Cooperative branded food purchasing behaviour: Understand the role of consumer social responsibility, trust, and agri-rural ties through Theory of Planned Behaviour

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Abstract

The extended version of "Theory of Planned Behaviour"-TPB have extensively used in food consumer research during last two-decade, but extension the TPB with consumers' Social Responsibility (SR) and its use on cooperatives' branded food (collective brand) is missing in the literature, therefore this study aims to fill these gaps in the literature and to determine whether consumers' SR, trust and agri-rural interest play role in purchasing the collective brand. The data was gathered from sample consisting of 284 persons who is responsible for household food expenditure, with 18+ age and living in the central districts of Antalya province in the autumn of 2021. Structural Equation Model (SEM) is used to test whether the E-TPB is valid. The results confirmed that SR and agri-rural relations are important variables in consumers' decision to purchase collective brand. SR is also a mediating variable between intention and behaviour and between trust and behaviour. The results imply that consumers' purchasing decisions for the collective brand can be improved by increasing consumers' SR levels. As a result, public relation, communication, and advertising programs focused on raising consumers' awareness of SR towards agri-rural development can also support consumers' purchase of this brand.

Keywords*: Theory of Planned Behaviour, Collective food brand, Food consumer behaviour.*

1. Introduction

Food supply chain and consumer purchasing behavior have undergone considerable changes since the 1990s in Türkiye. Increase in consumer purchasing power, changes in demographic structure, urbanisation and accompanying lifestyles changes, and recognizing the relationship between diet and health outcomes can be counted as the main demand side drivers for food (Béné *et al*., 2020). Technological innovation and intensification (homogenisation) in production considered as major supply side drivers of food system (Béné *et al*., 2020). In worldwide, demographic factors, urbanisation, food industry marketing mix and trade liberalisation can be considered divers affecting shift in dietary patters and nutritional transition associated with increasing obesity and cardiovascular diseases (Kearney, 2010). Consumers have been increasingly interested about what they eat, how it is produced and the environmental impact of pro-

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duction and consumption (Lappo *et al*., 2015). It was expected that food consumption in future will be effected by food quality-safety and health outcomes, social responsibility, methods of production and innovation, sustainability indicators, and origin (Lappo *et al*., 2015). As a matter of fact, sales of organic food, geographical indication-GIs food and fair-trade food products has exhibited an increasing trend in developed countries, particularly EU countries (Chilla *et al*., 2020; Kyrylov *et al*., 2018; Ruggeri & Corsi, 2021).

During last decade, popularity of agricultural cooperatives have increased in food sector (Qorri & Felföldi, 2024). In Europe, reported number of agricultural cooperatives are more than 400 thousand having 9 million farmer members and employing 600 thousand peoples (Ajates, 2020). In the EU, market share of agricultural cooperatives in food sales was 40% in 2010, of which dairy products (33%) and vegetable and fruits (27%) took the major shares (EC, 2012).

The share of agricultural cooperative in food sales exceed 50% in Austria, Denmark, Finland, France, Ireland, The Netherlands (70%) and Sweden. The market share is differ considerably with respect to sector (olive oil in Spain 75%, dairy in USA 75%) and countries such as 70% in the Netherlands (Candemir *et al*., 2021). As of 2021, cumulative revenue of the first-biggest 100 agricultural cooperatives in Europe exceed €255 billion which is up €17 billion from 2020 (Frey, 2023). In China, number of agri-cooperatives' members reported as 2.21 million in 2019 representing about 50% of whole farmers and higher than 50% of them are interested in fruits and vegetable growing industry (Wang *et al*., 2021).

In Türkiye, number of agricultural cooperatives are 11,982 (with about 3,931 thousand members) consisting of 53.73% agricultural development (multi-purpose cooperatives), 20.54% irrigation, 13.7% agricultural credit (ACC), 6.95% agricultural sales and marketing, 4.67% aquaculture, 0.26% sugar beet growers (31 cooperative) and 0.31% fresh fruits and vegetable cooperatives (Pakdemirli, 2019). While sugar beet grower's cooperative is the smallest one considering number of cooperatives, but it constitutes 35.86% of total cooperative members. Agriculture credit cooperatives (23.08%), sales and marketing cooperatives (14.05%) constituted second and third biggest one in terms of members.

