Consumers' Generational Engagement in Water Conservation: How Extension can Increase Engagement

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Introduction

There is an increased need for citizens to practice water conservation due to the expected increase in population depleting water resources (Huang, Lamm, & Dukes, 2016). Efforts focused towards water conservation practices can make a difference in energy costs (Cantrell, Warner, Lamm, & Rumble, 2016) and the availability of this important resource (Owens & Lamm, 2016). Water is an important resource used for hydration, personal hygiene, preparation of meals, washing of clothes and dishes, landscaping, sports and leisure, ecological habitats, and agricultural commodities, to name a few (Lamm, Lundy, Warner, & Lamm, 2016). Best management practices (BMP) for efficient water use residentially and commercially can include: repairing water leaks, constructing a landscape designed to use less water to thrive, irrigating appropriately and not excessively, installing showerheads with a lower flowrate, and substituting freshwater with alternative water sources when appropriate (U.S. Department of Energy, n.d.). Citizen's level of engagement in water conservation can vary dependent upon their age or generation, level of knowledge, culture and religion, and financial ranking (Viessman, n.d.). This study was conducted in order to indicate differences in the level of engagement in water conservation between generations. Generations are defined as a group of people classified by their birth year where events occurring during those years define characteristics of the groups (The Center for Generational Kinetics, 2016). The purpose of this study was to inform Extension professionals of the generational groups that should be targeted when developing water conservation programming.

Theoretical Framework

The theory of audience segmentation was used as the structure for this study. Audience segmentation is defined as a social marketing strategy targeting audiences specifically based on their "geographical characteristics (region, population density, climate), socio-demographic attributes (age, income, social class), psychological profiles (attitudes, personality traits, values), and behavioral characteristics (patterns of behavior or decision making types)" (Huang, Lamm, and Dukes, 2016, p. 61). This study focused on the generational groups, a socio-demographic attribute, to determine generational group's level of engagement in water conservation. Through this study, Extension professionals can segment audiences based on the needs of each generational group.

Methods

This study was conducted through an online survey utilizing a non-probability opt-in sample of 1,065 U.S. residents. The survey yielded a total of 524 respondents, however, only 332 of the responses were usable due to the conservation engagement statements not applying to 192 of the respondents. The online survey was created and reviewed by a panel of experts then disseminated through the online public-opinion survey research company Qualtrics. The survey respondents were asked to provide their 4-digit birth year that was then coded into generation groups: *1981-2000 = Millennials, 1965-1980 = Generation X, 1946-1964 = Baby Boomers, before-1945 = Traditionalist* (The Center for Generational Kinetics, 2016). The survey asked respondents to indicate on a Likert type scale how often they participated in the following ten water conservation activities: I turn off the water while brushing my teeth, I avoid watering my lawn in the summer, I let my sprinklers run when it has rained or is raining, I let my sprinklers run when rain is predicted in the forecast, I leave the water running in the kitchen when washing and/or rinsing dishes, I shower for no more than five minutes each time I bathe, I hose down my driveway, I allow soapy water to run down a storm drain, I allow used motor oil to run down a storm drain, and I flush cooking oil down the toilet. An index was created using the mean of the

ten statements and found reliable (α = .76). To compare generational groups and level of engagement in water conservation, a one-way ANOVA was used. A Tukey *post hoc* test was conducted to determine where significant differences were between generational groups.

Results

The survey results revealed that all generational groups participated in water conservation activities almost every time (Table 1). However, the ANOVA identified significant differences between generational groups and how often water conservation efforts were practiced (F = 8.33, p = .00). Baby boomers differed significantly from millennials (.00) and generation Xers (.03) by exhibiting a higher level of water conservation than the other two groups.

Table 1

Generational Engagement in Water Conservation

Generation	*n*	*M*	*SD*
Millennials	161	3.72	.70
Generation X	96	3.89	.58
Baby Boomers	71	4.15	.43
Traditionalist	4	4.08	.21

Note. Real limits of the scale were *1.00 - 1.49 = never, 1.50 - 2.49 = almost never, 2.50 - 3.49 = sometimes, 3.50 - 4.49 = almost every time, 4.50 - 5.00 = every time.*

Conclusion and Recommendations

The level of engagement varied amongst generations although all generations indicated they practiced water conservation almost every time. Conservation of water should be practiced every time in order to continue making water an available resource for consumers. Extension professionals should use the findings from this study to segment their audiences into groups that should be targeted differently due to their level of engagement. It is evident that Extension professional should segment their audiences accordingly: baby boomers singly, millennials and generation Xers together, and traditionalist singly. These segmented generational groups will increase the effectiveness of Extension programming because the audiences are grouped using like characteristics, such as generation and level of engagement (Huang, Lamm, & Dukes, 2016). To further research efforts, Extension professionals should consider investigation of motivators of engagement in water conservation of the segmented audiences. Identifying motivators of engagement will identify points of interest that concern the outlined segmented audiences, making water conservation programming applicable to the audience (Cantrell, Warner, Rumble, & Lamm, 2016). Cantrell et al. (2016) stated that a motivator of water conservation would be for consumers to reduce their utility bill costs. Utilizing the suggested segmented audience groups, understanding each group's level of engagement in water conservation, and identifying motivators of engagement in water conservation for those segmented audiences will provide a foundation for Extension professionals to create water conservation programming. Delivering water conservation programming accordingly will lead to increased engagement in conservation practices in order to sustain the availability of such an important resource.

References

Cantrell, R., Warner, L., Lamm, A. J. & Rumble, J. N. (2016). Segmenting Florida residential irrigation users by utility-bill "botheredness" and household budgetary constraints. *Housing and Society.* DOI: 10.1080/08882746.2016.1178007

Doizer, M. C. (n.d.). *Conserving water.* Retrieved from Texas Cooperative Extension, The Texas A&M University System website: http://waterandme.tamu.edu/ConservingWater/conservingwater.pdf

Huang, P., Lamm, A. J., & Dukes, M. D. (2016). Informing extension program development through audience segmentation: Targeting high water users. *Journal of Agricultural Education, 57(2*), 60-74. Doi: 10.5032/jae.2016.02060

Lamm, A. J., Lundy, L. K., Warner, L. A., & Lamm, K. W. (2016). Associating importance with behavior: Providing direction for water conservation communication. *Journal of Applied Communication, 100*(3), 44–56. Retrieved from: http://journalofappliedcommunications.org/current-issue/66-associating-importance-with-behavior-providing-direction-for-water-conservation-communication.html

Owens, C. T., & Lamm, A. J. (2016). Exploring the relationships between critical thinking style and water conservation behavior: Implications for extension. *Journal of Agricultural Education, 57*(4), 119-130. doi:10.5032/jae.2016.04119

The Center for Generational Kinetics. (2016). Generational breakdown: Info about all of the generations. In *An intro to generations*. Retrieved from http://genhq.com/faq-info-about-generations/

U. S. Department of Energy. (n.d.) *Best management practices for water efficiency*. Retrieved from https://energy.gov/eere/femp/best-management-practices-water-efficiency

Viessman Jr., W. (n.d.). Population and water resources. Retrieved from Water Encyclopedia, Science and Issues website: http://www.waterencyclopedia.com/Po-Re/Population-and-Water-Resources.html