Put It on the Right Side: The Effect of Print Advertisement Location on Product Evaluation

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1 Introduction

Until now, there are some studies that examined whether ads located on the left versus the right side of a double page in magazines or newspapers are associated with higher attention of the recipients. It can be presumed that recipients automatically look at the right side of a double page when they flip through a magazine or newspaper which may result in higher attention values. However, empirical research on this issue found mixed results (Ferguson, 1935; Finn, 1988; Walker and Cardillo, 1998; Smit et al., 2013). Moreover, the ad location on the left versus right side may affect perceptions (Cai et al., 2012) and subsequently product evaluations. To the best of our knowledge, there is no research on investigating product evaluations in this context thus far. We contacted two managers of companies that publish newspapers and magazines, respectively, and asked them to report whether there are differences regarding the price for taking out ads on the left versus right side and regarding the demand of advertising companies and agencies in reference to these locations. They told us that the price does not depend on whether the ad is located on the left or right side but that there is a much higher demand for locating ads on right-sided pages. In summation, advertising practice prefers ad locations on the right side although little is known about the effects resulting from left/right-location decisions. For instance, we looked at the first few pages (since most of the ads in magazines are placed here) of the last 40 issues of a magazine (Grazia) published in Germany and counted for ads on the left and the right side of the double pages (double page ads were excluded). We found 16 ads on the left side and 33 ads on the right side – what underlines the assumption that marketing practice prefers right-side locations. To provide another example for the decision task from the marketer's view, we present two locations of the Mumm brand (champagne) that actually have been located on different sides of a double page in the Cosmopolitan magazine (Figure 1).

In the next section, we explain the fundamental effect of the left- versus right-sided location of stimuli on responses toward these stimuli. Subsequently, we apply this theory for predicting effects of left- versus right-sided locations of advertisements on double pages in magazines on perceptions and product evaluations. Then, we present the design and the findings of a new experiment

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conducted to test the resulting presumptions. Finally, we give advertising practice recommendations on how to deal with the issue considered here.