Agricultural cooperatives have long been an important player in the food supply chain in Türkiye, both mid-stream with food processing plant and downstream level operation such as retailing and export marketing. Agricultural sales cooperatives' unions (ASCUs) such as Tariş Unions (olive and olive oil, olive paste, fig and fig based confectionery product, sultana raisin, vinegar, tahini and grape molasses, sauces and turnips, cosmetics and personal care products), Marmarabirlik (olive), Trakyabirlik and Karadenizbirlik (corn oil, refined sunflower oil and margarine), and Fiskobirlik (hazelnuts, hazelnut based confectionery products and honey) has been selling own-branded consumer food products. Besides distribution of their food product through dealer, some of the ASCUs has their own sales shops in their vicinity areas and use online sales channels to reach consumers.

During last decade, ACC entered food retail market operation in 2017, with medium-size hard discount format and more recently small grocery format and reached about 4,000 outlets at the end of 2023. Besides its conventional credit cooperative function, ACC can be regarded as an agribusiness group, with 1,805 service points, 17 regional unions, 800 thousand members and 15 subsidiary companies. ACC subsidiary companies are operating in area of input production facilities, mechanisation procurement service, food processing facilities, livestock production, contract farming, logistics service, insurance services, retirement service, licenced storage facilities, logistics, technology, and food retail market chain (TKK, 2023). In addition to the ACC, several agricultural development cooperatives have emerged in food processing and marketing operation during last two decade. Tire-Süt Agricultural Development Cooperative in Tire District in İzmir province (Tire-Dairy Coop) in Western Anatolia (https://tiresutkoop.org.tr) and Ovacık-94 Neighbourhood Agricultural Development Cooperative in Tunceli province in Eastern Anatolia (https://ovacikdogal.com) has recognised as successful cooperative examples in food supply chain. Tire-Dairy Coop has own

dairy and meat processing facilities, process raw milk and meat into cooperative branded dairy and meat products (under Tire-Süt brand), deliver these branded products to 3,378 dealers in the countrywide (including supermarket chains) and use online marketing channel. Ovacık Koop has 23 grocery outlets with its own brand called Ovacık Doğal (Naturel) in 13 different provinces and use also online sales channel. The products mix of this development cooperative includes honey, bee-milk and pollen, pulses (chickpea and beans) and roasted chickpea, walnut, jam, grape molasses, and salt. Another cooperative movement in food marketing during the last two decade is sugar beet grower's cooperative namely Pankobirlik which is a union of 16 regional beet grower cooperatives with about 900 thousand active members (Pankobirlik, 2024). While the cooperative has been an important player in sugar manufacturing since 1954 with Konya Sugar Factory, it has taken a step further in the food sector with chocolate products under Torku brand name in 2007. The Torku brand has extended its product ranges which varies from bakery products to chocolate, candy, frozen potatoes to processed product of dairy and meat, cereal product to fruit juice and vinegar to turnip juice (Pankobirlik, 2024). Currently, Torku branded products are available for consumers in many leading food retail chains as well as their own retail outlet located in 6 provinces with 45 outlets including Konya (27), Karaman (2), Ankara (16) and İstanbul (2). Besides first food grocery supermarket opened in 2013, Torku also entered in food catering sector with Torku Doğrudan (direct) Döner Restaurant in 2018.

