

Brands and religious labels: a spillover perspective

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Abstract With different religions mixing in many societies, religious consumer groups receive increasing attention as target segments. Trying to appeal to such religious segments, companies differentiate food products by adding religious labels (e.g. kosher or halal) to packaging. But while this makes the products more attractive to the consumers of the focal religion, adding a religious label may also impact the brand evaluation by consumers with no religious beliefs or a different religious orientation. Drawing upon social identity theory to explain the psychological basis of inter-group discrimination, and taking account of information integration theory to analyse how religious labels affect product and brand evaluations, this article aims to assess the spillover effects between religion and brand among consumers who are *not* part of the religious communities addressed by these labels. The findings indicate that the perception of religious labels on food packaging is influenced by the attitudes towards the religion and the brand, while the relative importance of both antecedents is dependent upon several consumer characteristics. The theoretical and managerial implications of our findings, the limitations of our work and directions for future research are discussed.

Keywords religious labels; packaging; cosmopolitanism; spillover

Introduction

For individuals with strong religious beliefs, ingredients complying with religious laws are an essential requirement for integrating products in their relevant set (Shafie & Othman, 2006). Consequently, many companies have developed specific offerings that overtly communicate adherence to religious requirements (Izberk-Bilgin, 2012a). In the past, some brands captured niche markets by

positioning themselves as religious brands via specific labelling (Rarick, Falk, Barczyk, & Feldman, 2012; Shafie & Othman, 2006). However, given that the global market for kosher products is estimated to be worth around US \$600 billion, the market for halal products around US \$2.1 trillion, and both are expected to grow in the future (InterPOC, 2009; Izberk-Bilgin, 2012b; Soesilowati, 2010), brands all over the world are increasingly interested in these markets. Instead of developing separate brands specifically targeting a focal religious community, they aim to leverage their existing brand franchise by tagging the products with religious labels. In this article, we refer to this practice as *religiously labelled products* (RLPs). Examples are Ben and Jerry's Ice Cream, which labelled its products as 'kosher',¹ targeting Jewish consumers. Similarly, Haribo developed a particular version of gummy bears, made of gelatine with pork-free ingredients, labelled 'halal',² and also developed a kosher product line. Even for consumers who do not belong to the focal religion, RLPs may be perceived as more pure, more hygienic, clean and of higher quality (Mathew, Abdullah, & Ismail, 2014; Riefler, Diamantopoulos, & Siguaw, 2012; Siti Hasnah, Dann, Annuar, & De Run, 2009); on the other hand, RLPs are perceived as exotic and interesting (Alserhan, 2010; Havinga, 2010). Although religious labels play a key role in targeting religious consumers, their effect on other segments of customers thus far remains unclear. While some companies benefit from RLPs, others have encountered difficulties when they were declared to be serving religiously inappropriate food (Rarick et al., 2012) or perceived to stand against cultural and religious ideologies (Izberk-Bilgin, 2010, 2012a). Adding religious stimuli (i.e. logos) that are linked to specific associations may provoke negative reactions among consumers with unfavourable attitudes towards or prejudices against a religion, leading to negative spillover effects on the brand, and to fewer purchases (Khan, Schlegelmilch, & Shabbir, 2010; Schlegelmilch & Khan, 2010; Simonin & Ruth, 1998). Spillover effects, in this study, refer to the extent to which existing attitudes towards a religion and/or a brand influence the attitude towards an RLP, and vice versa, the extent to which the attitude towards an RLP influences the attitudes towards a religion and/or a brand (c.f. Ahluwalia, Unnava, & Burnkrant, 2001; Simonin & Ruth, 1998). KFC's use of a halal label in France led to protests of non-Muslim consumers opposing what they perceived as an endorsement (Gruber, 2012). The restaurant chain Quick ran afoul of some politicians when it decided to remove all pork products from its menu and serve only halal meals in selected markets. 'The mayor in one French town decided to sue the restaurant chain for discrimination against non-Muslims' (Rarick et al., 2012, p. 85).

Taken collectively, there appears to be contradictory evidence of the effect of RLP on consumers who do not share the same religious conviction. Are RLPs perceived positively by this group or, following the terminology of social identity theory, does in-group animosity against out-group associated product labels lead to a negative spillover and ultimately a rejection of the brand? This article addresses this issue by analysing the effects of RLP on brand attitudes. Specifically, the present study uses a large Western European sample, consisting of non-Muslim and non-Jewish consumers, and halal and kosher labels as an empirical setting to (1) explore whether non-religious consumers and consumers

¹According to Merriam-Webster dictionary 2013, the term 'kosher' describes selling or serving food ritually fit according to Jewish law.

²'Halal' can be translated as 'permissible' and, according to Merriam-Webster dictionary 2013, describes selling or serving food ritually fit according to Islamic law.

of a different religious conviction recognise, understand and react to labels focusing on specific religions, (2) assess how religious labels affect product and brand evaluations and (3) measure the spillover effects between religion and brand evaluation.

The present study contributes to the scarce literature on religious labels in several ways. On the theoretical front, our study sheds light on consumers' perception and reaction towards RLPs. Drawing on social psychology and anchoring the article in social identity theory (Tajfel & Turner, 1979), the study illustrates how religious affiliation can be a basis for inter-group discrimination and can impact the perception of RLPs. The study design explores how spillover effects between two mental constructs (brand and religion, in the current context) can be assessed, and how moderating effects in spillover models can be accounted for via latent interactions. On the managerial front, the study offers concrete, empirically based recommendations on the application of religious labels on brand packaging – knowledge that is important for marketers and advertisers. Thus, the study advances the understanding of religious issues in a branding context and guides future research directions.

Conceptual framework and hypotheses

Several studies have investigated the relationship between religion and managerial issues (e.g. Gundolf & Filser, 2013; Worden, 2005), CSR (Brammer, Williams & Zinkin, 2007) or consumption values (e.g. Arli & Tjiptona, 2013; Lam & Hung, 2005), or studied the effects of Western brands on Muslims (Izberk-Bilgin, 2012b). Although consumers increasingly live in multicultural environments, little is known as to how consumers 'deal with the products or consumption practices of different cultures' (Demangeot & Sankaran, 2012, p. 760), as literature on the effects of 'external' (non-Christian) religious labels on Western consumers remains scarce. Our conceptual model addresses this research gap by looking at the effect of religious labels on food packaging.

