Examining the Effect of Religious Opinions of Family and Close Friends on Purchasing Behavior: Comparisons of Five Indian Cities

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Abstract

Purpose

This study examines how intimate social contacts' opinions affect the selection of new religious products among consumers, and identifies the most promising marketing strategy for producers.

Design/methodology/approach

Questionnaire surveys consisting of choice experiments were conducted in five Indian cities for Muslims and non-Muslims in 2020. Multinomial logit and random parameter logit models were applied, and the former was used for the analysis.

Findings

Four hypotheses were presented: “opinions of intimate people are influential in purchasing religious new products” was rejected, and the associated increase of willingness-to-pay (WTP) was almost 0; “the proportion of a certain religious group in the total city population has some impact on WTP of this religion’s products” was supported; “the WTP is affected by the existence of religious logos on the package” was supported, and the associated increase of WTP was Rs. 17.28; “the proportion of a certain religious group in the total city population has some impact on how much consumers depend on intimate people’s opinions” was supported.

Originality

The opinions of intimate people do not influence the selection of religious products. However, the literature finds such an effect for specific products such as eco-friendly products. It implied that purchasers' religious criteria are continually formed by the opinions of friends and family, especially in Muslim minority cities. The results indicate the scope for elaborating the theory of planned behavior, which is the most relevant for this study.

Keywords

choice experiments, Indian, opinions of intimate people, religious opinions

1. Introduction

Product selection for purchase depends on factors such as the purchasers' tastes, product characteristics, and opinions of family and close friends (hereafter "intimate people"). According to [Lancaster \(1966, 1971\)](#), consumers pay attention to product characteristics rather than the products themselves. Therefore, a product can be regarded as a bundle of attributes such as price, brand, and efficacy, and people select specific products on each purchase occasion based on the product attributes ([Bech-Larsen and Nielsen, 1999](#); [Gwin and Gwin, 2003](#); [Ali et al., 2010](#)). Existing studies often examine products with specific characteristics or attributes such as eco-labels ([Cai et al., 2017](#)), eco-friendly products ([Kim and Seock, 2019](#)), renewable energy ([Masukujjaman et al., 2021](#)), and organic vegetables ([Dorce et al., 2021](#)).

The beliefs and opinions of intimate people may also affect purchasers' choices. However, there are few related studies, especially those on new religious products. This study fills this gap using choice experiments (CEs) conducted among citizens of five Indian cities with different ratios of Muslims among the populace. CEs are used in questionnaire surveys to estimate people's willingness-to-pay (WTP) for both non-market products and new market product attributes.

Bottled mineral water was selected as an experimental product for the following reasons. First, bottled mineral water is easy for people to relate to, and is therefore expected to induce a high response rate. Second, it was necessary to ensure that respondents did not veer towards the "do not buy" option in the choice set for a realistic experience. Mineral water is a universally used product. Therefore, it minimized the chances of respondents to choose the "do not buy" option.

2. Literature Review and Hypotheses Development

As pointed out in the Introduction, people select products based on not only product attributes ([Bech-Larsen and Nielsen, 1999](#); [Gwin and Gwin, 2003](#); [Ali et al., 2010](#)) but also on the beliefs and opinions of intimate people. [Kim and Seock \(2019\)](#) examine the influence of intimate people on eco-friendly apparel purchases. They find that consumers tend to buy eco-friendly apparels after someone close to them, such as a family member, has purchased them. This is because they feel guilty if they do not follow other people's choices. [Dorce et al. \(2021\)](#) indicate that subjective norms influence purchase intention.

Therefore, intimate people may exert pressure on product selection.

Table 1 categorizes the impact of intimate people’s opinions on specific and religious products (products with religious implications). The opinions of intimate people are likely to influence the decision to buy specific products significantly because 1) they are used by all family members (e.g., organic vegetables for meals), and 2) product information is not easily available (e.g., eco-friendly products) (cases 1 and 2 in Table 1).

Table 1. Impact of intimate people’s opinions on specific and religious products

		New products	Existing products
Specific products	With some label	[case 1]	[case 2]
	(e.g., eco label)	Influential	Influential
Religious products	With religious label	[case 3]	[case 4]
	(e.g., Halal logo)	Influential (hypothesis 1)	Established

Note: “Religious products” refers to products which may have characteristics that are in alignment with religious teachings, making them suitable for consumption by believers. “Influential” means intimate people’s opinions have an impact on the purchase decision, and “established” means that the valuation of product has been established (i.e., opinions of intimate people have already been taken into account in the course of day-to-day communication).

The dynamics of purchasing religious products may differ as religion-oriented characteristics such as halal certification are basic requirements for believers. For example, Muslims avoid haram products in adherence with Islamic teachings or *Sharia* ([Mukhtar and Mohsin Butt, 2012](#)). Halal certification extends to many products and is applied to broader situations owing to globalization ([Hassan and Sengupta, 2019](#)). Many studies examine the impact of applying halal concepts, certificates, and logos to products including mineral water ([Aisyah, 2014](#); [Kawata et al., 2018](#); [Wibisono et al., 2018](#)). Consequently, halal is a typical and established attribute of Muslim products (Case 4).

However, the impact of intimate people’s opinions on new religious products is ambiguous (Case 3). This study hypothesizes that the opinions of intimate people influence the purchase of new religious products (Hypothesis 1). To the best of our knowledge, this study is the first to explore this hypothesis using either CEs or other methods. This knowledge gap is bridged using CEs, where the random utility theory is applied in estimation models.

This study develops additional related hypotheses, as follows:

- The proportion of a certain religious group in the total city population impacts the WTP for this religion's products (Hypothesis 2).
- The WTP is also affected by religious logos on the package (Hypothesis 3).
- The proportion of a certain religious group in the total city population impacts the degree of consumer dependence on intimate people's opinions (Hypothesis 4).

This study examines five Indian cities with different Muslim ratios, which enabled the examination of these hypotheses.

The findings would be beneficial for the formation of real-life marketing strategies. For example, if Hypotheses 2 and 3 are accepted, producers should consider the impact of the opinions of intimate people when circulating religious products if the religion's population share is low. Alternatively, the religious logo could be eliminated to target consumers of different religions if the religion's population share is high.