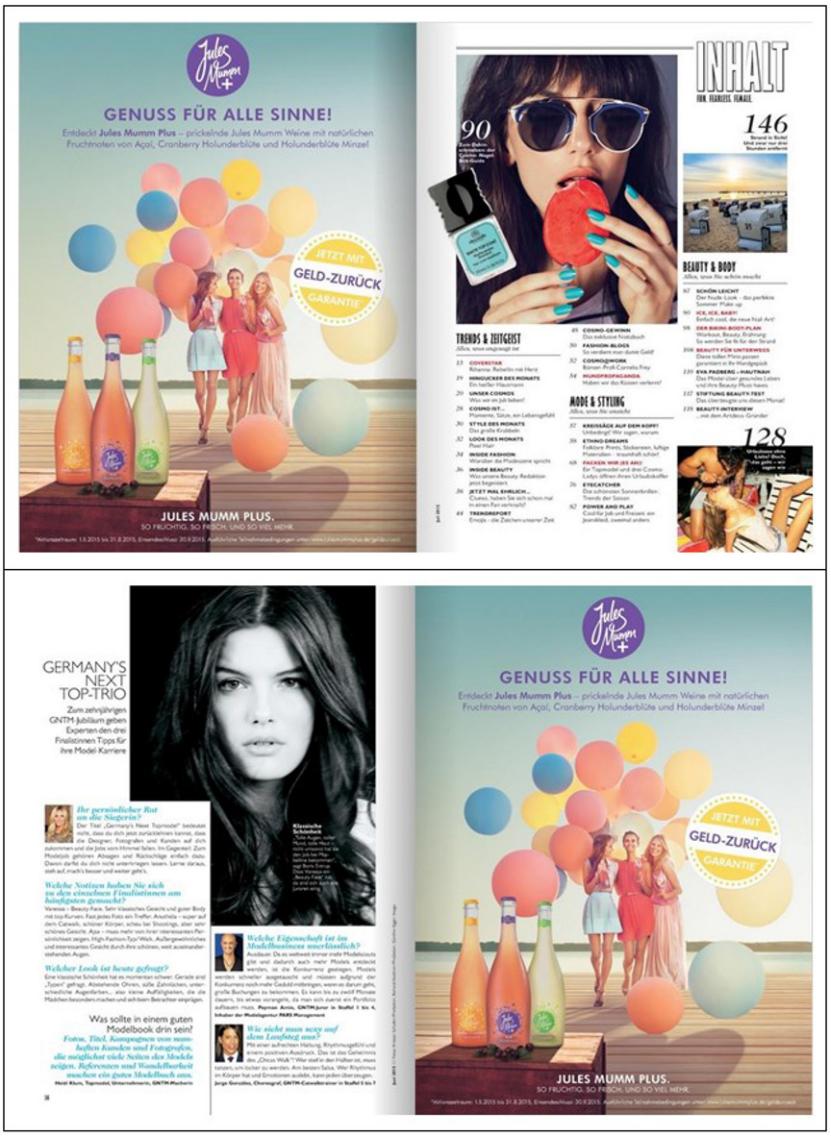


Figure 1: Example of different ad locations of the Mumm brand (Cosmopolitan Germany June and July 2015)

2 Theoretical Considerations and Prior Research

We refer to the SNARC effect which indicates that people tend to construe a spatial continuum when they elaborate on numerical information and to the effect of left/right location which suggests that individuals tend to assign numerical or quantitative values to a stimulus that is represented on a mental continuum. Both effects describe the same phenomenon but differ regarding the directions of the effects (Figure 2).

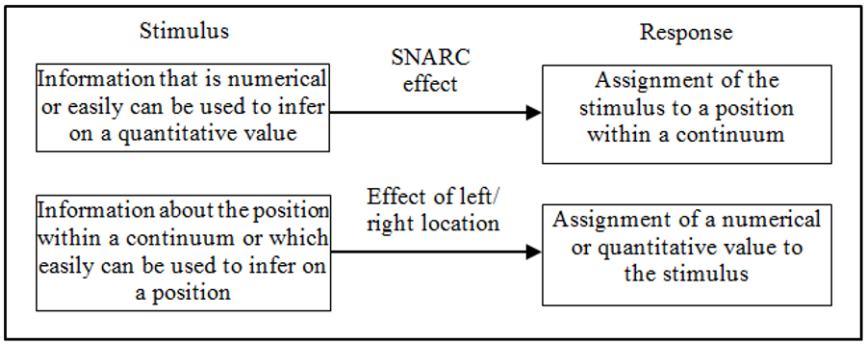
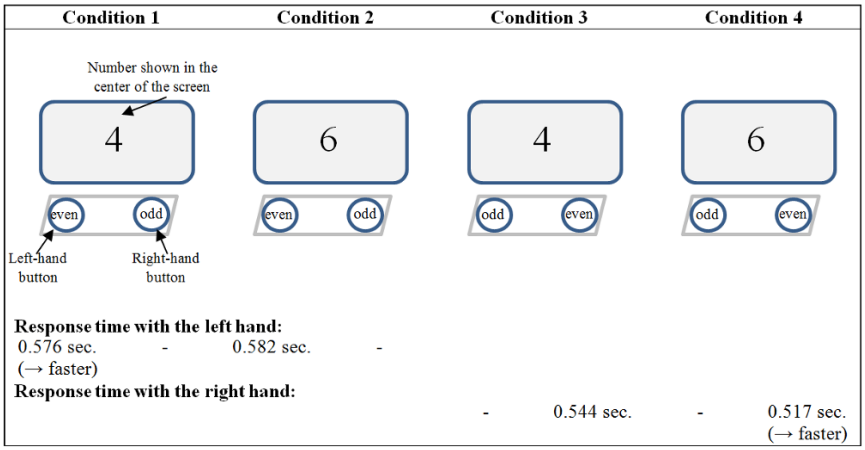