Religious labels

Previous research in labelling has looked at the effect of various labels on product and brand perception, e.g. biological labels, warning labels, quality labels, CSR labels or nutrition information (cf. Argo & Main, 2004; Gallastegui, 2002; Grunert & Wills, 2007). Most of those studies provided evidence for neutral or positive effects on consumers' attitudes and behaviours, yet there may also be negative effects arising from such labels, especially when consumers consider a label as less tasty (e.g. sugar free) or perceive the label as deceptive (e.g. Becker-Olsen, Cudmoreb, & Hill, 2006; Drichoutis, Lazaridis, & Nayga, 2006).

Some studies have started to assess the success of niche products or labels developed for distinct ethnic or cultural minorities. For example, Elias and Greenspan (2007) explore the effectiveness of marketing campaigns focusing on

immigrants to Israel from the Former Soviet Union. However, research on religious labels is scarce. This is surprising, as – particularly with fast-moving consumer goods (FMCG) – RLPs have become increasingly important during the last decades and are expected to continue to grow in the future (Alserhan, 2010; Soesilowati, 2010).

A religious label can be understood as any label communicating an offering's suitability for adherents to a specific religious practice. In the context of food products, a religious label communicates the product's compliance with specific religious standards. Numerous organisations – such as the Islamic Food and Nutrition Council of America, the Islamic Society of North America, the Halal Certification Agency, etc. – are recognised as halal-certifiers in several key markets (InterPOC, 2009). Similarly, there are several official organisations certifying kosher products (Havinga, 2010; InterPOC, 2009).

Despite the growing number of RLPs, little is known about whether and how consumers – particularly those *not* belonging to the focal religion and non-religious consumers – respond to religious labels. On the one hand, consumers may not recognise RLPs or may alter their brand perception if the religious label is associated with religious views they do not share. On the other hand, there is growing evidence that non-religious consumers and consumers of other religions increasingly demand RLPs, because they are perceived as exotic, interesting, or more pure and of higher quality (Alserhan, 2010; Havinga, 2010). Consequently, we focus on three key issues: First, we analyse whether consumers not sharing the focal religious beliefs recognise religious labels. Second, we examine whether those consumers who recognise the religious labels correctly understand their meaning. Third, we investigate how such consumers react to RLPs. In our research, we distinguish between brands and products. Brands are managerial concepts that are used to identify ranges of products and their identity. Products, for the purposes of our research, are bundles of characteristics offered to consumers in a market. These bundles typically comprise information about the brand under which the product is sold. To investigate these issues, we anchor our research in two theoretical perspectives, namely social identity theory and information integration theory.

Social identity theory

Social identity theory (Tajfel & Turner, 1979) explains people's predisposition to form situation-contingent in-group/out-group distinctions, and to discriminate on the basis of these distinctions. This explains the psychological basis of inter-group discrimination, i.e. in-group favouritism and out-group prejudice. According to social identity theory, an individual tries to acquire a positive social identity by favouring groups that correspond with aspects of the individual's self-concept (Tajfel & Turner, 1986). The theory posits that inter-group discrimination is motivated by the desire to achieve positive group distinctiveness for the purpose of enhancing individual self-esteem. Yet, there may not only be a positive psychological attachment and felt closeness towards one's in-group (Lau, 1989); once the concept of 'us' is established, self-esteem can also be enhanced by negatively evaluating groups to which one does not belong. For example, people may selectively search for inter-group differences that support their in-group and dismiss information that favours the out-group

(Mikulincer & Shaver, 2001). Focal group formation, out-group (religious minorities) and in-group (majority of different or no religious conviction), is reflected in this theory, in that religious symbols, such as RLPs, may trigger an individual to think, feel and act on the basis of his or her 'level of self' (Tajfel & Turner, 1986). In addition to the 'level of self,' an individual has multiple 'social identities, that is, self-concepts derived from perceived membership in social groups, such as religious groups. Such a social identity is an individual-based *perception* of what defines the 'us' associated with any group membership. Social identity is therefore different from personal identity, which is based on self-knowledge derived from the individual's unique attributes (Hogg & Vaughan, 2002). In the context of religion and branding, it is particularly interesting to establish whether in-group members (of a religious majority or no religious conviction) recognise and understand RLPs, and how their perceived social identity impacts their reaction to brands with a religious out-group (religious minority) designation.

Information integration theory and semantic networks

When, for example, Nike partners with Apple for its 'Sports Kit' (an activity tracker device), brand associations from one brand become linked with the other creating a spillover. Both, the consumer's attitude towards Nike and that towards Apple will drive attitudes towards the Sports Kit. After getting to know the device, the consumer's attitude towards Nike and towards Apple will be influenced by the collective co-branding product. However, since both brands reflect strong individual concepts, existing prior attitudes will still drive the respective brand attitudes.

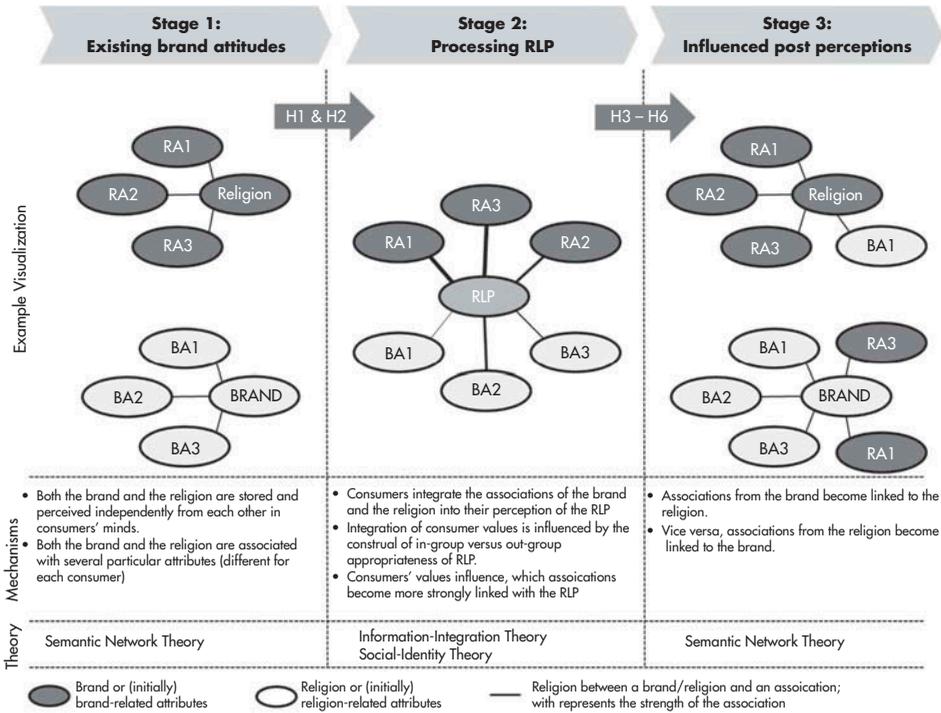
While this practical example gives an indication of spillover effects in a co-branding context, the following section will give a stepwise theoretical assessment of the underlying mechanisms.