Furthermore, a theory relevant to this study is briefly presented. The most associated academic framework is the theory of planned behavior (TPB) ([Ajzen, 1991](#)), which states that purchasing behavior is determined by attitude, subjective norms, and perceived behavioral control (Figure 1). In this study, attitude represents the purchaser's intention to follow their religious restrictions, subjective norms include the influence of family members' opinions on purchasing decisions, and perceived behavioral control indicates how the purchaser recognizes challenges in following religious teachings. The TPB is applied in various general Islamic marketing contexts such as to explain halal products ([Memon et al., 2020](#)), halal food purchasing ([Alam and Sayuti, 2011](#)), and adopting Islamic home financing ([Amin et al., 2014](#); [Amin and Hamid, 2018](#); [Sayuti et al., 2020](#)). While existing studies apply the TPB, this study briefly examines the possibility of improving this theory based on the results of hypotheses testing.

Figure 1. Application of the theory of planned behavior

Note: Typical path of components in the theory of planned behavior

3. Materials and Methods

3.1. Study site

India is a promising target for Islamic marketing ([Hassan and Sengupta, 2019](#)). Muslims are the second-largest religious group in India, and the Indian Muslim population is the third largest in the world ([Panakaje and Siddiq, 2018](#); [Shahid et al., 2018](#)). Five South Indian cities (Bengaluru, Chennai, Hyderabad, Cochin, and Vijaywada in Figure 2) were selected as study sites because they represent cities in India (more than one million people in each), and the ratio of Muslims is relatively lower here than in the north.

There are some merits in gathering data from the five cities. First, the results will be more generalized than single-city results. Second, the ratio of Muslims to the general population in each city differs, making it possible to investigate the relationship between the share and purchasing behavior of Muslims. Although the main targets of the investigation are Muslims, this study also includes non-Muslims as respondents and investigates both cases. As halal and other religion-based product characteristics such as suitability for Kosher, Jain, and Sikh consumption are also important in India, a study that includes non-Muslims is also essential in India ([Hassan and Pandey, 2019](#)).

Figure 2. Study areas

Note: South Indian cities are selected as study sites.

3.2. Questionnaire

The survey was conducted in Bengaluru, Chennai, Hyderabad, Cochin, and Vijaywada between September and December 2020. Snowball sampling was applied, which is suitable when the population is difficult to identify ([Atkinson and Flint, 2001](#); [Dragan and Isaic-Maniu, 2013](#)). The respondents were aware of halal cuisine, and 100 questionnaires were distributed in each city. The initial participants were asked to circulate the questionnaires until all the questionnaires were distributed. Out of 500 questionnaires, 485 were returned, of which 35 were incomplete (90% valid response rate). Several studies indicate that a sample size of 450 is sufficient for this type of study. [Sekaran and Bougie \(2010\)](#) suggest a sample size of 384, while [Tabachnick and Fidell \(2007\)](#) suggest one more than 300 for factor analysis. [Hair et al. \(2006\)](#) recommend 375 to satisfy a minimum sample size of 5 participants per item. [Hutcheson and Sofroniou \(1999\)](#) suggest a sample size from 140 to 300, and [Gorsuch \(1983\)](#) recommends at least 200 participants.

The questionnaire: i) collected demographic details such as gender, age, marital status, religion, educational background, and occupation; ii) asked respondents to select their sources of information regarding food; and iii) presented CE questions. Six sources of information were listed, including mass media (e.g., television), social media (e.g., company's website), and others (e.g., family members). This study does not provide results for information sources other than "family members."

Many studies apply discrete choice models such as CEs to estimate Muslims' WTP for various products ([Putri et al., 2017](#); [Ahmed et al., 2019](#); [Kawata and Salman, 2020](#)) including mineral water ([Kawata et al., 2018](#)). The CE comprised three choice sets (Figure 3), each containing four choices. The first three choices were bottled mineral water from different brands. To make the CE realistic, we included Bisleri and Kinley, India's most popular mineral water brands ([Ray and Chatterjee, 2012](#); [Garg and Chouhan, 2019](#); [Kumaraselvan and Rajendran, 2019](#)). The third choice was "a new product introduced by a famous Indian supermarket," a hypothetical product modeled on a private mineral water brand. The fourth choice stated "do not buy."

Q. 24 Suppose you are thirsty, and you enter a supermarket. You find only one-liter non-carbonated water bottles there. The water is cold enough to drink. No other shops are available within walking distance. Which one will you select? Please select one from Choice 1, Choice 2, Choice 3, and Choice 4.

	Choice 1	Choice 2	Choice 3	Choice 4
Product	Bisleri	Kinley	The new product produced by an Indian famous supermarket	Do not buy
Price	15 Rs	15 Rs	25 Rs	
Religious logo	your religion's	your religion's	other religion's	
Suppose you heard the religious evaluation of your family/close friends yesterday	0% (disappointed)	100% (strongly recommend)	100% (strongly recommend)	

Figure 3. Example of the Choice Set

Note: The choice sets appear below the questions in the questionnaire. The levels of attributes (products, etc.) are randomly assigned to choices 1 to 4.

The choice sets provided four types of information for each choice: brand/producer, price, information about religious logos, and valuations by intimate people (Figure 3). Participants were asked to assume that they had heard their family's and friends' valuations for each product (Choices 1, 2, and 3) on the previous day. Table 2 shows the levels of each attribute. Respondents were required to select one of the four choices (Choices 1 to 4) and repeat the question (choice set) three times.

Table 2. Levels of attributes of choices 1 to 3 in the choice sets

Attribute	Level
Product (fixed)	Bisleri (Choice 1), Kinley (Choice 2), new product (Choice 3)
Price	Rs. 15, Rs. 20, Rs. 25
Religious logo	own religion's logo, another religion's logo, none
Opinions	0% (disappointed), 25% (not satisfied), 50% (normal evaluation), 75% (recommend), 100% (strongly recommend)

3.3. Choice experiments

The multinomial logit (ML) and random parameter logit (RPL) models ([McFadden, 1974](#); [Revelt and Train, 1998](#)) were applied in the estimations (Figure 4). These models were selected as they are the most advanced and frequently used models suitable for our purpose. Each individual has their preferences regarding a product and its attributes. It is

advisable to apply the RPL model in the case there is heterogeneity in the preferences of consumers. If there is no noticeable difference in preferences, the ML model may perform better. While the RPL is more advanced, including interaction terms (i.e., a term between the alternative specific constant (ASC) and the respondents' characteristics) into the model is not recommended. Here, ASC represents specific product features such as a brand. Meanwhile, adding interaction terms (e.g., $ASC \times \text{age group}$) in the ML model is common. Hereafter, a model that includes only ASCs, and another that consists of ASCs and interaction terms are referred to as a primary effect model and an interaction model, respectively. Based on the above, this study employs the following estimation strategies.