Figure 2: Basic theoretical relationships

2.1 SNARC Effect

There is a stream of fundamental research providing evidence to the presumption that individuals tend to allocate numerical information on a left-right continuum (e.g., Dehaene et al., 1993; Fias, 2001; Gevers et al., 2002). In studies on the "spatial-numerical association of response codes" (SNARC), individuals initially receive the information that they subsequently will see numbers from a certain range, e.g., "from 0 to 9." Then, they are exposed to such numbers, e.g., "4" on a computer screen. They have two buttons, one on the left and one on the right side of a keyboard. These buttons are labeled with "odd" and "even," respectively. The individuals have to push the correct button for each number they are exposed to, and their reaction time is assessed. In Figure 3, we present four conditions of this kind of experiment. In this example, the displayed number is either "4" or "6" and the odd-button is either located on the left-hand side of the individual or on her/his right-hand side. We illustrate the outcome of this experiment by using results reported by Fias (2001, p. 253). The results show that individuals react faster if they have to use their right hand to indicate parity of higher compared to lower numbers. Moreover, individuals

respond faster if they have to use their left hand for indicating parity of lower compared to higher numbers. These findings also appeared if verbal descriptions (e.g., "four" or "six," "March" or "November") of numbers were presented. These results indicate that individuals associate lower numbers more easily to the left side and higher numbers to the right side of a mental continuum. The authors explain this finding by the presumption that numbers are perceived spatially when individuals have received information about the range of the numbers they have to judge at the beginning of the experiment. Numerous authors extended the basic setting of this experiment (e.g., Dehaene et al., 1990; Brysbaert, 1995; de Hevia and Spelke, 2009).



Comments: The results indicate that individuals react faster with their left hand if they have to judge a lower number (e.g., "4" from the interval 0-9) compared to judging a higher number (e.g., "6"; .576 < .582). Moreover, they respond faster with their right hand if they have to judge a higher number (e.g. "6" from that interval) compared to judging a lower number (e.g., "4".571 < .544).

Figure 3: Illustration of findings from a SNARC experiment

2.2 Effect of Left/Right Location

Other authors postulated that individuals tend to assign numerical information to a stimulus depending on its location on a continuum that individuals can add to the stimulus merely due to imagination. To illustrate this phenomenon, we refer to the experiments conducted by Cai et al. (2011, p. 471; 2012, p. 721). These authors exposed individuals to a piece of paper which showed a seaweed snack. The product was either located on the left side of the

paper or on its right side (the remaining part of the piece of paper was "empty"). They asked the test participants to guess the product's market price within a range of 30 to 45 (HK$) and found that the estimated price was higher when the product was displayed on the right side (Figure 4).

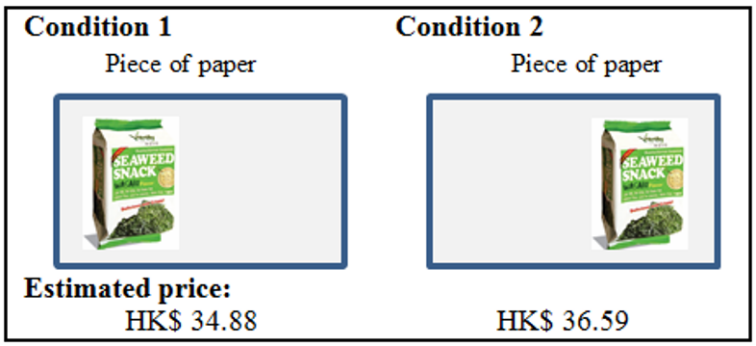


Figure 4: Illustration of findings from an experiment on the effect of location

The authors replicated this experiment by showing a fixed number of circles and squares on the right versus the left side of a display; the test participants estimated that there were more figures when these images were presented on the right side (M = 19.87) compared to presenting the identical number of figures on the left side (M = 16.22). The authors explained this effect by the existence of a learned association between the left/right location and numerical magnitude. They argue that this relation has been learned because individuals are frequently exposed to "number lines" (e.g., horizontal x-axes) or rulers with the smaller numbers displayed on the left side. We add some additional examples in favor of this principle where people apparently rely on the relation between numerical (or quantitative) information and the stimulus location on a left/right-side of a continuum (Figure 5).

