay As You Throw	1	8%
	2	12%
	3	16%
	4	64%
Automation	1	16%
	2	20%
	3	42%
	4	22%
Community Recycling Rewards	1	39%
	2	30%
	3	28%
	4	5%
Individual/Family Recycling Rewards Bank	1	37%
	2	37%
	3	15%
	4	11%

Survey instrument

Gender: M F Grade: _____ Age: _____

Trash and Recycling Choices—What Do YOU Think?

In Mt. Lebanon and most nearby suburbs, trash and recycling services are paid through the municipal budget, which is funded by tax dollars. Some other communities charge a flat fee for collection. Still others have adopted systems intended to encourage recycling. Mt. Lebanon would like to promote recycling while continuing to deliver services cost effectively.

Mt. Lebanon's new five-year contract for residential trash and recyclable services will go into effect January 1. Republic Services got the contract because they submitted the lowest bid. Trash and recycling will cost an average of \$162.96 per year per property over the next five years, only 48 cents more per property per year than the 2013 rate of \$162.48. That \$162.48 per property includes an average of \$27.07 for recycling services and \$135.89 for trash services.

Here are some options that might increase recycling. Please rank them in your order of preference from 1 to 4, with 1 being the highest. Your participation is voluntary.

_____ **Pay As You Throw (PAYT)** This provides an incentive to recycle and a disincentive to throw out trash, because residents pay out of pocket for the amount of trash placed at curbside for pickup, while recycling continues to be paid for by tax dollars and they can recycle as much as they wish. Under this system, residents must buy special bags, containers, or tags for their trash because all trash must be identified to facilitate billing.

_____ **Automation**
The waste collection company provides a large 65-gallon recycling container that is compatible with new trucks with automated “arms” that pick up recyclables. Trash pickup continues as usual. Everything would continue to be paid for by tax dollars through the municipal budget.

_____ **Community Recycling Rewards**
Trash and recycling collection continue as is. The amount the community recycles earns points that can earn a grant to a charitable organization or a community project (maximum \$12,000). Residents who recycle help decide how the reward money is spent.

_____ **Individual/Family Recycling Reward Bank**
Trash and recycling continues as it is. Residents earn points based on how much they recycle and in return get gift cards or coupons valid at participating stores / partners, e.g. Dick's, Bed, Bath & Beyond. In other communities, this has amounted to about \$167 a year per household.

Thank you for participating in this survey. Your opinions are welcome, as Mt. Lebanon Commission considers a plan that will best serve the entire Mt. Lebanon community. If you would like to know more about any of these options, please email your question to Junior Commissioner Mira Shenouda, mirashenouda@gmail.com.