- Estimate both primary effect ML and RPL models.
- 2-1) If preference heterogeneity is observed, the results of the primary effect RPL models are adopted (Primary_RPL in Figure 4)
- 2-2) If preference heterogeneity is not observed, the results of the primary effect ML models are adopted. The interaction ML models will also be estimated for further investigation (Interaction_ML in Figure 4).

Data Gathering	Choice Experiments (CEs)	
	Five Indian cities (sample size = 450)

Estimation	Random parameter logit (RPL)	Multinomial logit (ML)
Preference heterogeneity	Observed	Not observed
Primary effect model	Primary_RPL	Primary_ML [not used]
Interaction model	[not applicable]	Interaction_ML

Figure 4. Main procedures of analyses

The econometric models are briefly presented below based on the random utility theory. Assume that respondent i selects choice j ($j \in \{choice\ 1, choice\ 2, choice\ 3, choice\ 4\}$). Then, respondent i 's utility function is given in the following form.

$$U_{ij} = V_{ij} + e_{ij}$$

Here, V_{ij} and e_{ij} are the deterministic and random error components, respectively. The primary effect and interaction models are developed as follows.

[Primary effect model]

$$V_{ij} = \beta^{ASC1} ASC1_{ij} + \beta^{ASC2} ASC2_{ij} + \beta^{ASC3} ASC3_{ij} + \beta^P P_{ij} + \beta^{LY} LY_{ij} + \beta^{LO} LO_{ij} + \beta^O O_{ij}$$

[Interaction model]

$$V_{ij} = \beta^{ASC1} ASC1_{ij} + \beta^{ASC2} ASC2_{ij} + \beta^{ASC3} ASC3_{ij} + \beta^P P_{ij} + \beta^{LY} LY_{ij} + \beta^{LO} LO_{ij} + \beta^O O_{ij} + \sum \beta^k ASCt_{ij} \cdot X_{ij}$$

Here, $ASCt_{ij}$ ($t = 1, 2, \text{ and } 3$) equals 1 when a respondent selects Choice 1 (Bisleri), Choice 2 (Kinley), or Choice 3 (new product), and 0 otherwise (Table 3). X_{ij} s implies respondents' characteristics. β s represent the parameters.

Table 3. Variables

Variable	Explanation
$ASC1_{ij}$ (Bisleri)	=1 if a product is Bisleri and 0 otherwise
$ASC2_{ij}$ (Kinley)	=1 if a product is Kinley and 0 otherwise
$ASC3_{ij}$ (New product)	=1 if a product is newly developed mineral water and 0 otherwise
P_{ij} (price)	Price of products (Bisleri, Kinley, and newly developed mineral water)
LY_{ij} (your religion's)	=1 if the label of respondent's religion's certification logo is printed on the package and =0 otherwise
LO_{ij} (other religion's)	=1 if the label of a religion's certificate logo other than respondent's religion is printed on the package and =0 otherwise
O_{ij} (family)	The opinions of the respondent's family members and close friends regarding a product
X_{ij} s	The respondent's characteristics (gender, age, marital status, and educational background)
$ASCt_{ij} * GENDER$	=1 if a man and =0 if woman (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =1)
$LY_{ij} * GENDER$	=0 for both man and woman (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =0)
$LO_{ij} * GENDER$	
$O_{ij} * GENDER$	
$ASCt_{ij} * AGE$	=1 if 39 years old or less and =0 otherwise (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =1)
$LY_{ij} * AGE$	

$LO_{ij} * AGE$	=0 for both age groups (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =0)
$O_{ij} * AGE$	
$ASCt_{ij} * MARITAL$	=1 if married and =0 if single (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =1)
$LY_{ij} * MARITAL$	=0 for both married and single (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , and O_{ij} =0)
$LO_{ij} * MARITAL$	
$O_{ij} * MARITAL$	
$ASCt_{ij} * EDUCATION$	=1 if Bachelor or less and =0 if Master or more (when $ASCt_{ij}$, LY_{ij} , $LY_{ij} * EDUCATION$ LO_{ij} , and O_{ij} =1)
$LO_{ij} * EDUCATION$	=0 for both educational background groups (when $ASCt_{ij}$, LY_{ij} , LO_{ij} , $O_{ij} * EDUCATION$ and O_{ij} =0)

Assume that a respondent achieves the highest utility if they select choice j . The probability that respondent i selects choice j is as follows.

$$Pr_{ij} = Pr(U_{ij} > U_{ik}) = Pr(V_{ij} - V_{ik} > e_{ik} - e_{ij}), j \neq k.$$

Further, assume that the error components are independent and identically Gumbel distributed, with the scale parameter = 1 and location parameter = 0. Then, Pr_{ij} is given as follows ([McFadden, 1974](#)).

$$Pr_{ij} = \frac{\exp(V_{ij})}{\sum_k \exp(V_{ik})}.$$

This model is referred to as the ML model. In this setting, the β s of the attributes are similar for all the respondents. The random parameter logit (RPL) model eases this limitation. Suppose β_i is the vector of coefficients of explanatory variables. Then, the following equation is obtained ([Probst et al., 2012](#); [Train, 2009](#));

$$S_i(\beta_i) = \prod_{t \in T} L_{ij(i,t)t}(\beta_i).$$

Here, t is the t -th choice, and the value of this equation is approximated by applying a simulated likelihood estimation.

For simplicity in estimations and interpretation, some respondents' characteristics used in interaction models are recreated (e.g., seven age groups are reduced to two groups). Analyses were performed in R ([R Core Team, 2019](#)). In the RPL models, the parameter

distributions of $ASCt_{ij}$ are supposed to conform to a normal distribution. The WTP is calculated as follows.

$$-\frac{\beta^l}{\beta^P}$$

Here, l represents the superscripts of β s other than P_{ij} . The sign condition may be applied to the price: $\beta^P < 0$.

