

Let's Use the Other Door!

Johannes de Boer^{1,2}, Wouter B. Teeuw¹ and Dirk Heylen²

¹ Research Centre for Design and Technology,
Saxion University of Applied Sciences,
Enschede, The Netherlands

{j.deboer, w.b.teeuw}@saxion.nl

² Human Media Interaction, University of Twente, Enschede, The Netherlands
{j.boer, d.k.j.heylen}@utwente.nl

Abstract. People have the habit to use the same door every time they enter and exit a building. When a certain entrance is widely preferred over the other, congestion can occur. This poster describes two experiments to persuade visitors to use another entrance by applying different persuasive techniques.

Contribution statement. The study described on the poster explains the layout and results of two experiments to persuade people in using different entrances.

Keywords: behavioral safety, safety at work, walking patterns, senses

1 Introduction

From literature [1] it is known that people tend to be consistent in their daily behavior: they take the same road to work, have a specific order of activities in their morning routines, and use the same entrance door of their office every day. Past behavior is a good predictor for future behavior, especially when it comes to context cues associated to past performance and locations [2].

Consistent behavior (habits) manifests itself in many aspects of daily life, even when less desirable. For example, at our university there is one main entrance. At this entrance there is a choice between two identical revolving doors. However, a strong preference exists for one of these doors. Queuing up in front of these doors is unfavorable, as it will result in a slower evacuation of the building in case of an emergency. The goal of our study is to achieve a more even distribution of people at these doors, by persuading them in different ways. As different people (visitors) use these doors every day, a fixed-moment intervention, or actor-guided intervention is not possible. For the experiments two different persuasive techniques were chosen that were both applicable to the environment, and did not cause any disturbance.

By altering the environment, people change their behavior in those environments. In this paper we focus on unobtrusive, and non-permanent ways to change environments. Due to the location of our experimental situation, there is a tendency to choose

for interventions with a strong visual cue. Visual queues in public spaces can be implemented with (the lack of) light, colors, directions, and the like [3].

2 Methods

Two experiments were set up: in one of the experiments a darkened door was used to discourage visitors to use that door [4, 5]. In the second experiment guidance paths were used to attract visitors towards that door [6, 7]. For each door, an identical computer system was used to count visitors entering and exiting the building. The computer system was placed on top of the revolving doors. Both systems were placed at the same height, position and direction on each door.

3 Results

During the first intervention 56.9% of the visitors used the right door, and 43.1% the left door. Compared to the pre-control where 62.1% of the visitors used the right door and 37.9% the left door (Table 1). The independent samples t-test shows a significant difference in the number of visitors for the pre-control ($M=1.38$, $SD=0.485$) and the intervention conditions ($M=1.43$, $SD=0.495$), $t(111489)=-17.637$, $p<0.001$. Supporting our hypothesis, we can state that there is an increased preference for the left door, and so an avoidance (by 5.2%) for the right door during the intervention.

During the second intervention 64.0% of the visitors used the right door, and 36.0% the left door. Compared to the pre-control, where 58.9% of the visitors used the right door, and 41.1% the left door. According to an independent samples t-test there was also a significant difference in the number of visitors for the pre-control ($M=1.41$, $SD=0.492$), the intervention ($M=1.33$, $SD=0.469$), and post-control ($M=1.39$, $SD=0.487$) conditions, $t(29560)=17.832$, $p<0.001$. Our hypothesis is not supported. On the contrary: during the intervention far more visitors used the right door instead of the left door. During the experiment there is an increase in visitors of 5.1% for the right door compared to the pre-control condition.

	Period	Session	Door RIGHT		Door LEFT		Total
Experiment 1	Feb 11 – Feb 28	S1 Pre-control	34104	62,1%	20834	37,9%	54938
Darkened door	Mar 1 – Mar 19	S2 Intervention	32183	56,9%	24379	43,1%	56562
	Mar 20 – Apr 19	S3 Post-control	30091	55,6%	24033	44,4%	54124
Experiment 2	May 24 – Jun 10	S4 Pre-control	19120	58,9%	13315	41,1%	32435
Guidance paths	Jun 11 – Jun 27	S5 Intervention	21949	64,0%	12366	36,0%	34315
	Jun 28 – Jul 12	S6 Post-control	14362	65,6%	7536	34,4%	21898
Used			151809	59,7%	102463	40,3%	254272

Table 1. Number and percentage of passers per session

4 Discussion

The results show a strong effect for use of dark foil at one of the revolving doors. During this experiment there was a strong decrease in use of the darkened door. Which reflects peoples dislike for dark environments, when given the choice out of two similar situations.

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