How RLPs should affect consumers is hypothesised to be a three-step process, as shown in Figure 1. Particularly, it is assumed that both a brand and a religion are associated with particular attributes (stage 1) that are combined in an RLP (stage 2). After processing an RLP, attributes from the brand become linked to the religion, and vice versa (stage 3). The theoretical rationale will be outlined below.

Stage 1

Human knowledge in long-term memory is stored in a semantic structure, where pieces of information (nodes) are linked with other nodes (Anderson, 1983; Srull & Wyer, 1989). Those nodes can be objects, brands, attributes or anything else that individuals have stored in their memory. In the context of brands, the nodes that are directly or indirectly related to a specific brand are referred to as brand associations, and the more positive attributes are associated with a brand, the more positive is the overall evaluation of a specific brand (Keller, 1993). Similarly, religions are associated with several attributes (e.g. conservative, peaceful, etc.), so that both brands and religions can be regarded as mental concepts in consumers' minds.

Figure 1 Theoretical framework.



Prior research has shown that processing associated information (e.g. a halal label that is associated with Islam), can activate the mental representation of an overarching concept (e.g. Islam). Thus, it is assumed that with consumers who perceive a religious label on a product, mental schemata about the corresponding religion are activated. The necessary requirement for this activation is, however, that consumers understand this label.

Stage 2

When two mental schemata (i.e. the schema of a brand and the religion) are perceived simultaneously in an RLP, consumers combine and integrate the two information schemes with each other. According to information integration theory (Anderson, 1981), individuals integrate information from numerous sources to create an overall judgment. In case of RLP, such judgments may be influenced by the construal of appropriateness of the product for in-group versus out-group consumption. In general, when other stimuli, for example another brand or another product (Simonin & Ruth, 1998) are presented on a focal product, the existing associations are integrated into the overall judgment of the focal product. In other words, they spill over into the overall attitude towards the RLP.

H1: *Prior attitudes towards the religion are positively related to the attitude towards the religiously labelled product.*

H2: *Prior attitudes towards the brand are positively related to the attitude towards the religiously labelled product.*

These mechanisms have already been investigated in related research. For example, previous research in labelling has looked at the effect of various labels on product and brand perception, e.g. biological labels, warning labels, quality labels, CSR labels or nutrition information (cf. Argo & Main, 2004; Gallastegui, 2002; Grunert & Wills, 2007). Study evidence shows that labels on products generally affect consumers' evaluations of the focal product. Yet, while most studies provided evidence for neutral or positive effects on consumers' attitudes and behaviours, there may also be negative effects deriving from such labels, especially when consumers perceive a labelled product as less attractive to them, or perceive the label as not trustworthy (e.g. Becker-Olsen et al., 2006; Drichoutis et al., 2006). In sum, we assume that both prior attitudes towards the brand (as reflected by evaluation of the brand associations), and towards the religion will affect the attitude towards the RLP (H1 and H2).

Stage 3

It is important to note that the simultaneous activation of two mental concepts (i.e. a brand and a religion) may lead to a 'priming effect' (Jansson-Boyd, 2010), that is, associations from one concept become linked with the other concept (Lafferty, Goldsmith, & Hult, 2004; Maiwald, Ahuvia, Ivens, & Rauschnabel, 2013; Simonin & Ruth, 1998). In the context of RLPs, specific associations of a brand may be linked to a religion (and a religion's associations with a brand), after processing the RLP. Hence, we assume that the existing associations (and thus the attitudes) towards the religion and towards the brand will be manipulated by processing of the RLP (H3 and H4). In other words, we hypothesise that the attributes of the RLP spill over into the ex post attitudes towards the religion and towards the brand.

Notably, we do not assume that processing an RLP might lead to a complete change in attitude. Prior research has shown that attitudes are relatively stable constructs (Fishbein & Ajzen, 1975), and, that the priming effect is weaker when associations with a brand are strong (Washburn, Till, & Priluck, 2000). Hence, we assume that attitudes after processing the RLP will be influenced not only by the RLP (H3 and H4), but also by other existing prior attitudes (H5 and H6). In sum, we hypothesise (see Figure 2 for graphic representation):

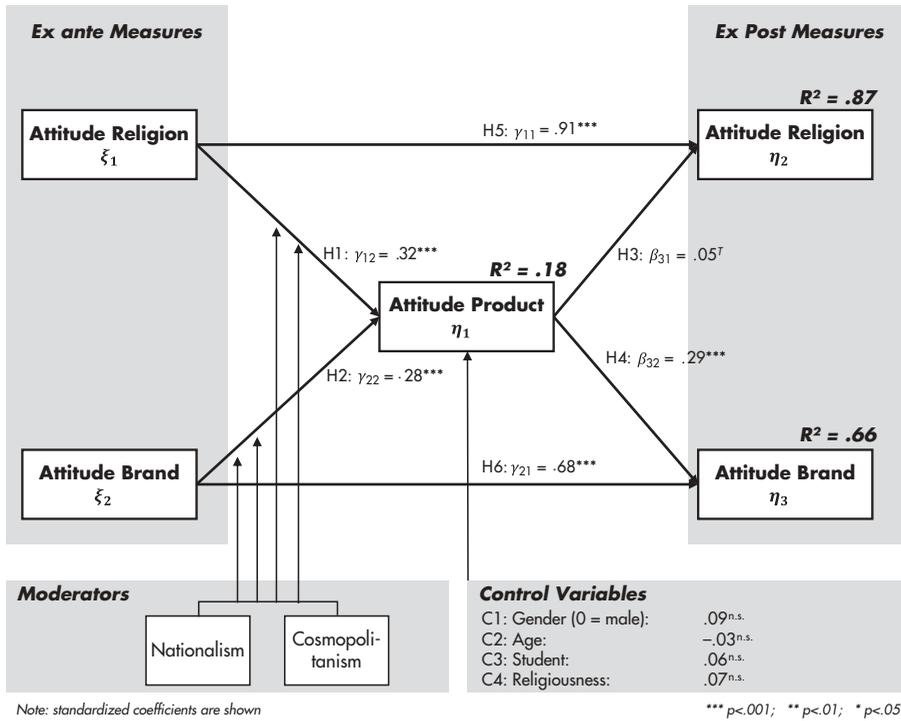
H3: *The attitude towards the religiously labelled product is positively related to the ex post attitude towards the religion.*

H4: *The attitude towards the religiously labelled product is positively related to the ex post attitude towards the brand.*

H5: *Prior attitudes towards the religion are positively related to attitudes towards the religion after processing the RLP.*

H6: *Prior attitudes towards the brand are positively related to the attitudes towards the brand after processing the RLP.*

Figure 2 Model.