4. Results

4.1. Descriptive statistics

There were 90 respondents from each city, resulting in a sample size of 450. Table 4 presents the characteristics of the respondents and population. The male-female ratio is almost identical for all five cities, averaging at 53.6 % (men) and 46.4 % (women). The age distribution varied marginally among the cities. Those in their 30s and 40s accounted for approximately 70% of respondents in all cities. Marital status also varied among cities; on average, 82.9% of respondents were married. Chennai (45.6%) has the lowest percentage of Muslims, followed by Vijaywada (52.2%), and the largest is in Cochin (85.6%). Educational background differed among cities, with 42.2% of respondents holding a bachelor's degree on average. Regarding occupation, most respondents (34.9% on average) were private-sector employees.

Table 4. Descriptive statistics of the respondents' characteristics

	5 Cities	Hyderabad	Bengaluru	Cochin	Chennai	Vijaywada	Population
Sample size	450	90	90	90	90	90	
GENDER							
Men	241	46	54	44	54	43	
	53.6%	51.1%	60.0%	48.9%	60.0%	47.8%	51.2%
Women	209	44	36	46	36	47	
	46.4%	48.9%	40.0%	51.1%	40.0%	52.2%	48.8%
AGE							
19 or less	61	7	11	5	24	14	0-14
	13.6%	7.8%	12.2%	5.6%	26.7%	15.6%	26.16%
20-29	42	15	8	9	4	6	15-65

		9.3%	16.7%	8.9%	10.0%	4.4%	6.7%	67.27%
	30-39	160	30	26	37	35	32	
		35.6%	33.3%	28.9%	41.1%	38.9%	35.6%	
	40-49	147	24	37	29	26	31	
		32.7%	26.7%	41.1%	32.2%	28.9%	34.4%	
	50-59	35	11	8	8	1	7	
		7.8%	12.2%	8.9%	8.9%	1.1%	7.8%	
	60-69	5	3	0	2	0	0	65 or more
		1.1%	3.3%	0.0%	2.2%	0.0%	0.0%	6.57%
	70 or more	0	0	0	0	0	0	
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
MARITAL STATUS								
	Single	77	7	14	11	27	18	
		17.1%	7.8%	15.6%	12.2%	30.0%	20.0%	
	Married	373	83	76	79	63	72	
		82.9%	92.2%	84.4%	87.8%	70.0%	80.0%	
RELIGION								
	Muslim	287	60	62	77	41	47	
		63.8%	66.7%	68.9%	85.6%	45.6%	52.2%	18.8%
	Christian	66	4	7	8	26	21	
		14.7%	4.4%	7.8%	8.9%	28.9%	23.3%	6.4%
	Hindu	97	26	21	5	23	22	
		21.6%	28.9%	23.3%	5.6%	25.6%	24.4%	72.9%
EDUCATION								
	High school or less	28	0	4	3	13	8	
		6.2%	0.0%	4.4%	3.3%	14.4%	8.9%	
	College	50	6	8	13	15	8	
		11.1%	6.7%	8.9%	14.4%	16.7%	8.9%	
	Bachelor	190	39	55	40	19	37	
		42.2%	43.3%	61.1%	44.4%	21.1%	41.1%	
	Master	161	41	23	34	32	31	
		35.8%	45.6%	25.6%	37.8%	35.6%	34.4%	
	Doctor	21	4	0	0	11	6	
		4.7%	4.4%	0.0%	0.0%	12.2%	6.7%	
OCCUPATION								

Private sector	157	34	36	30	27	30
	34.9%	37.8%	40.0%	33.3%	30.0%	33.3%
Government sector	49	16	5	8	11	9
	10.9%	17.8%	5.6%	8.9%	12.2%	10.0%
Self-employed	122	25	24	32	14	27
	27.1%	27.8%	26.7%	35.6%	15.6%	30.0%
Housewife	66	9	14	17	15	11
	14.7%	10.0%	15.6%	18.9%	16.7%	12.2%
Student	56	6	11	3	23	13
	12.4%	6.7%	12.2%	3.3%	25.6%	14.4%

Note: Source of population data (right end) is the 2011-2021 Census of India.

4.2. Estimating the results of the main effect models and examining hypothesis 1

Table 5 presents the estimation results of the ML and RPL models. There are seven cases in both models, where the results were obtained by: 1) using all the data (ML_all, RPL_all), 2) – 6) using each city's data (Bengaluru, Chennai, Hyderabad, Cochin, and Vijaywada), and 7) using Muslims' data (Muslim). The sign condition ($\beta^P < 0$) is satisfied. The results of the RPL models are shown in the lower chart; sd.Bisleri, sd.Kinley, and sd.New products are not statistically significant at the 10% level except for the sd.New product of RPM_all and sd.Bisleri of Vijaywada, indicating that preference heterogeneity is not observed in most cases. Therefore, it is natural that the parameter values of the ML and RPL models are close.

Table 6 shows the estimated WTP. There are seven cases in both the ML and RPL models. Each case contains three cases of the WTP for Bisleri, Kinley, and New products, that is, “MWTP,” “+ your,” and “+other.” For example, in ML_all, the WTP for Bisleri, Kinley, and New products is Rs. 10.97, Rs. 8.51, and Rs. 9.63, respectively. “+ your” indicates “Bisleri with your religion's logo,” “Kinley with your religion's logo,” and “new product with your religion's logo,” and the WTP are Rs. 28.25 (= Rs. 10.97 + Rs. 17.28), Rs. 25.79, and Rs. 26.91, respectively. “+other” means “Bisleri with another religion's logo,” “Kinley with another religion's logo,” and “new product with another religion's logo,” and WTP are Rs. 3.65, Rs. 1.18, and Rs. 2.30, respectively. “Religious valuation” indicates intimate people's impacts on the WTP. For all cases, intimate people's impact on the WTP is less than Rs. 0.1. Therefore, Hypothesis 1 is rejected.