In recent years, agricultural cooperatives owned branded foods in Türkiye have gained importance against to both retailer brands (private label) and manufacturer brands. In this context, the reminder "we are a cooperative brand" has been widely used in product advertising by agricultural cooperatives. A cooperative is currently marketing its product under the brand name "cooperative honey". In recent years, the visibility of agricultural cooperatives' products (branded) has increased in supermarket chains. Some chain stores use cooperative branded products especially as a product differentiation tool. Buying directly from producer cooperatives, enables retailers to buy the product at a more affordable price, solves the quality problem, and obtain other procurement advantages (i.e., volume, regularity). However, it was found that cooperatives in fresh produce (vegetable) supply chain are important organisation with respect to achieving coordination in supply chain activities including credit cooperation (Wang *et al*., 2021). Food retailer chains purchase from any producer regardless of their production scale if they can meet the specified requirements including quality and safety, volume and all year around supply or delivering capacity in pick season (Oparebea Boateng *et al*., 2023). The production and process requirements dictated by retailers implies investment and particular good agricultural production practices, which is a constraint for small-scale producer, particularly in developing countries. Inherent solidarity among farmers under cooperative organisation enables producers to collectively cop with perceived market risk and motivates common investment by sharing fixed cost. Moreover, provide incentives to change practices of its members and offer a stronger market position (Candemir *et al*., 2021). Members trust and support to cooperative management is important in sustainability of cooperatives success. In this context, cooperative management should proceed inclusive decision-making process (Kinikli & Yercan, 2023) and also marketing strategy based on evidence.

From the point of view of consumer-oriented marketing, it is important to understand consumer behavior in terms of marketing mix: product, price, distribution, and communication policies. In this context, understanding insight of consumers' cooperative branded food purchasing based on consumer behavior theories and obtaining results relying on reliable statistical analyses are important information for decision makers to understand the social-psychological factors and social responsibility affecting consumer purchase intentions and behaviours.

In the literature on food consumer behaviour study, it has not found a study that focuses on agricultural cooperatives' food brands purchasing decision of consumer and extending theory of planned behavior (TPB) with the dimension

of social responsibility perspective or general social issue component of socially responsible consumer. Excluding social responsibility perspective in consumer behaviour research with respect to agricultural cooperative branded food products context can be regarded as an important gap in the literature, as cooperatives are the most important producer organizations/social enterprises and their vertical integration is important to improve the position of farmers in the highly concentrated food supply chain in midstream and downstream level, especially at the retail level. In addition, socially responsible consumers have been emerging segment in society, particularly developed and upper-middle income countries during recent years. This study aimed to fill the gap in the literature on food consumer behavior research at the national level with using TPB. At the international level, it will enrich the relevant literature by using the method in a different context and extend the basic standard model with Social Responsibility perspective of consumer and the level of agri-rural relationship of consumers.

2. Literature Review

During last two decades, theory of planned behavior (Ajzen, 1985; 1991) relying on social psychology theory has been widely used in food consumer behavior research (Ajzen, 2016; Alam *et al*., 2020; Chang *et al*., 2019; Chen, 2017; Donahue, 2017; Essakkat *et al*., 2021; Giampietri *et al*., 2018; Kim & Kuo, 2022; Maichum *et al*., 2017; Paul *et al*., 2016; Qi & Ploeger, 2019; Raygor, 2016; Shah Alam & Mohamed Sayuti, 2011; Sogari *et al*., 2023; Tommasetti *et al*., 2018; Vermeir & Verbeke, 2008; Yadav & Pathak, 2016a, 2016b; Yousuf *et al*., 2019; Zhang *et al*., 2019). This model has been one of the widely used and the most influential empirical framework to predict reasoned consumer behaviour (Pandey *et al*., 2021).