Methodology

Sample

Six hundred forty-nine German-speaking respondents were invited to participate in an online survey about 'candy products and brands'. No incentives were offered for participation. The link to the survey was distributed via posts in University-Websites, and on social media platforms. Respondents were randomly assigned to one of the groups (control, halal or kosher). As the focus of this study is the exploration of religious labels and how they are perceived by members of other religious groups, we only included non-Muslim and non-Jewish respondents, resulting in 616 cases for the further analyses. For the purpose of this study, the groups represented by the religious logos, Jewish and Muslim, are considered the 'out-group' and members of neither Jewish nor Muslim groups are considered the 'in-group.' The final sample consists of 64.9% females, and the average respondent age was 26.1 years (SD = 8.1). 64.4 % were students, 18.3 % employees, 4.1 % civil workers, 4.4 % self-employed and 8.8 % stated having another job.

Most respondents self-identified as Christian (25.0% Protestant, 49.4% Catholic, 6.3% specific Christian denominations), while 11.7% do not identify with any religion and 7.6% identified with another religion or gave no response.

Respondents rated their level of practice as deeply religious (2.3%), religious (50.8%), indifferent 9.8%, not religious (4.9%) or gave no answer. Neither variable is related to the evaluation of the RLPs.

Stimuli

The stimulus comprised a candy brand package bearing a religious label. Each respondent was randomly assigned to one of three stimulus groups: the first group received a kosher label stimulus, the second group a halal label stimulus, and the third group – the control group – received a candy package stimulus without a religious label. The stimuli are based on the *sweets brand package* from the candy producer Haribo that is currently offered in Europe. *Existing religious halal and kosher labels* were added for the experimental groups (the stimuli can be delivered from the first author upon request) with the help of a professional advertising agency. The religious labels were independently assessed by authorities of each religion for their validity and realism.

In addition, we engaged a group of 21 German undergraduate students to help us evaluate the general authenticity of our stimuli in a pre-test. They found both the candy package itself and the religious symbols convincing. Open-ended questions regarding their like or dislike of the product and whether they had seen or tried it before elicited no criticism and generated no suggestion that something needed to be altered. Therefore, we proceeded with confidence that we had created a convincing and realistic stimulus.

The sweets brand was selected for three reasons. First, it represents a common, fast-moving consumer product to which the kosher and halal requirements are applicable. Specifically, this product contains gelatine and – because gelatine can be sourced from animals, fish or seaweed, for the purposes of kashrut and halal observant consumer – any product containing gelatine must bear a symbol indicating its preparation under the supervision of a qualified religious authority. If it contained pork or pork by-products, it could be neither kosher nor halal. If it contained beef-sourced gelatine, it would have to have had authoritative supervision as to the kind of animal, and the techniques used to slaughter and prepare the animal and the ingredients. To this end, the selected product is a most suitable stimulus, as it represents fast moving consumer goods that may contain inappropriate meat and thus call for the application of religious labels. Second, for this brand, kosher and halal versions already exist in different countries. Third, a well-known and existing brand was selected to enhance the external validity of the experiment and to draw upon existing attitudes towards the brand on the respondent side. An additional pre-test of the clarity of the language in the online-questionnaire entailing feedback from 28 students led to minor changes in the wording of some items.

Procedure and construct measurement

The procedure followed an *ex ante* and *ex post* four-step approach. In the first step, each respondent indicated his/her general attitude towards the focal religion in the experimental condition (not in the control group), attitudes towards the brand and attitudes towards the product category, using 7-point semantic differential scales (Osgood, Suci, & Tannenbaum, 1957) where 7 reflects the most positive attitude. We refer to these measures as *ex ante* measures. In a second step, a picture of the stimulus was presented. In a third step, respondents were asked to answer open-

ended questions about the product in order to enhance cognitive involvement and the processing of the picture. In addition, several distraction questions about general buying behaviour of sweets were surveyed. In a final step, each respondent again indicated his/her general ex post attitude towards the religion (not in the control group), and attitudes towards the brand, using the same measures as in the ex ante stage. We also included two personal value constructs, namely *nationalism* and *consumer cosmopolitanism* to assess whether consumers' national tendency and cultural open-mindedness may moderate their attitude formation towards RLPs. Finally, we included demographics (gender, age and education) in the last section of the questionnaire. All constructs, including the wording of the items, the reliability statistics and correlations, are presented in [Tables A1](#) and [A2](#).

Quality and reliability checks

We start our analyses with the establishment of our measurement models. Scale reliabilities exceed the standard value of .7 (Nunnally, 1978), and all composite reliabilities and average variance extracted (AVE) values show greater than .6 and .5, respectively (Bagozzi, Yi, & Phillips, 1991; see [Table A1](#)). We tested discriminant validity following the procedure suggested by Fornell and Larcker (1981). The results revealed satisfactory discriminant validity, although some of the effects between ex ante and ex post measures are relatively strong.

A Harman single factor test was conducted to assess the magnitude of a potential threat of common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, a second model was calculated in which all manifest variables are explained through one common factor. The chi-square value of this single-factor model was $\chi^2 = 3311.51$, $df = 171$ (comparative fit index (CFI) = .23; Tucker–Lewis index (TLI) = .13, root mean square error of approximation (RMSEA) = .24; standardized root mean square residual (SRMR) = .24), which was significantly worse than the basic model ($\chi^2 = 245.51$, $df = 133$; $p < .001$; $\Delta\chi^2 = 3066$; $df = 38$; $p < .001$). Because the Harman's single factor has often been criticised for its weak methodological rigour (cf. Lindell & Whitney, 2001; Malhotra, Kim, & Patil, 2006; Podsakoff et al., 2003), we complement the results using the common latent factor technique. Specifically, we inspected how the inclusion of a common latent factor (Podsakoff et al., 2003) affects our results. In particular, all items were allowed to correlate with this factor, following the operationalisation documented in Homburg, Klarmann, and Schmitt (2010). An inspection of the path coefficients indicated no substantial change in the effect strength. Thus, the results indicate no substantial effect of common method variance.