Table 5. Estimation results: Main effect models

	ML_all			Banglore			Chennai			Cochin			Hyderabad			Vijaywada			Muslim		
	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)
Bisleri	0.73	3.17	0.00 **	-0.04	-0.08	0.94	0.84	1.75	0.08 .	-0.69	-1.25	0.21	3.20	5.93	0.00 ***	0.31	0.59	0.55	0.43	1.55	0.12
Kinley	0.56	2.45	0.01 *	0.05	0.09	0.93	0.57	1.18	0.24	-0.65	-1.18	0.24	2.86	5.27	0.00 ***	0.02	0.05	0.96	0.33	1.14	0.25
New product	0.64	2.77	0.01 **	-0.04	-0.07	0.94	0.84	1.75	0.08 .	-0.58	-1.06	0.29	2.99	5.52	0.00 ***	-0.08	-0.15	0.88	0.44	1.57	0.12
price	-0.07	-6.37	0.00 ***	-0.08	-3.08	0.00 **	-0.02	-0.95	0.34	-0.04	-1.44	0.15	-0.18	-6.99	0.00 ***	-0.04	-1.71	0.09 .	-0.05	-4.21	0.00 ***
your religion's	1.14	12.02	0.00 ***	2.21	8.59	0.00 ***	0.20	1.04	0.30	1.59	6.96	0.00 ***	0.84	3.92	0.00 ***	1.34	6.12	0.00 ***	1.18	9.64	0.00 ***
another religion's	-0.49	-4.55	0.00 ***	0.40	1.49	0.14	-0.70	-3.44	0.00 ***	-0.49	-1.77	0.08 .	-0.71	-3.03	0.00 **	-0.79	-2.93	0.00 **	-0.31	-2.09	0.04 **
family	0.00	0.30	0.77	0.00	0.75	0.46	0.00	-0.31	0.75	0.00	1.03	0.30	0.00	0.47	0.64	0.00	-1.17	0.24	0.00	-1.14	0.25
AIC	3375.25			628.37			735.62			636.40			656.10			653.15			2183.18		

	RPL_all			Banglore			Chennai			Cochin			Hyderabad			Vijaywada			Muslim		
	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)	Estimate	z-valu	Pr(> z)
Bisleri	0.73	3.11	0.00 **	-0.06	-0.11	0.91	0.84	1.71	0.09 .	-0.73	-1.27	0.21	3.26	5.50	0.00 ***	0.22	0.37	0.71	0.41	1.46	0.14
Kinley	0.58	2.44	0.01 *	0.10	0.18	0.86	0.56	1.13	0.26	-0.64	-1.15	0.25	2.93	5.00	0.00 ***	-0.03	-0.05	0.96	0.33	1.18	0.24
New product	0.60	2.56	0.01 *	-0.05	-0.09	0.93	0.85	1.71	0.09 .	-0.66	-1.17	0.24	2.98	5.13	0.00 ***	-0.21	-0.35	0.73	0.44	1.58	0.11
price	-0.07	-6.37	0.00 ***	-0.08	-2.99	0.00 **	-0.02	-0.96	0.34	-0.04	-1.52	0.13	-0.18	-6.31	0.00 ***	-0.04	-1.63	0.10	-0.05	-4.17	0.00 ***
your religion's	1.20	11.61	0.00 ***	2.34	7.72	0.00 ***	0.20	1.02	0.31	1.70	6.05	0.00 ***	0.87	3.57	0.00 ***	1.48	5.83	0.00 ***	1.21	9.26	0.00 ***
another religion's	-0.50	-4.27	0.00 ***	0.41	1.34	0.18	-0.71	-3.16	0.00 **	-0.49	-1.57	0.12	-0.72	-2.82	0.00 **	-0.86	-2.78	0.01 **	-0.32	-2.03	0.04 **
family	0.00	0.36	0.72	0.00	0.73	0.46	0.00	-0.33	0.74	0.00	1.16	0.25	0.00	0.38	0.71	0.00	-1.03	0.30	0.00	-1.26	0.21
sd.Bisleri	0.38	1.21	0.23	0.64	1.23	0.22	0.23	0.23	0.81	0.53	0.75	0.45	0.02	0.00	1.00	0.74	1.77	0.08 .	0.41	1.00	0.32
sd.Kinley	-0.21	-0.37	0.71	-0.19	-0.13	0.89	0.31	0.35	0.73	-0.10	-0.04	0.97	-0.01	0.00	1.00	0.28	0.30	0.76	-0.01	0.00	1.00
sd.New product	0.55	2.17	0.03 *	0.61	1.02	0.31	-0.17	-0.14	0.89	0.64	1.13	0.26	0.59	1.06	0.29	0.70	1.20	0.23	-0.19	-0.27	0.79
AIC	3377.52			632.75			741.53			640.89			661.35			656.49			2188.33		

Table 6. Marginal willingness to pay (MWTP)

	ML_all			Banglore			Chennai			Cochin			Hyderabad			Vijaywada			Muslim		
	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other
Bisleri	10.97	28.25	3.65	-0.58	28.39	4.60	41.77	51.78	7.14	-19.37	25.53	-33.21	18.05	22.79	14.01	7.59	40.27	-11.62	8.13	30.38	2.23
Kinley	8.51	25.79	1.18	0.64	29.61	5.81	28.42	38.43	-6.21	-18.22	26.67	-32.07	16.13	20.87	12.10	0.60	33.28	-18.61	6.13	28.38	0.23
new	9.63	26.91	2.30	-0.54	28.43	4.64	41.85	51.86	7.22	-16.39	28.51	-30.24	16.88	21.62	12.85	-1.93	30.75	-21.14	8.21	30.46	2.32
your religion's rel	17.28			28.97			10.00			44.89			4.74			32.68			22.25		
another religion's	-7.33			5.17			-34.63			-13.85			-4.03			-19.21			-5.90		
religious valuation	0.00			0.03			-0.03			0.08			0.01			-0.07			-0.03		

	RPL_all			Banglore			Chennai			Cochin			Hyderabad			Vijaywada			Muslim		
	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other	MWTP	+your	+other
Bisleri	10.63	28.08	3.40	-0.74	27.81	4.21	40.75	50.53	6.65	-18.62	24.74	-31.14	18.08	22.88	14.08	5.11	39.21	-14.62	7.55	29.90	1.56
Kinley	8.46	25.91	1.23	1.25	29.80	6.20	26.99	36.76	-7.12	-16.33	27.03	-28.85	16.20	21.00	12.20	-0.66	33.44	-20.39	6.16	28.50	0.16
new	8.76	26.21	1.53	-0.59	27.96	4.36	41.04	50.82	6.94	-16.82	26.54	-29.34	16.51	21.32	12.52	-4.87	29.23	-24.59	8.10	30.44	2.10
your religion's rel	17.45			28.55			9.78			43.36			4.80			34.10			22.35		
another religion's	-7.23			4.95			-34.10			-12.52			-4.00			-19.73			-5.99		
religious valuation	0.01			0.02			-0.03			0.08			0.01			-0.06			-0.03		