2.3 Hypotheses

We use these approaches and presume that individuals infer numerical information from an ad's location on the left versus right side on a double page. The location on the left versus right side can indicate a position on a latent continuum (although the continuum itself is not depicted). We hypothesize that the location which mirrors a position on a continuum is used to infer on the advertised product's price and quality:

H1: Perceptions of the product's expensiveness are lower if the ad is located on the left side of a double page compared to an ad location on the right side.
H2: Perceptions of the product's quality are lower if the ad is located on the left side of a double page compared to an ad location on the right side.

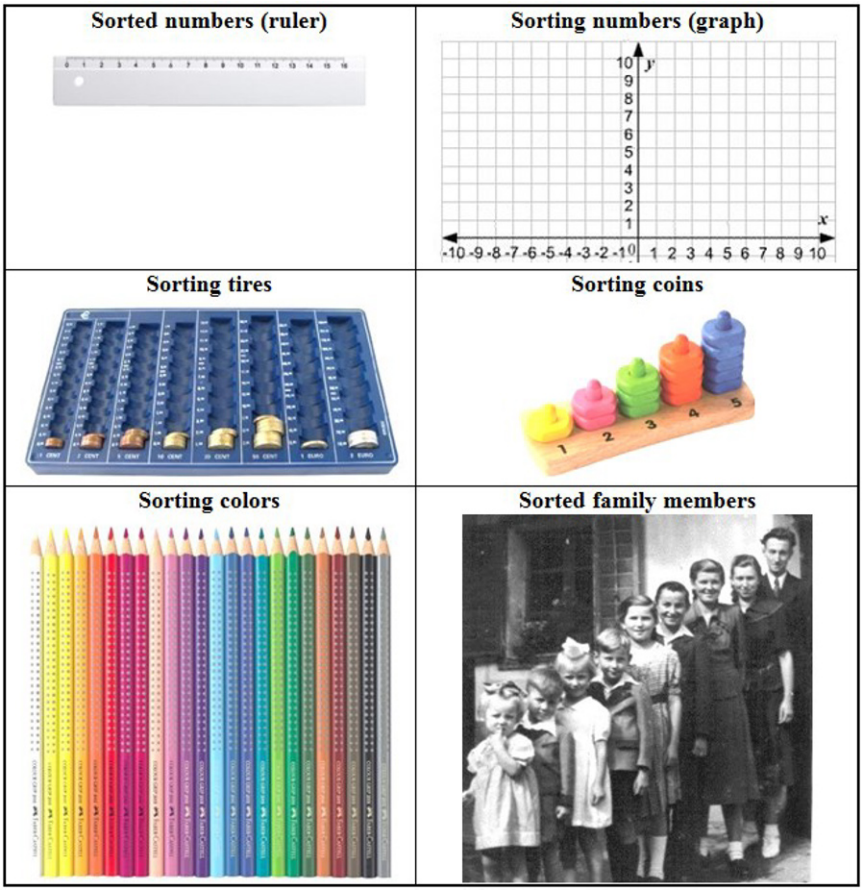


Figure 5: Some real-life examples indicating a relation between the left/right location and numerical information

However, these presumptions are not sufficient for deriving a hypothesis about which ad location results in higher product evaluations because the left location may be associated with both a lower price and lower quality and the

right location is likely to be associated with a higher price as well as higher quality. Thus, we introduce an additional variable into our approach that could predict which aspect (low price versus high quality) is more important. There are some authors who postulated a consumer aversion against paying too much for less expensive products and a consumer aversion against receiving too little quality for expensive products (e.g., Tversky and Kahneman, 1991, p. 1054; Hardie et al., 1993, p. 388; Simonson et al., 1993, p. 360). Heath and Chatterjee (1995, p. 282) argue that consumers intend to use expensive products for a longer period of time what will inhibit them from replacing the products if the quality turns out to be dissatisfying. To avoid a mispurchase (which would be apparent for a longer period of time), consumers are expected to focus on the product's quality for avoiding the risk of low product performance. On the contrary, consumers are likely to intend to use less expensive products for a shorter period of time and, thus, are more willing to replace them if the quality turns out to be poor. Thus, they are more likely to focus on the price of these products in order to avoid the financial risk of paying too much (Heath, et al., 2000, p. 304; Simonson and Tversky, 1992, p. 292). If consumers focus on the (low) price, the effect of left/right location likely results in lower perceptions of expensiveness when the ad is located on the left side – resulting in higher evaluations of products of less expensive brands. If consumers focus on (high) quality, the effect of location predicts higher perceptions of quality when the ad is shown on the right side – resulting in more favorable evaluations of products of expensive brands. From these additional considerations we conclude the following:

