

An aerial, high-angle photograph of a public space, likely a train station or a large indoor plaza. The floor is made of large, light-colored rectangular tiles. Several people are visible: two people in the upper left corner, one person in the upper right corner, and two people in the lower half of the image. The overall tone is muted, with a focus on the geometry of the floor and the movement of people.

Using Salience and Ego to Decrease Littering in Cinemas

Policy Brief -
KPAL Experiment



مركز الكويت للسياسات العامة
Kuwait Public Policy Center



*Empowered lives.
Resilient nations.*

Authored by Rakan al Mutairi for KPPC.

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Problem

Kuwait is one of the largest global producers of solid waste, according to a World Bank report, with 1.55 kilograms of waste per capita each day – the third highest among Arab and Gulf countries. One of the contributors to this high value is the common case of littering. Much of this littering occurs in public spaces and is especially problematic in locations where multiple individuals aggregate together, such as movie theatres, public parks, and beaches. Therefore, Kuwaiti citizens play a pivotal role in ensuring that environmentally sound decisions become persistent habits and social standards in their country.

A previous study in Copenhagen utilized green footprints leading to bins to decrease the incidence of littering and increase bin use. The results recorded a 15.9% reduction in litter on the ground in the three weeks following the implementation of the green footprints compared to the baseline monitoring. These results indicate the potential for littering to be reduced, even in countries that are perceived to have minimal environmental trespasses.

Against this background, American University of Kuwait students in collaboration with the Kuwait Policy Appraisal Lab (KPAL), Nudge Lebanon and the B4Development Foundation – formerly Qatar Behavioural Insights Unit (QBIU), engaged in a small-scale intervention to tackle some of the behavioural roots behind littering in movie theatres by using salience and appealing to the viewer's ego.

Intervention

An intervention was conducted at the Cinescape cinema in Kuwait's 360 Mall. Theaters were selected at random to receive the intervention. Two treatment arms were implemented to test the effects of salience and ego on littering in cinemas. The first treatment included playing a video prior to the beginning of the movie urging spectators to properly dispose of their trash using an audio reciting a statement appealing to their ego and a GIF depicting trash disposal. The second treatment, in addition to the video, consisted of posting stickers to the back of the movie theater seats that contained an image, similar to that of the video, indicating proper trash disposal and a statement appealing to their ego in both English and Arabic ('We are counting on YOU to keep the theatre clean!'). The treatment groups were compared to a baseline group that did not receive either of the interventions.

Each theatre contained two bins on either side of the theater exits. The litter left in the theatre were collected once spectators left. The measurement of interest was the proportion of trash weight that was disposed in bins from the total trash weight compared to the proportion of litter. Data was collected from 8 movies theatre showings over 9 days, yielding a total of 72 observations.

Implementation of the experiment was carried out as follows:

Days 1 - 6: Half of showings in their respective theaters received the video treatment, while the other half received the video + sticker treatment.

Days 7 - 9: All theaters were evaluated at baseline in absence of the interventions.

The idea behind the intervention is that both interventions appeal to the social responsibilities of movie-goers to dutifully dispose of their trash. The stickers add a salience effect as they always remain visible to viewers, especially during the end of the screening when the lights add extra visibility.



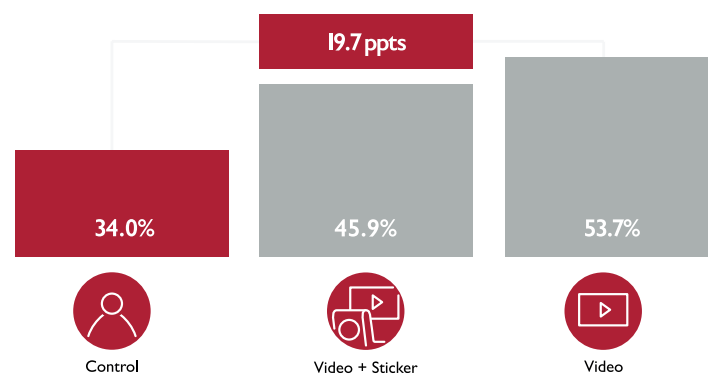
Results

Data analysis was performed using a an OLS fixed effects regression approach to estimate the causal impact of the intervention. While the intervention with only the video appeared to be statistically insignificant, the video + sticker intervention led to a significant 22% (p-value = 0.000) increase in proper trash disposal. Generation of these results involved controlling for the theater showing and the number of attendees to partial out potential cofounders.

Expressing the outcome variable as the weight of trash per person (in kilograms) yields significant results for both treatments. With this specification, the results for the video alone indicate a statistically significant increase of roughly 0.01 kg of bin waste per person (p-value = 0.014). In addition, the video + sticker treatment increased bin waste per person by 0.048 kg (p-value = 0.004). This means that approximately for every 20 spectators, an extra 1 kg of waste will be allocated to bins. These results involve controlling for the number of viewers and theater showing.

Using a variation of the ANOVA (Tukey's HSD test) the results show that the difference between the average amount of bin trash (as a percent of total trash) in the video + sticker group is significantly different to the control group (p-value = 0.004). Regarding the video treatment, there is no significant difference compared to the control group.

Average Proportion of Bin Trash to Litter



Conclusion

By using salience and appealing to viewers' ego, this intervention was able to successfully encourage viewers at the Cinescape theaters to exercise more environmentally conscious and socially responsible behaviors when disposing of their waste. Appealing to people's ego and making visual reminders more salient can significantly decrease the frequency and volume of littering.

Pressing forward, this intervention can be extended beyond a cinema setting towards a broader audience, such as in public outdoor spaces. Although the size of this intervention is relatively small-scale, the findings of this intervention offer important implications for the use of behavioral insights for broader, larger-scale sustainability initiatives.

¹ <https://www.ecomena.org/landfills-kuwait/>

² http://www.keepbritaintidy.org/sites/default/files/resources/KBT_CFSI_Green_Footprints_Report_2015.pdf



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