To control for systematic differences between groups, the composition of the three groups has to be very similar. Thus, we compared all constructs surveyed before the presentation of the stimulus, that is, demographic and consumer characteristics between groups (experimental groups: $N = 380$, comprised of $N_{\text{halal}} = 189$ and $N_{\text{kosher}} = 191$; control group: $N = 236$), using several one-way ANOVAs. As none of the variables showed significant differences between the groups, we assume a comparable respondent structure in all three groups.

Respondents were asked to indicate how this product differs from other products in this product category and to describe the typical consumer group targeted by this particular product. In addition, respondents were shown the religious labels and several other certification labels (e.g. biological food, fair trade) at the end of the

questionnaire. Respondents were then asked in a closed-ended question which label they had recognised on the packaging, and were invited to describe the meaning of the label in an open-ended question. Two independent researchers coded the respondents on whether a label was recognised or not, and whether the respondent understood the meaning.³ Those answers also served as manipulation checks. This procedure enabled a formal assessment of inter-coder reliability (Lombard, Snyder-Duch, & Bracken, 2002; Rust & Cooil, 1994), with Cohen's kappa for recognition at .90, and for interpretation at .62. Contradictory codes were re-analysed with the help of a third independent coder.

Results

Preliminary results

As research on RLP is still very scarce, we first provide some descriptive statistics on the recognition, understanding and absolute effects of religious labels on food packaging, before assessing the spillover effects between religion and brand evaluation and testing the proposed hypotheses.

Recognition

Respondents' overall recognition rate of the religious labels was high. Only 18 of 380 respondents (4.7%) in the experimental groups did not recognise the labels. Three hundred and sixty-two recognisers were compared to their 18 non-recognising counterparts. Both groups showed no significant differences in their socio-demographics.

Understanding

Next, we analysed whether consumers correctly understood the meaning of the religious label. Therefore, only those respondents from the experimental groups who recognised the labels were taken into account ($N = 362$). In total, 269 (74.3%) of the respondents correctly identified the meaning of the labels. Again, socio-demographics did not differ significantly between the two groups.

Reaction

Finally, we assessed differences in the attitude towards the product and the brand (ex post). No significant difference in attitude towards the product between the experimental groups and the control group was identified (attitude towards the product: $m_{\text{exp}} = 4.89$; $m_{\text{contr}} = 4.98$; $F = .664$; $p = .42$; attitude towards the brand ex post: $m_{\text{exp}} = 5.23$; $m_{\text{contr}} = 5.41$; $F = 3.58$; $p = .06$). The results did not differ when the data were examined only for respondents who understood the meaning of the label. We interpret the differences between the ex post and the ex ante attitude towards the brand as absolute spillover effects, driven by the perception

³A detailed codebook was developed in discussions with consumers. It is available from the authors on request.

of the product. Both in the control and in the experimental group an attitude decrease was identified (experimental group: $m_{\text{ex ante}} = 5.35$; $m_{\text{ex post}} = 5.24$; $\Delta m_{\text{exp}} = -.167$; $t = -3.33$; $p = .001$; control group: $m_{\text{ex ante}} = 5.57$; $m_{\text{ex post}} = 5.41$; $\Delta m_{\text{contr}} = -.167$; $t = -2.55$; $p = .011$; see in footnote 4 a discussion of these effects⁴). As the experimental groups were evaluated ex ante and ex post for attitude towards the religions represented by the RLPs, we also compared those values. No significant differences were identified ($m_{\text{ex ante}} = 3.88$; $m_{\text{ex post}} = 3.84$; $\Delta m_{\text{exp}} = -.047$; $t = -1.36$; $p = .18$).

Effects of consumer characteristics

As the previous results did not identify any significant differences within the socio-demographic structure of the respondents, we compared 'recognisers' and 'non-recognisers', as well as 'understanders' and 'non-understanders' and assessed differences in consumer characteristics (nationalism, and cosmopolitanism). Non-recognisers did not differ from recognisers of the logo in their degree of nationalism ($m_{\text{not_rec}} = 4.03$, $m_{\text{rec}} = 3.66$; $F = 1.31$; $p = .25$) or cosmopolitanism ($m_{\text{not_rec}} = 3.71$; $m_{\text{rec}} = 3.58$; $F = .09$; $p = .76$).

In the next step, we explored differences between understanders ($n = 269$) and non-understanders ($n = 93$) among the 362 respondents who recognised the label they encountered. Non-understanders scored significantly higher than understanders on nationalism ($m_{\text{not_underst}} = 4.10$; $m_{\text{underst}} = 3.51$; $F = 14.12$; $p < .001$), but showed no significant differences in their scores in cosmopolitanism ($m_{\text{not_underst}} = 3.77$; $m_{\text{underst}} = 3.52$; $F = 1.35$; $p = .25$).

Finally, we explored differences in the perception of the product. The average attitude towards the product did not differ between the experimental and the control condition ($F = .664$, $p = .415$).

Spillover effects

The second question addresses the spillover effects of religious labels on attitudes towards a brand and a religion. In the last paragraph, we reported a slight decrease in absolute attitude values after encountering the product (with and without a religious label). We now analyse (1) how prior attitudes towards the religion and the brand influence the judgment of the RLP, and how the judgment then influences post attitudes, both towards the brand and the religion (H1–H6). Therefore, we adopt the spillover model from Simonin and Ruth (1998), which was originally developed to understand the simultaneous presentation of two brands in a co-branded product. Only those respondents who correctly understood the label were taken into account. We proceed to analyse the structural model, using Mplus 7.11 and a maximum likelihood estimation with robust standard errors (MLR). We first run the main

⁴We interpret this decrease in brand attitude as spillover effects that are caused by attributes of the product. We tested this assumption by conducting a mediation analysis among the respondents from the control group, in which the attitude towards the product (without religious label) was conceptualised as the mediator in the relationship between the prior and the post attitudes towards the brand. Both a Sobel's test ($b_{\text{ind}} = .157$; $z = 5.48$; $p < .001$), and a Hayes (2013) bootstrapping procedure based on 5000 re-samples (PROCESS-macro, indirect effect's 99%-confidence interval does not include zero; c.f. Rauschnabel & Ahuvia, 2014), supported this assumption.

model without moderating effects. We allow for correlations between the error terms of each ex ante and each ex post manifest variables, which is a common procedure in structural equation modelling when the same constructs are evaluated several times and difference scores are not used (Lafferty et al., 2004; Peter, Churchill, & Brown, 1993; Simonin & Ruth, 1998). The fit indices of the main model are satisfied ($\chi^2 = 245, 51, df = 133; p < .001; \chi^2/df = 1.85; CFI = .96; TLI = .95; RMSEA = .06; SRMR = .06$). We can now focus on the results of the hypotheses testing and present the standardised effects of the path model.