4.3. Estimation results of the interaction models

The results of the RPL models do not indicate preference heterogeneity for almost all parameters. Therefore, interaction models are estimated using ML models. Table 7 presents the results when including the interaction terms of *GENDER*, *AGE*, *MARITAL STATUS*, and *EDUCATION* with $ASC1_{ij}$ (Bisleri), $ASC2_{ij}$ (Kinley), and $ASC3_{ij}$ (new product) (hereafter referred to as CASE A). Table 8 presents the results when including the interaction terms with LY_{ij} (your religion's logo), LO_{ij} (another religion's logo), and O_{ij} (valuations of family members/close friends) (hereafter referred to as CASE B). Generally, the interaction terms are insignificant in CASEs A and B. All the interaction terms are statistically insignificant at the 10% level for the ML_all_B, Cochin_B, Hyderabad_A, Hyderabad_B, and Muslim_B models. Regarding gender, Kinley*GENDER is statistically significantly positive for the Muslim_A model, suggesting that Muslim men, rather than women, prefer Kinley (Table 9). The interpretation of other results in Table 9 is similar to the above interpretation, and examples of the interpretation are provided. The results in Table 9 do not indicate any significant factors that commonly affect respondents' preferences regarding mineral water.

Table 7. Estimation results: Interaction models (CASE A: ASCs)

	ML_all_A			Banglore_A			Chennai_A			Cochin_A			Hyderabad_A			Vijaywada_A			Muslim_A		
	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)
Bisleri	0.95	3.59	0.00 ***	0.60	0.85	0.40	1.14	1.84	0.07 .	-0.64	-0.99	0.32	3.04	5.01	0.00 ***	0.62	1.06	0.29	0.60	1.83	0.07 .
Kinley	0.29	1.05	0.29	0.36	0.53	0.60	0.29	0.46	0.65	-0.46	-0.69	0.49	2.10	3.14	0.00 **	-0.55	-0.85	0.40	0.01	0.03	0.98
New product	0.57	2.11	0.03 *	0.47	0.69	0.49	1.17	1.87	0.06 .	-0.52	-0.77	0.44	2.81	4.41	0.00 ***	-0.86	-1.37	0.17	0.33	0.98	0.33
price	-0.07	-6.38	0.00 ***	-0.08	-3.18	0.00 **	-0.03	-1.18	0.24	-0.04	-1.67	0.09 .	-0.17	-6.84	0.00 ***	-0.04	-1.59	0.11	-0.06	-4.35	0.00 ***
your religion's	1.15	11.94	0.00 ***	2.31	8.44	0.00 ***	0.20	0.95	0.34	1.56	6.41	0.00 ***	0.91	4.11	0.00 ***	1.46	6.10	0.00 ***	1.19	9.51	0.00 ***
another religion's	-0.49	-4.55	0.00 ***	0.37	1.30	0.19	-0.69	-3.27	0.00 **	-0.51	-1.72	0.09 .	-0.67	-2.73	0.01 **	-0.96	-3.39	0.00 ***	-0.31	-2.05	0.04 *
family	0.00	0.19	0.85	0.00	0.77	0.44	0.00	0.00	1.00	0.00	0.87	0.38	0.00	0.61	0.54	0.00	-1.35	0.18	0.00	-1.10	0.27
Bisleri*Gender	0.03	0.19	0.85	0.14	0.35	0.72	-0.13	-0.36	0.72	0.01	0.02	0.98	0.28	0.79	0.43	0.15	0.43	0.67	0.14	0.70	0.49
Kinley*Gender	0.21	1.31	0.19	0.50	1.29	0.20	0.18	0.45	0.65	-0.25	-0.65	0.52	0.21	0.54	0.59	0.13	0.37	0.71	0.36	1.77	0.08 .
New*Gender	0.15	0.98	0.32	0.65	1.60	0.11	-0.27	-0.73	0.46	-0.44	-1.14	0.25	0.50	1.35	0.18	0.49	1.30	0.19	0.23	1.19	0.23
Bisleri*Age	-0.26	-1.54	0.12	-0.64	-1.54	0.12	-0.37	-0.89	0.37	0.06	0.14	0.89	0.03	0.10	0.92	-0.88	-2.29	0.02 *	-0.16	-0.73	0.46
Kinley*Age	0.30	1.69	0.09 .	-0.39	-0.95	0.34	0.08	0.17	0.87	0.72	1.78	0.08 .	0.50	1.23	0.22	0.22	0.51	0.61	0.24	1.06	0.29
New*Age	0.15	0.86	0.39	-0.26	-0.61	0.54	-0.21	-0.49	0.63	0.53	1.33	0.18	-0.11	-0.29	0.77	0.85	1.96	0.05 *	0.04	0.16	0.87
Bisleri*Marital	0.11	0.47	0.64	0.79	1.31	0.19	0.20	0.36	0.72	0.39	0.67	0.50	-0.13	-0.20	0.85	0.08	0.14	0.89	-0.26	-0.83	0.41
Kinley*Marital	-0.11	-0.46	0.64	0.34	0.61	0.54	0.18	0.32	0.75	-0.33	-0.52	0.60	-0.24	-0.35	0.73	-0.58	-1.11	0.27	-0.25	-0.90	0.37
New*Marital	0.14	0.59	0.56	-0.36	-0.66	0.51	1.20	2.10	0.04 *	-1.14	-1.79	0.07 .	-0.58	-0.65	0.52	-0.51	-0.96	0.34	0.12	0.45	0.65
Bisleri*Education	-0.18	-1.12	0.26	-0.60	-1.27	0.20	0.09	0.21	0.84	0.08	0.20	0.84	-0.22	-0.59	0.55	0.14	0.39	0.69	-0.13	-0.61	0.54
Kinley*Education	0.01	0.06	0.95	-0.54	-1.17	0.24	0.25	0.53	0.60	-0.44	-1.14	0.25	0.50	1.25	0.21	0.75	1.80	0.07 .	0.09	0.42	0.68
New*Education	-0.21	-1.25	0.21	-0.92	-2.00	0.05 *	-0.60	-1.24	0.22	0.17	0.45	0.66	-0.21	-0.55	0.58	0.18	0.45	0.65	-0.04	-0.21	0.83
AIC	3383.14			639.83			749.16			650.26			671.14			657.50			2195.86		

Table 8. Estimation results: Interaction models (CASE B: others)