H3a: For less expensive brands, attitudes toward the promoted product are higher if the ad is located on the left side of a double page compared to an ad location on the right side (due to lower perceptions of expensiveness).
H3b: For expensive brands, attitudes toward the promoted product are higher if the ad is located on the right side of a double page compared to an ad location on the left side (due to higher perceptions of quality).

In summation, we expect that the brand's price level moderates the effect of the ad's location on product evaluations. In the case of less expensive brands, we expect an effect of the left/right location on evaluations via perceptions of expensiveness. In the case of expensive brands, we presume the existence of an effect of the ad's location via perceptions of quality.

3 Experiment

3.1 Experimental Design

We investigated the effect of the left/right location of a full-page advertisement on a double page of a magazine on perceptions of quality and expensiveness and on the attitudes toward the promoted product depending on the brand's price level. We used brands of six categories to test this effect. Thus, our study was based on a 2 (ad location: left or right side on a double page) × 2 (price level of the brand the promoted product belongs to: less expensive or expensive) × 6 (product category: mascara, shoes, coats, trench coats, handbags, and bikinis) factorial between-subjects design. The latter factor served as a replicate factor to prove stability of the findings. We chose these categories of fashion goods because they can be mainly characterized by price and quality.

3.2 Manipulation of the Ad Location

We used issues of well-known magazines (e.g., Cosmopolitan) to create the test stimuli. These stimuli consisted of a sequence of pages. First, the stimuli showed a title page of the magazine. Then, the sequence showed a few double pages of the magazine that contained editorial reports. On one of these double pages, an ad was shown. This ad was either located on the left side or on the right side of one of the double pages. The sequence of pages only contained one target ad. In Figure 6 and Figure 7, we provide examples showing what the double pages containing the ad looked like.

Figure 6: Double pages that show target ads for mascara depending on the ad's location (left vs. right side) and the brand's price level (low vs. high)

3.3 Manipulation of the Price Level

We selected a less expensive and an expensive brand from the categories of mascara, shoes, coats, trench coats, handbags, and bikinis. For instance, from the mascara category, we chose the Manhattan brand as a representative of less expensive brands and Dior as an expensive brand. In the survey, we asked the test participants to estimate the prices of the promoted products in Euro. We found that the selected brands were associated with highly different price estimates for each category. In any case, the price for the product of the expensive brand was estimated at least twice as high than the price for the product of the less expensive brand (Table 1).

Figure 7: Double pages that show target ads for bikini depending on the ad's location (left vs. right side) and the brand's price level (low vs. high)

3.4 Procedure

We conducted online-surveys with the use of SoSci Survey. The test participants were exposed to the sequence of pages on the computer screen as described above and, then, were asked to imagine running over the pages of the magazine. Subsequently, they indicated their perceptions of the promoted product's quality and expensiveness as well as their attitudes toward this product.

Table 1: Manipulation check results of the brands' price level

Category	Less expensive brand	Estimated price in €	Expensive brand	Estimated price in €
Mascara	Manhattan	8.52	Dior	28.68
Shoes	Buffalo	78.34	Louboutin	471.40
Coat	Zara	85.42	Burberry	531.27
Trench coat	Mango	116.12	Burberry	286.58
Handbag	Zara	131.28	Prada	702.35
Bikini	H&M	22.75	Victoria's Secret	76.16

Note: Data indicate mean values in Euro

3.5 Measures and Sample

The questionnaire contained four statements that indicated attitudes toward the product (attractive, interesting, appealing, and likeable). The test participants agreed or disagreed to these items on a seven-point scale ($\alpha = .949$). To assess perceptions of quality and expensiveness, we used single-item measures; the participants agreed or disagreed to "Within its category, this product has a high quality" and "Within its category, this product is expensive" on a seven-point scale. As noted above, we also assessed the estimated price. In total, 809 female consumers participated in our survey ($M_{age} = 25.39$ years, SD = 7.013, 66.7% students).