When the literature is examined, it can be observed that TPB has been employed in different product context and countries to explain consumer behavior, particularly certified products such as organic and green products. In the literature, it is emphasized that TPB gives reliable results in understanding consumer behavior (Giampietri *et al*., 2018; Rozenkowska, 2023). Although TPB structure has used in different fields of social sciences (such as communication, sociology, agricultural economics, business administration) in Türkiye (Aktulay Çakır, 2014; Demirtaş, 2017; Mercan, 2015; Sığındı & Kavak, 2015; Sözüer *et al*., 2015; Taşçı-Duran, 2016), but, it has only recently used in very limited study focused on food consumer behavior. Furthermore, it was not found any study in international literature focused on consumer behaviour with respect to agricultural cooperatives' branded products and the standard model has not also been extended with Social Responsibility perspective of consumer in the reviewed literature. In the literature, general social issues component of socially responsible consumer has neglected (Han & Stoel, 2017). There are quite a few studies included social dimension only partially within TPB framework in their study (Fleșeriu *et al*., 2020; Kim, 2014). Majority of the studies based on TPB framework in the literature have added a new dimensions or constructs into basic model either directly or as a mediating variable. Articles published during last decade were accessed through google scholar search using key terms as "extended-TPB in food consumer behaviour". The variables used in the extension of TPB is presented below. The variables used in the extended model includes confidence and values (Vermeir & Verbeke, 2008), positive moral attitude, ethical self-identity and food choices (Dowd & Burke, 2013), personal background factors (Menozzi *et al*., 2015), past behaviour (Raygor, 2016), ethnocentrism and collectivist behavior (Vabø & Hansen, 2016), personal norm depicted by "sense of obligation to take action" based on value, belief and norm theory (Hoeksma *et al*., 2017), product labels such as organic, green, ethical, geographic-GIs/PDO (Setyawan *et al*., 2018; Giampietri *et al*., 2018; Zhang *et al*., 2019), perceived usefulness and curiosity (Tommasetti *et al*., 2018), perceived benefit and risk affected by trust (Zhang *et al*., 2018), moral obligation and self-identity moderated by gender (Beldad & Hegner, 2018), trust, habits and behavioural beliefs (Spence *et al*., 2018), self-idendity and ecological motives (Zhu, 2018), trust, corporate social responsibility perception,

concern about GMO foods, and consumer promotion and prevention focus (Akbari *et al*., 2019), personal characteristics and confidence (Qi & Ploeger, 2019), trust, past behaviour, and green self-identity (Carfora *et al*., 2019), ethnocentrism (Maksan *et al*., 2019; Miguel *et al*., 2022), perceived health and monetary value affecting attitude formation (Fiandari *et al*., 2019), health consciousness and gender as mediator variable with rest of construct variables (Shin *et al*., 2020), trust to organic product (Canova *et al*., 2020), health consciousness (Fleşeriu *et al*., 2020; Rahamat *et al*., 2022), perceived communication, satisfaction and trust as a moderating variables (Sultan *et al*., 2020), alcohol-identity as a moderating variable between norms (injunctive and descriptive), attitudes and perceived behavioural control variables and beer purchase intention (Wang, 2020), price sensitivity (Wang *et al*., 2020), perceived benefit: health, sustainability and price (Dorce *et al*., 2021), knowledge, perceived barriers and sensory attributes (Pandey *et al*., 2021), experience and behavioural intention (Bae & Choi, 2021), environmental concern (Auza & Mouloudj, 2021; Fleşeriu *et al*., 2020), perceived severity, vulnerability, fear, rewards, efficacy and response cost variables corresponding to the protection motivation theory (Pang *et al*., 2021), trust, environmental issues and habits (Dionysis *et al*., 2022), well-being perception variables (D'Souza, 2022), trust (organisational, product, interpersonal, chain), knowledge (subjective and objective), uncertainty and past behaviour (Loera *et al*., 2022), trust, face consciousness and policy support (Ding *et al*., 2022), product availability, product quality, health concern and environmental concern (Teixeira *et al*., 2021), self-determination theory (intrinsic and extrinsic motivation), trust and price consciousness (Khan *et al*., 2023), marketing mix as a direct determinant of intention and also as a moderating variable between attitudes, norms and perceived behavioural control construct and intention (Farid *et al*., 2023). The results of studies indicated that additional constructs included in the TPB for extending to the model is generally contributed the robustness and predictive capability of the theoretical model (Dionysis *et al*., 2022).

Among the cited literature in this study, it has not found a study that focuses on agricultural cooperatives' food brands purchasing decision of consumer and extending TPB with the dimension of social responsibility perspective or general social issue component of socially responsible consumer. This can be considered an important gap in the literature, as cooperatives are the most important producer organizations/ social enterprises and their vertical integration is important to improve the position of farmers in the highly concentrated food supply chain in midstream and downstream level, especially at the retail level.

Today, there are consumers called socially responsible who act with a social responsibility motive, such as those who have environmental, health, religious-cultural and ethical concerns. Consumers who prefer cooperatives' branded products can also act with motives such as supporting cooperatives as social enterprises and contributing to rural development. Socially responsible consumer (SRC) is as an individual who takes into account of the externalities of his/her private consumption with respect to environmental and general social concerns (Han & Stoel, 2017). It was criticized that treating SRC as equivalent to ecologically or environmentally friendly behavior of consumers and portraying consumer profile and strategies only based on environmental issues. In the literature, importance of taking into account of ethical issues including both environment and general social issues was emphasized (Han & Stoel, 2017).