As shown in Figure 1, the attitude both towards the religion ($\gamma_{12} = .32; p < .001$) and towards the brand ($\gamma_{21} = .28; p < .001$) are positively related with the attitude towards the RLP, supporting H1 and H2. In line with H3 and H4, there is a significant effect from the attitude towards the RLP on the ex post attitudes towards religion ($\beta_{31} = .05; p = .07$; partial support) and the brand ($\beta_{32} = .29; p < .001$). Finally, there is a significant relationship between the ex ante and the ex post evaluations of the religion ($\gamma_{11} = .91; p < .001$) and the brand ($\gamma_{12} = .68; p < .001$), supporting H5 and H6. None of the control variables was significantly related to the attitude towards the RLP (gender: $\gamma_{C1} = .09$; age: $\gamma_{C2} = -.03$; student: $\gamma_{C3} = .06$; religiousness: $\gamma_{C4} = .07$; all $p > .10$).

Additional exploration of moderators

As the previous analyses show varying results as to recognition and understanding of religious labels by consumers, depending on certain personal-value characteristics (nationalism and cosmopolitanism), we test the moderating effects of these constructs in the spillover model. By independently including the two constructs in the spillover model, the moderating effect of national tendency as well as a cultural open-mindedness can be assessed independently. More precisely, we assume that these individual, variable characteristics should have an effect on the relative importance of both antecedents, i.e. the two attitude measures, as hypothesised in H1 and H2.

A moderating effect occurs when an effect of an independent variable X on a dependent variable Y is influenced by a third variable Z (i.e. a moderator variable). In general, the mathematical formulation of a moderating effect is $Y = b_0 + b_1 \times X + b_2 \times Z + b_3 \times X \times Z$, where the $X \times Z$ interaction term represents the moderating effect. Prior research in structural equation modelling has often focused on dichotomising continuous moderator variables and comparing two independent models (e.g. Simonin & Ruth, 1998). However, this dichotomisation has often been criticised as it goes along with a loss of information (Fitzsimons, 2008). Hence, methodological researchers have developed models to apply the interaction probing procedure to latent constructs in structural equation modelling (e.g. Marsh, Wen, & Hau, 2004, 2006). In these approaches, the manifest variables of the latent constructs X and Z are multiplied, and the interaction terms included as indicators in the model. To avoid multi-collinearity, several authors suggest mean-centring of all manifest variables before multiplying, or parcelling out multi-collinearity by residual centring (Steinmetz, Davidov, & Schmidt, 2011). We followed the latent interaction probing procedure as recommended by Homburg et al. (2010) (for more information about latent interactions, see also Marsh et al., 2004, 2006), and conducted item-parcelling for cosmopolitanism to reduce the complexity of the model. Results are shown in Table 1 and Figure 2.

Table 1 Moderators.

Moderator	Moderated relationship (Attitude)	Direct effect predictor	Direct effect moderator	Interaction effect	Sig.
Nationalism	γ_{21} : Religion (ex ante, H1) → Product	.35 ($p < .001$)	-.09 ($p = .189$)	.18 ($p = .046$)	✓
Nationalism	γ_{22} : Brand (ex ante, H2) → Product	.21 ($p = .006$)	-.13 ($p = .093$)	-.26 ($p = .003$)	✓
Cosmopolitanism	γ_{21} : Religion (ex ante, H1) → Product	.33 ($p < .001$)	-0.01 ($p = .855$)	.12 ($p = .087$)	T
Cosmopolitanism	γ_{22} : Brand (ex ante, H2) → Product	.27 ($p < .001$)	.01 ($p = .857$)	.06 ($p = .386$)	X

Notes: Construct Names represent attitudes; Legend (row 1): The γ_{21} -effect from the attitude towards the religion is significant when nationalism and nationalism* attitude towards the religion (ex ante) are included. The direct effect of nationalism is not significant ($\gamma = -.09$), but the interaction term is ($\gamma = .16$). Hence, nationalism moderates this relationship (γ_{21}).

Nationalism moderates the relationship hypothesised in H1 between the prior attitudes towards the religion and the attitude towards the RLP ($\gamma_{21\text{-nat}} = .18$, $p < .05$). That is, the observed effect is stronger when respondents show higher levels of nationalism as compared to lower levels. A negative interaction was also identified for the brand ($\gamma_{22\text{-nat}} = -.26$, $p < .01$).

A moderating effect for cosmopolitanism was found for the attitude towards religion: the effect on the attitude towards RLP tends to be stronger for consumers scoring high on cosmopolitanism ($\gamma_{21\text{-cosmo}} = .12$, $p < .10$). A non-significant effect was identified for the cosmopolitanism–brand interaction ($\gamma_{22\text{-cosmo}} = .09$, $p > .10$).

Robustness tests

To assess the stability and plausibility of our model, we conducted several additional statistical tests. *First*, we replicated the analyses based on a sample of all respondents in the experimental groups, including those who did not recognise or correctly understand the label. The results were similar, though fit indices decreased, as expected. This is in line with the theory of spillover effects, which claims that stimuli have to be both recognised and interpreted (Simonin & Ruth, 1998). Likewise, our theory argues that the label has to be recognised and understood to activate the mental model of a religion. This finding underlines the conceptual plausibility of our model. *Second*, our model contains several control variables. We inspected the identified relationships in alternative models with no or only selected control variables. The identified patterns were stable. *Third*, we tested the model for kosher and halal independently and then compared our results. They were quite similar and are reported in the Table A3 of this article. *Fourth*, the reported results from the moderator analyses are estimated sequentially, i.e. each moderating effect was tested independently. To further test the stability of our moderating effects, we also analysed all moderators simultaneously, and replicated the results using a residual centring approach (Steinmetz et al., 2011) instead of mean-centring each item (Aiken & West, 1991). Furthermore, we conducted an LMS estimation approach for latent interactions. All additional analyses led to very similar results. *Fifth*, we also assessed the stability of our findings by re-analysing the model with different statistical

methods. Therefore, we ran several additional (moderated) regression analyses. We also estimated the effects in the structural equation model using different estimators. The results from all methodological replications were quite similar. In sum, none of the robustness tests indicated concerns regarding the stability of the model.