3.6 Results

The findings of our study are summarized in Table 2.

For less expensive brands, the results indicate that the products are associated with lower perceptions of expensiveness when they are advertised on the left side of a magazine's double page ($M_{left} = 3.02$, $M_{right} = 3.71$, $F(1, 400) = 37.855$, $p < .001$). The ad location did not affect the perceptions of product quality ($M_{left} = 3.95$, $M_{right} = 3.76$, $F(1, 400) = 1.768$, *NS*). With regards to the attitudes, the left location turned out to be advantageous ($M_{left} = 4.75$, $M_{right} = 4.13$, $F(1, 400) = 14.572$, $p < .001$).

On the contrary, for expensive brands, the ad location affected the perceptions of product quality ($M_{left} = 5.16$, $M_{right} = 5.80$, $F(1, 405) = 30.520$, $p < .001$) but had no impact on the perceptions of expensiveness ($M_{left} = 5.53$, $M_{right} = 5.60$, $F(1, 405) = .228$, *NS*). Regarding the attitudes, the right location outperformed the left location ($M_{left} = 4.53$, $M_{right} = 5.38$, $F(1, 405) = 28.918$, $p < .001$).

Table 2: Effects of the ad's location on perceptions of quality, perceptions of expensiveness, and attitudes toward the product depending on the brand's price level

Brand name	Product category	Perceptions of quality		Perceptions of expensiveness		Attitude toward the product	
		Ad on the left side of a double page	Ad on the right side of a double page	Ad on the left side of a double page	Ad on the right side of a double page	Ad on the left side of a double page	Ad on the right side of a double page
Less expensive brands							
Manhattan	Mascara	4.33	4.13	**2.97**	3.47	**4.78**	4.42
Buffalo	Shoes	4.09	3.81	**3.57**	4.00	**4.69**	3.64
Zara	Coat	4.37	4.15	**3.09**	3.94	**5.71**	5.03
Mango	Trench coat	4.21	4.13	**2.85**	3.91	**5.12**	4.45
Zara	Handbag	4.18	4.22	**2.94**	3.38	**4.64**	4.25
H&M	Bikini	2.41	2.09	**2.44**	3.56	**3.48**	2.94
Overall		3.95	3.76	**3.02**	3.71	**4.75**	4.13
Expensive brands							
Dior	Mascara	5.07	**5.53**	5.43	5.60	4.20	**4.58**
Louboutin	Shoes	4.76	**5.38**	5.64	5.33	5.55	**6.14**
Burberry	Coat	5.37	**5.90**	6.33	6.17	4.78	**5.42**
Burberry	Trench coat	5.28	**5.78**	5.19	5.50	4.30	**5.09**
Prada	Handbag	5.28	**6.44**	6.09	6.44	4.07	**6.14**
Vic. Secret	Bikini	5.16	**5.78**	4.47	4.41	4.55	**4.86**
Overall		5.16	**5.80**	5.53	5.60	4.53	**5.38**

Note: Scales range from 1 (low, negative) to 7 (high, positive).

To gain deeper insights into the mechanism underlying these results, we estimated a dual-mediation model. We used the ad's location as a binary independent variable (0 = left side, 1 = right side). We included the perceptions of quality and expensiveness as mediating variables. These variables were moderately correlated (R = .682) which indicates that the analysis suffers from collinearity problems. The attitudes served as the dependent variable. We split the data into two subsamples and estimated the model for the less expensive brands and the expensive brands separately by using a procedure suggested by Preacher and Hayes (2004). These analyses (Figure 8) showed that the ad location affects attitudes via perceptions of expensiveness in the case of less expensive brands (products appear even less expensive when the ad is located on the left side) while the ad location influences attitudes via perceptions of quality in the case of expensive brands (products are associated with even higher quality perceptions when the ad is located on the right side). In summation, H1 and H2 are partly supported and H3a and H3b are in line with our data.

