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Behavior Change Strategies and Energy Efficiency

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For many people across the globe, changing their behavior, even on a small scale, is no small feat. Whether it's an old habit, an exercise regime, or becoming a morning person, shifting the ways in which our minds and bodies are trained in order to better ourselves or others is a challenge. Even when we want to better ourselves on a very large scale, such as in global energy efficiency efforts, the tactical solutions come down to human behavior. In the case of energy efficiency, we cannot bolster global efforts unless humans change the way we consume energy on a daily basis. However simple this may seem, changing human behavior is rather complex. Particularly in the case of energy use, there are several misconceptions about its intersection with behavior change strategies. For example, the assumption that people make energy-related decisions in their "best financial interests" is actually not the case (Ashby, 2010). Another false assumption is that people already have all the information they need in order to make smart energy decisions.

The topic of behavior change has been widely-debated, and many questions remain. However, the curiosity around this subject, and its application to fields like medicine and psychology, has resulted in a large amount of research and valuable conclusions (Ashby, 2010). This article provides insight into such strategies that may be useful in the development of household energy efficiency programs.

Households represent a large portion of energy consumption and CO2 emissions. In 2003, households created 21% of US energy emissions, and emissions related to electricity have been rising by 2.4% annually (Abrahamse, Steg, Vlek, & Rothengatter, 2005). Exact reasons for this rise in household emissions remain unknown. External factors such as economic growth, cultural shift, and new technologies may all play a part (Abrahamse, Steg, Vlek, & Rothengatter, 2005). In any case, interventions in the form of behavior change methodologies may help lower this consumption.

Whether these programs come from energy providers, consultancies, or government agencies, the goal of providing energy to a larger audience with a smaller environmental footprint is universal. The main strategies for behavior change as they relate to energy efficiency can be defined as promotion of efficiency behaviors or reducing negative behaviors. By understanding the most effective behavior change strategies, we can begin to develop programs that will make a lasting impact in communities all over the world.

"What makes energy efficiency unique is its great potential for improvement"

Promoting Efficiency

One example of a strategy used to drive behavior change related to energy is the concept of extremeness aversion. Also known as the compromise effect, the idea behind this theory is that people are typically averse to either extreme of something. More often than not, they will pick an option that lies somewhere in the middle, and feels more tempered to the energy user (Ashby, 2010). As it relates to energy efficiency, the desired option for customers to choose should lie somewhere in the middle of two extremes. This will increase the chances that a consumer changes their behavior in a desirable way (Ashby, 2010). According to David L. Greene (2009), the variables that may affect what becomes one extreme or another include current and future energy costs, the usage rate, and the life of equipment.

Feedback is another valuable strategy used to change behaviors related to energy consumption. Ashby (2010) defines feedback in this context as “giving people information on their energy use or related costs.” Most research on this strategy aligns on the conclusion that more frequent feedback produces a greater level of behavior change.

Ashby (2010) explains that more frequent feedback will result in greater results. A study conducted by Corinna Fischer (2008) emphasizes the importance of presenting feedback in a desirable format that captures the attention of the consumer. Such feedback should aim to "capture the consumer's attention" in order to motivate changes in behavior (Fischer, 2008). However, an energy provider chooses to share feedback with its customers, research is highlighting the potential benefits of this strategy to increase efficiency among household residents.

Reducing Negative Behaviors

Goal-setting is a commonly-studied strategy for increasing household energy efficiency. As an intervention method for overconsumption of energy, this tactic can be highly effective. One study conducted in Northern Illinois found that energy-saving goals -along with necessary information and subsequent feedback - were highly effective (Harding and Hsiaw, 2012). The consumers in this study ultimately reduced consumption by about 4% (Harding and Hsaiw, 2012). This may not seem like a dramatic reduction, but small reductions can add up to large savings for household residents over time. Harding and Hsaiw (2012) emphasize that realistic goal-setting is important in achieving success through this strategy.

Ashby (2010) supports the use of goal-setting in reducing overall energy consumption. She cites one study where the effects of this strategy are visible five moths later. Ashby (2010) also states that goal-setting is more effective when partnered with a public commitment to a particular goal. This likely implies that organizations developing energy programs should aim to foster as much public support for the goal as possible. In doing so, utilities consumers can expect up to 10% in overall savings (Ashby, 2010).

Commitment-making is proven to be an effective behavior change strategy as it applies to energy efficiency. A commitment, or an agreement to follow through on a task or behavior, can produce positive energy changes over the long-term (Lokhorst, Werner, Staats, Dijk, & Gale, 2013). The notion behind this strategy is that a commitment to reduce energy consumption by a certain amount will motivate participants to follow-through on their promise. Another concept, that may increase the effectiveness of commitment, is the foot-in-the-door technique. This technique is the idea that people will be more likely to commit to a dramatic change if they first commit to a small change (Ashby, 2010). If someone completes a small request related to energy efficiency, such as completing an online survey, it may make them more likely to complete a large request, like installing new, efficient technology. By completing the smaller task, the consumers may see themselves as more eco-friendly in general, making them more likely to complete the large task (Ashby, 2010). The relationship between commitment and the foot-in-the-door technique provide an interesting starting point for application of these strategies. Those developing energy efficiency programs may consider starting with a small commitment, before guiding consumers to a larger one.

Despite the ongoing debates surrounding behavior change strategies and energy efficiency, their importance is understood by all. As the effects of climate change and environmental degradation become evident across the globe, many recommendations have been put forth to address the issues at hand. What makes energy efficiency unique is its great potential for improvement. The United States has the ability to reduce annual energy consumption by 23% by the year 2020, using various efficiency measures (Granade, Creyts, Derkach, Farese, Nyquist & Ostrowski, 2009).

With households representing such a large portion of this consumption, the need, and the possibilities for change are ever-present. Households across America are in need of programs that employ the strategies outlined in this article. These strategies are not perfect, and will inevitably require refinements and iterations. However, they represent an important starting point for widespread, global reductions in energy use. By shifting the ways in which we purchase, use, and think about energy, we can begin to make dramatic changes in the state of our environment.

"The United States has the ability to reduce annual energy consumption by 23% by the year 2020 "

(Granade, Creyts, Derkach, Farese, Nyquist, & Ostrowski, 2009)

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