	ML_all_B			Banglore_B			Chennai_B			Cochin_B			Hyderabad_B			Vijaywada_B			Muslim_B		
	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)	Estimate	z-value	Pr(> z)
Bisleri	0.72	3.13	0.00 **	0.02	0.03	0.97	0.79	1.61	0.11	-0.56	-0.99	0.32	3.24	5.92	0.00 ***	0.53	0.98	0.33	0.44	1.56	0.12
Kinley	0.57	2.45	0.01 *	0.03	0.05	0.96	0.49	1.00	0.32	-0.53	-0.93	0.35	2.92	5.29	0.00 ***	0.24	0.43	0.66	0.33	1.14	0.25
New product	0.64	2.78	0.01 **	0.18	0.31	0.76	0.88	1.78	0.08 .	-0.45	-0.80	0.42	3.05	5.54	0.00 ***	0.18	0.34	0.74	0.46	1.63	0.10
price	-0.07	-6.38	0.00 ***	-0.08	-3.20	0.00 **	-0.02	-0.93	0.35	-0.04	-1.73	0.08 .	-0.18	-6.99	0.00 ***	-0.05	-2.17	0.03 *	-0.05	-4.22	0.00 ***
your religion's	1.06	5.79	0.00 ***	2.14	4.33	0.00 ***	0.00	0.00	1.00	1.65	3.61	0.00 ***	0.90	2.26	0.02 *	1.06	2.50	0.01 *	1.12	4.99	0.00 ***
another religion's	-0.41	-2.01	0.04 *	1.07	2.17	0.03 *	-0.84	-1.89	0.06 .	-1.23	-1.88	0.06 .	-0.37	-0.80	0.42	-0.38	-0.81	0.42	-0.32	-1.09	0.27
family	0.00	0.86	0.39	0.01	1.19	0.23	0.00	0.66	0.51	0.01	0.95	0.34	0.00	-0.19	0.85	0.00	-0.89	0.38	0.00	-0.70	0.48
your*Gender	0.00	-0.12	0.90	0.01	1.64	0.10	0.00	0.52	0.60	0.00	-0.93	0.35	0.00	-1.01	0.31	0.00	-0.89	0.38	0.00	1.40	0.16
other*Gender	0.15	0.91	0.36	-0.03	-0.07	0.94	-0.66	-1.71	0.09 .	0.03	0.08	0.94	0.51	1.30	0.20	1.02	2.46	0.01 *	-0.01	-0.04	0.97
family*Gender	0.21	1.11	0.27	0.10	0.21	0.83	-0.24	-0.57	0.57	0.86	1.49	0.14	0.19	0.44	0.66	0.19	0.36	0.72	0.10	0.38	0.70
your*Age	0.00	-1.37	0.17	-0.01	-1.42	0.16	-0.01	-1.49	0.14	0.00	-0.88	0.38	0.00	0.76	0.45	0.00	0.07	0.95	0.00	-1.32	0.19
other*Age	0.02	0.12	0.90	-0.04	-0.09	0.93	0.49	1.02	0.31	0.59	1.40	0.16	-0.36	-0.92	0.36	0.13	0.28	0.78	0.18	0.81	0.42
family*Age	-0.16	-0.75	0.45	-0.16	-0.30	0.76	-0.01	-0.01	0.99	0.63	1.07	0.28	-0.35	-0.76	0.45	-0.83	-1.39	0.16	-0.03	-0.09	0.93
your*Marital	0.00	-0.97	0.33	-0.04	-2.68	0.01 **	0.01	1.16	0.25	0.00	-0.07	0.95	-0.01	-0.92	0.36	0.00	-0.09	0.93	-0.01	-1.29	0.20
other*Marital	-0.03	-0.12	0.91	1.63	1.80	0.07 .	0.01	0.03	0.98	-0.60	-0.77	0.44	1.01	0.92	0.36	-0.62	-1.07	0.28	0.03	0.10	0.92
family*Marital	0.48	1.59	0.11	1.39	2.05	0.04 *	0.23	0.34	0.73	-0.30	-0.37	0.71	0.46	0.51	0.61	-0.29	-0.29	0.77	0.51	1.34	0.18
your*Education	0.00	0.70	0.49	-0.01	-0.93	0.35	0.00	-0.79	0.43	0.00	0.98	0.33	0.01	1.15	0.25	0.01	1.30	0.20	0.00	0.81	0.42
other*Education	0.01	0.04	0.97	0.22	0.42	0.67	0.40	0.84	0.40	-0.65	-1.56	0.12	-0.29	-0.73	0.47	-0.19	-0.43	0.67	-0.05	-0.25	0.80
family*Education	-0.30	-1.46	0.14	-1.07	-2.04	0.04 *	0.51	0.98	0.33	-0.16	-0.28	0.78	-0.51	-1.12	0.26	-0.19	-0.36	0.72	-0.23	-0.80	0.42
AIC	3387.80			622.48			749.77			651.92			674.18			664.80			2196.52		

Table 9. Results of interaction terms

	Positive	Negative	Example of interpretation
Kinley*Gender	Muslim_A		Men prefer Kinley more than
other*Gender	Vijaywada_B	Chennai_B	women do, among Muslims.
Bisleri*Age		Vijaywada_A	Younger people prefer Kinley
Kinley*Age	ML_all_A, Cochin_A		more than older people do, in
New*Age	Vijaywada_A		Cochin.
New*Marital Status	Chennai_A	Cochin_A	Married people have a higher
your*Marital Status		Bengaluru_B	preference for products with
other*Marital Status	Bengaluru_B		another religion's logo, than
family*Marital Status	Bengaluru_B		singles do in Bengaluru.
Kinley*Education	Vijaywada_A		Less educated people prefer
New*Education		Bengaluru_A	Kinley in Vijaywada.
family*Education		Bengaluru_B	

4.4. Determinants of WTP and examining hypotheses 2, 3, and 4

This study further examines the potential determinants of the WTP (Figure 5, with and without religious logos on the left and right charts). Figure 5 details the relationship between the WTP for 1 liter of bottled mineral water (vertical axes) and the percentage of Muslims (horizontal axes) in the five cities. It is worth noting that the WTP for bottled mineral water decreases as the ratio of Muslims to the general population in a city increases. Therefore, Hypothesis 2 is supported. For both the left and right charts, the WTP is almost similar when the ratio of Muslims in a city is low. However, when it increases, the differences in the WTP between the left and right charts increase. Therefore, Hypothesis 3 is supported.