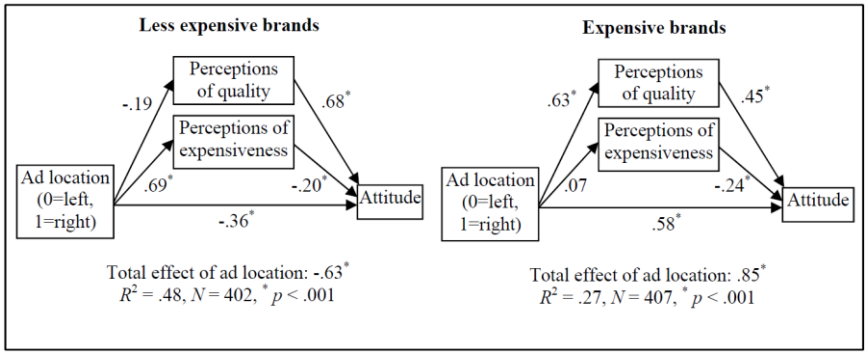


Figure 8: Results of a dual-mediation model used to explain the effect of the ad's left/right location on attitudes toward the promoted product

3.7 Interpretation

We found that the location of an ad on a double page affects attitudes toward the product. Moreover, we found that the sign of the effect depends on the price level of the promoted product. For products of less expensive brands, the left location affects attitudes positively via lower perceptions of expensiveness. For products of expensive brands, the right location increases attitudes via higher perceptions of quality. However, the results of the mediation analyses indicate the relevance of additional processes beneath the indirect effects via perceptions of expensiveness and quality because there are high residual direct effects and, admittedly, the estimated size of the indirect effects is rather low. In summation, we found evidence for the location effect depending on the brand's price level but our interpretation of the effect based on considerations about the divergent relevance of price vs. quality only reveals a part of the mechanism.

3.8 Limitations

Basically, we can find an effect of location depending on the brand's price level. However, we cannot perfectly explain the effect thus far. The weak indirect effects via perceptions of quality and expensiveness indicate that we neglected another mechanism that actually causes the effect of location on product evaluations. Probably, the single-item measures used for assessing the perceptions were poor. Moreover, the concept of "quality" itself might have been too general. For instance, the evaluation of shoes and clothing may be based on perceptions of social conspicuousness; the used term "quality" may have caused connotations such as durability and persistence that are less important for evaluating the shoes and clothing. Another crucial aspect is the

choice of the products considered in our experiment (i.e., cosmetics, shoes, and clothing). For instance, if we had considered groceries such as diet products, consumers might infer the amount of the calories of the products depending on the left/right location of the ad. If we had considered fruits, the ad's location might be used to infer conclusions about the vitamin C content (Cai et al., 2012). Thus, for other product categories, different perceptions (besides perceptions of expensiveness and quality) may be affected by choosing the location of an ad on a double page.

4 Implications for Practice

In general, we recommend marketers to pay attention to location effects. You may validate the effect described in this paper yourself through numerous replications. Take the coins from your purse and ask your colleague at lunch "to sort the coins." Most probably, s/he will sort them from less valuable coins on the left to the most valuable coins on the right side. Give her/him a folding yardstick and ask your colleague "to measure the length of the table." According to the expectations, this person will locate the beginning of the yardstick on the table's left side from her/his perspective. Ask her or him "to count with one's fingers from one to five." Probably, a right-handed person turns her/his left hand and uses her/his thumb to indicate the number "one." Through these experiences, marketers may trust in the existence of the general tendency in individuals to construe a virtual left-right continuum for sorting and evaluations tasks.

However, deciding about problems such as locating an advert on the left or right side of a magazine needs more knowledge. From our study, we conclude that the optimum decision about whether the print ad is located on the left or right side of a double page depends on the product's price and quality. When the (low) price is to be emphasized, the left location is appropriate. When (high) quality is to be signaled, the right location helps achieving the marketer's goal. We recommend using the left location to promote products of less expensive brands and choosing the right location for promoting products of expensive brands. However, we restrict these recommendations to the categories of fashion goods because we focused on these categories in our experiment.

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