Discussion and conclusion

Due to the growing importance of religiously driven consumer needs, many companies in multi-religiously shaped countries have to deal with effects of RLPs on other consumers. Although prior research had already addressed several issues on the interface between management and religion (e.g. Gundolf & Filser, 2013; Worden, 2005), only few studies addressed the role of religion in consumer behaviour, for example general effects of religion on consumption (e.g. Arli & Tjiptono, 2014; Lam & Hung, 2005), or the effects of Western brands on Muslim consumers (cf. Izberk-Bilgin, 2012a). We chose to address the effects of kosher and halal labels on non-Jewish and non-Muslim Western consumers. The present study thereby continues to establish insights into changing consumption patterns as a result of evolving cultural dynamics (Demangeot & Sankaran, 2012; Craig & Douglas, 2006). Our study advances the understanding of intercultural and religious influences on mainstream consumers and contributes from a theoretical, methodological and managerial perspective.

By combining exploratory analyses and a theoretical model, our study gives various insights in the significance and processing of religious labels among non-religious consumers. On a descriptive level, our results show among the studied respondents, (a) a majority of the respondents recognised the label but (b) about one quarter of the respondents who recognised the label did not understand the meaning. Furthermore, (c) the logo did not affect the average evaluation of the product per se. Interestingly, among several studied sub-groups, the evaluations were found to be highly similar.

The in-group (mainstream consumers of either different or no religious conviction) is rather knowledgeable about the out-group (religious minorities), showing a high recognition level and considerably widespread understanding. Being part of an in-group did not lead to a negative evaluation of groups to which one does not belong. In line with social identity theory, in-group identification reflected positive psychological attachment and felt closeness towards one's in-group (Lau, 1989). However, the present study findings show that this does not necessarily imply inter-group discrimination, such as in-group favouritism or prejudice towards the out-group or its members.

By analysing the correlational structure and drawing on information integration theory, we show that religious labels (i.e. kosher or halal) activate mental impressions of the corresponding religions, and those attitudes get transferred to the product bearing the RLP. That is, consumers who have either a positive or negative attitude towards a religion tend to apply their attitude to the RLP-bearing product, thus judging the product accordingly. Existing attitudes about the brand and the religion are weighted and combined in the attitude towards RLP products. These weights are, as our moderator analyses reveal, influenced by several variables. For example, consumers who scored highly in nationalism strongly focused on their prior attitudes towards the religion when judging an RLP. Interestingly, this increase in

the importance of prior attitudes towards the religion is not reflected in a decrease in the importance of the prior brand's attitude.

The stability between *ex ante* and *ex post* measures of attitudes for the brand and the religion show that both attitudes are rather stable and marginally influenced by the processing of the RLP (Fishbein & Ajzen, 1975). Notably, the attitude towards the religion is stable. This suggests that a religious label can affect an existing perception of a brand more than a brand can influence the perception of a religion or product that bears an RLP pertaining to that religion.

Socio-demographic variables were found to have a weak effect in explaining whether consumers recognised or understood the meaning of the label or not. Notably, consumers who are strongly attached to their country and culture (reflected by high nationalism) showed lower recognition and understanding of the RLP. Highly nationalistic consumers did not understand the meaning of the RLP as well as less nationalistic consumers. Surprisingly, cosmopolitanism did not affect consumers' recognition, understanding or reaction to the RLP.

From a methodological perspective, our study further contributes to study design conceptualisation by showing that the same mechanisms that describe co-branding spillover effects can be applied to assess the effects of other facets of product identity, individually or in relation to each other. This expansion of the model by Simonin and Ruth (1998) allowed us to analyse spillover effects of and between two complex mental constructs in consumers' minds – religious labelling and brand – and can therefore be an effective strategy for future research assessing combined stimuli and their spillover effects. The present study further indicates how moderating effects in spillover models can be accounted for via latent interactions.

From a managerial perspective, religious labels offer the opportunity for companies to expand the appeal of their products and brands to a larger target group. With an existing brand image in consumers' minds, the risk of negative spillover effects is insignificant, as the brands are relatively stable against manipulations (Washburn et al., 2000). Furthermore, common RLP symbols are unrecognised and/or not understood by a large number of consumers. However, we recommend that managers should first evaluate the general attitude towards a religion and the level of nationalism in their relevant target groups before adopting the religious symbols. If the attitude is overly negative, our research suggests that it may be advisable to develop a specific sub-brand for the religious market.

Limitations and future research

Several limitations are inherent in this study. First, the study uses only one FMCG brand, with which the experimental stimuli are coupled, neglecting potential brand attitude effects. In an additional analysis, the results were calculated independently for consumers with a strong positive and negative attitude towards the stimulus brand. The results support the general findings from co-branding literature that there are stronger *ex post* spillover effects when consumers' brand attitudes are weaker and vice versa. Second, the proportion of students in the sample was rather high and the average respondent's age low. However, the presented structural equation model showed similar results both for students and non-students. Third, spillover effects were measured based on a short time period using one questionnaire. Based on this data collection tool no long-term effects on the brand in realistic field-

experiments could be assessed. Finally, one could argue that the aggregated analysis of kosher and halal labels in one study, as well as a focus only among German consumers, constitute further limitations, in part because in Germany, Muslims are overrepresented compared to Jews. However, additional results, as reported in Table A3, showed that the results are quite stable.

The present spillover model should therefore be adopted in related research fields. Future research in the field of country-of-origin research, for example, may adopt the present spillover model and assess how a consumers' attitudes towards a country spill over to their attitudes towards a brand (and vice versa), when the country and the brand are linked together (Herz & Diamantopoulos, 2013).