Figure 6 shows the results of the relationship between how often respondents use information obtained from family members and the percentage of Muslims in the five cities. The results show that the lower the percentage of Muslims in a city, the higher the reliance on information from family members. Therefore, Hypothesis 4 is supported.

Figure 5 Relationship between the WTP for a 1 liter mineral bottle (vertical axes, Rs) and the percentage of Muslims (horizontal axes, %) in five cities

Note: The WTP when the package has a religious logo (left chart) and the WTP without a logo (right chart).

Figure 6 Relationship between how often respondents use information obtained from family members (vertical axis) and the percentage of Muslims (horizontal axis, %) in the five cities

5. Discussion and Concluding Comments

5.1. Examination of the main results

This study investigates the impact of intimate people's religious opinions on purchase decisions regarding a new product in five Indian cities. A hypothetical newly launched brand of bottled mineral water (one liter) is considered a new product for the analysis. The ML and RPL models are adopted; the former is selected as preference heterogeneity is not observed. The ML models show that the WTP of all respondents (ML_all in Table 6) for bottled mineral water when the respondents' religion's logo is printed on the package (MWTP+ your) is Rs. 28.25, Rs. 25.79, and Rs. 26.91 for Bisleri, Kinley, and the new product, respectively. The WTP of Muslim respondents (Muslim) is Rs. 30.38, Rs. 28.38, and Rs. 30.46. The WTP of Muslims is slightly higher than those of all respondents, suggesting that Muslims are more faithful to their religion in selecting products. This result is natural because some respondents in all the cases (ML_all) may be from religions that do not impose strict food taboos; therefore, they may not pay as high a premium for religious logos as Muslims do. Similarly, if another religion's logo is printed, the WTP of ML_all is less than 5 Rs (+ other). These results indicate that religion-based certification is crucial for product selection. If consumers find logos of other religions, their WTP would be too low to cover the normal price of mineral water.

As ML models are selected, interaction terms are included to investigate the determinants of the WTP (Tables 7 and 8). There are no clear tendencies common in the sample cities. *Kinley * AGE* is significantly positive at the 10% level in ML_all_A, suggesting that younger people prefer Kinley more than older people. *Kinley * GENDER* is significantly positive at the 10% level in Muslim_A, suggesting that Muslim men prefer Kinley more than Muslim women. There are no statistically significant interaction terms in the ML_all_B and Muslim_B cases. The WTP for a new product is the highest in the Chennai, Cochin, and Muslim cases (Table 6). Based on these results, there is no evident tendency among people when selecting bottled mineral water.

The determinants of WTP are further examined. The relationship between WTP and the percentage of Muslims in the total city population is examined for the sample cities. As shown in Figure 5, the WTP decreases as the proportion of Muslims increases. This tendency is more apparent when the package lacks a religious logo (right chart, Figure 5). This result is reasonable because when the percentage of Muslims in a city population is

high, it is easy to obtain bottled mineral water with halal logos. Therefore, the WTP for products without a halal logo may be lower.

5.2. Implications

Based on the results of the hypotheses, especially those of Hypotheses 2 and 3, producers need to investigate whether there is need to print religious logos on packages. If Muslims dominate a city, it would be profitable for producers to imprint a halal logo on packages as the WTP is likely to increase by Rs. 17.28 on average (ML_all), as shown in Table 6. The results in Figure 5 imply the same. However, if multiple religions co-exist in a city in roughly equal proportions, producers need to consider whether they should print the religious logo of a certain religion. This is because the WTP reduces to Rs. -7.33 (ML_all) for products with a different religion's logo, as presented in Table 6. Producers also need to consider that the difference between products with and without a halal logo is less if the percentage of Muslims is lower, as shown in Figure 5.

Furthermore, based on the results of Hypotheses 1 and 4, producers need to consider the impact of intimate people's opinions on purchasers. The results of Hypothesis 1 indicate that intimate people's opinions have no impact on purchase decisions of a new product. Hypothesis 4 suggests that a purchaser communicates with intimate people daily, which significantly influences their opinions if they live in a city with a lower Muslim population. In summary, this study suggests that citizens hold sufficient conversation on religious issues with their family members daily, and hence develop solid religious standards.

These results highlight the difference between products with religious logos and other specific products such as eco-friendly products. For example, family members' opinions affect specific product choices (e.g., [Kim and Seock, 2019](#); [Dorce et al., 2021](#)). However, this study shows that family members' opinions do not affect the selection of new religious products.

Finally, the implications of the improvement of the TPB are briefly discussed. This study suggests a direct impact of subjective norms on attitude based on the results of Hypotheses 1 and 4 because the opinions of intimate people affect purchasers on different occasions. Therefore, the TPB may be expanded by examining the asynchronous nature of the three components before affecting the intention to perform.

5.3. Validity check

First, criterion validity is checked by comparing the results of this study with bottled water prices in India. The most relevant values of the WTP for this validity check are perhaps those of “+ your” in Table 6. The WTP for “+ your” differs for cities and products, but all WTP is more than Rs. 20, while the average WTP is Rs. 26.98. These results appear valid following [Thakur et al. \(2018, p. 74\)](#), who state that “[t]he retailers sold one liter of packaged drinking water to the consumers at Rs 20/- in ordinary retail outlets or shops, whereas, it was sold in the price range of Rs 28/- Rs 30/- at bus stands, Rs 30/- to Rs 60/- at restaurants/malls and Rs 60/- at airports.”

Second, the construct validity is also checked. This study applies both ML and RPL models and estimates WTP. As shown in Table 6, WTP obtained from the ML and RPL models is relatively similar, suggesting that the obtained WTP values are valid. The sign condition for the price is also satisfied for all models, indicating theoretical validity. Finally, it is worth noting that the WTP in the five cities (those of “MWTP + your” and “MWTP + other”) is similar and has realistic values as discussed above, suggesting that the WTP obtained in this study is reliable.

5.4. Limitations and suggestions for future studies

This study has some limitations. First, CEs are applied, which present hypothetical situations to respondents. This study does not aim to identify the WTP of a new product but rather to investigate the effects of intimate people’s opinions on purchasing behavior. Therefore, this shortcoming is not critical. Second, one of the reasons for conducting this research is to add to the body of relevant literature. This study indicates that the opinions of intimate people do not affect purchasers on the occasion of purchasing new religious products, which is in contrast to prevalent studies on other products such as eco-friendly products. Further research is required to confirm if the current study’s results are generalizable.

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