Future research should further broaden the present findings by including additional brands and product categories and by exploring potential influences of consumer characteristics and mindsets. It has, for example, been observed that more and more non-religious consumers become increasingly interested in RLP. These non-religious consumers may prefer these products, as the religious labels can, in their minds, create positive associations with hygiene, quality and health, and make the product appear more exotic and interesting (Alserhan, 2010; Havinga, 2010; Mathew et al., 2014). Such positive attitude towards RLPs may be particularly strong with contemporary, young, urban, cosmopolitan consumers. Consequently, future research should look deeper into consumers' contemporary health and food behaviour and the resulting consequences (and potential marketing routes) for RLPs.

Similarly, future research should assess how a consumer's personal level of religiosity affects the attitudes towards his/her own or other religions. In times of growing religious extremism and hardened fronts between religions, understanding the impact of religious labels is a crucial factor for brand owners. To this end, we see the present study as a substantial starting point for future research exploring the relationship between religious labels and consumer characteristics in more detail.

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Appendix A

Table A1 Measures and reliabilities.

Construct	Items	Measurement (Source)
Attitude towards the brand/ product (<i>brand ex ante</i> : $a = .89$; CR = .90; AVE = .78) (<i>brand ex post</i> : $a = .87$; CR = .89; AVE = .76)	<ul style="list-style-type: none"> ● Negative/positive ● Bad/good ● Unfavourable/favourable 	Three 7-point semantic differentials adapted from Osgood et al. (1957)
Attitude towards the religion (<i>ex ante</i> : $a = .86$; CR = .93; AVE = .84) (<i>ex post</i> : $a = .92$; CR = .93; AVE = .82)	<ul style="list-style-type: none"> ● Negative/positive ● Bad/good ● Unfavourable/favourable 	Three 7-point semantic differentials adapted from Osgood et al. (1957)
Attitude towards the product ($a = .89$; CR = .89; AVE = .76)	<ul style="list-style-type: none"> ● Negative/positive ● Bad/good ● Unfavourable/favourable 	Three 7-point semantic differentials adapted from Osgood et al. (1957)
Nationalism ($a = .73$; CR = .75; AVE = .54)	<ul style="list-style-type: none"> ● It is important that [Country] wins in international sporting competitions such as the Olympics. ● It is important that [Country] is number one in whatever it does. ● [Country] should play a major role in international policy. ● Other countries should try to make their government as much like ours as possible. 	Four 7-point items, anchored by 'strongly disagree' [1] and 'strongly agree' [7] adapted from Kosterman and Feshbach (1989)
Cosmopolitanism ($a = .96$; CR = .95; AVE = .86)	<ul style="list-style-type: none"> ● When traveling, I make a conscious effort to get in touch with the local culture and traditions. ● I like having the opportunity to meet people from many different countries. 	Twelve 7-point items, anchored by 'strongly disagree' [1] and 'strongly agree' [7] adapted from Riefler et al. (2012)

(Continued)

Table A1 (Continued).

Construct	Items	Measurement (Source)
	<ul style="list-style-type: none"> ● I like to have contact with people from different cultures. ● I have got a real interest in other countries. ● Having access to products coming from many different countries is valuable to me. ● The availability of foreign products in the domestic market provides valuable diversity. ● I enjoy being offered a wide range of products coming from various countries. ● Always buying the same local products becomes boring over time. ● I like watching movies from different countries. ● I like listening to music of other cultures. ● I like trying original dishes from other countries. ● I like trying out things that are consumed elsewhere in the world. 	

Notes: The stimuli used in this study are available from the first author upon request. AVE = average variance extracted; CR = composite reliability.

Table A2 Correlations.

	Mean (SD)	1	2	3	4	5	6	7
1: Attitude brand (ex ante)	4.44 (1.16)	.89						
2: Attitude religion (ex ante)	3.89 (1.29)	-.04	.86					
3: Attitude RLP	4.93 (1.25)	.37	.26	.89				
4: Attitude brand (ex post)	5.30 (1.09)	.78	-.02	.55	.87			
5: Attitude religion (ex post)	3.84 (1.20)	.02	.89	.31	.05	.92		
6: Nationalism	3.71 (1.30)	.30	-.15	-.03	.25	-.10	.73	
7: Cosmopolitanism	3.58 (1.74)	-.02	.02	.03	.00	.01	-.14	.96

Note: Diagonal: Cronbach's α ; values are based on the combined data set including control group; except the attitude towards the religion that was only measures in the experimental groups.

Table A3 Robustness tests: Halal–Kosher comparison.

Hypotheses	Halal					Kosher					Difference
	Beta ^a	T ^a	.95 LCI ^b	.95 UCI ^b	Beta ^a	T ^a	.95 LCI ^b	.95 UCI ^b	Satorra–Bentler scaled $\Delta\chi^2$; p		
H1: Religion (EA) → RLP	.38	2.45	.13	.65	.47	4.54	.30	.64	.23	.63	
H2: Brand (EA) → RLP	.53	4.73	.36	.72	.21	2.08	.05	.39	4.87	.03	
H3: RLP → Brand (EP)	.68	7.20	.53	.83	.62	8.17	.51	.76	.58	.45	
H4: Brand (EA) → Brand (EP)	.20	1.94	.05	.38	.29	3.97	.17	.41	.30	.58	
H5: RLP → Religion (EP)	.91	19.94	.82	.99	.80	13.04	.69	.89	2.92	.13	
H6: Religion (EA) → Religion (EP)	.10	3.04	.05	.15	.021	.53	-.04	.09	1.78	.18	
R ² (RLP)		.28				.20				—	
R ² (Religion EP)		.68				.67				—	
R ² (Brand EP)		.88				.82				—	
χ^2 Contribution		171.16				153.50				—	
Model fit										—	

Notes: ^aEstimation: MLR with each 10,000 bootstrapping re-samples (Mplus 7.11); only unstandardised values are presented.

^bBias-corrected .95 confidence intervals.

^cGroup comparison: $\Delta\chi^2$ reflects the results of χ^2 difference tests in which the strengths of an effect was compared between kosher and halal. Because we applied an MLR estimator, it was necessary to adjust the χ^2 using the Satorra–Bentler scaling correction.

^dEA, ex ante; EP, ex post; RLP, religiously labelled product; CFI, comparative fit index; TLI, Tucker–Lewis index; SRMR, standardized root mean square residual; RMSEA, root mean square error of approximation; LCI, lower confidence interval bound (bias corrected); UCI, upper confidence interval bound (bias corrected).

CFI = .96; TLI = .95

RMSEA = .08; SRMR = .07

χ^2 (210) = 324.66; χ^2 /df = 1.54

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