3. Methodology

3.1. *Theoretical Model*

The TPB has been widely used theoretical model in consumer research for last decade. The extended version the TPB provided an uncountable amount of valuable contribution to the literature that will be informative and beneficial for advancing the theory and consumer behaviour researches (Rozenkowska, 2023). The variables collectively lead to construct of individual behavioural intention in the TPB are: (1) attitude, (2) subjective/social norms, and (3) perceived behavioural control (Ajzen, 1985; 1991; 2016).

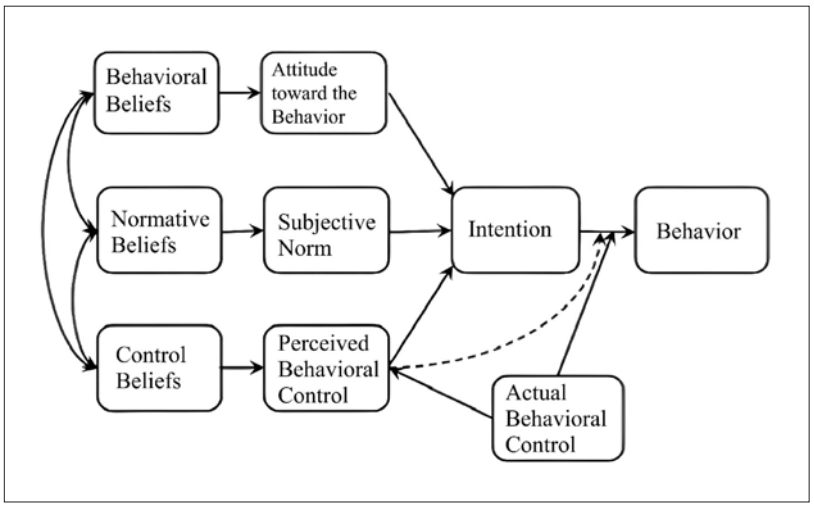


Figure 1 - Theory of Planned Behaviour.

Source: Ajzen, 1985, 1991, 2016.

In literature, attitude is defined as a degree to which an individual evaluation (positive or negative) or evaluation of an intention and behavior in a given context. Subjective norms are related to the perceived social pressure that plays an important role in performing the behavior. Perceived behavioural control represent whether behavioural performance is easy, difficult and under individual control (Qi & Ploeger, 2019). The TPB has been applied in a wide range of consumer food choice/ purchasing decision to reveal consumer intention and behavior.

According to the theory shown in Figure 1, consumer behaviour in question can be derived from the intention to perform the relevant behavior in a given context. The intention is a function of latent variables consist of attitude towards behavior, social norms, and perceived behavioural control. Each of these latent variables are formed by beliefs with respect to behavioural, normative and control, respectively. Behavioral beliefs and evaluation of behavioural outcomes affect the attitude towards behavior, normative beliefs, and the motivation to adapt to these norms, subjective norms and control beliefs, and perceived power affects perceived behavioural control (Raygor, 2016). TPB model encompass individual, social, and behavioural aspects all in one which is different from variety of the other model. It has conceptually three independent determinants consisting of attitudes, subjective norms, and perceived behavioural control of persons' intention to do a behaviour (Vabø & Hansen, 2016).

The basic assumption of the theory is that intention is a predecessor of behavior and jointly with perceived behavioural control determines to behaviour in question. The stronger these two determinants are, the more accurate the behavioural performance will be. As seen in the Figure 1, consumers' intention is determined by a combination of attitude toward behavior, subjective norms, and perceived behavioural control in relation to the behavior in question, and these are influenced by behavioural, normative, and control beliefs, respectively. The more favourable attitude and subjective norm, the greater the perceived behavioural control, the greater the probability of the consumer's intention to engage in the relevant behavior. In the literature, past behavior and self-identity has considered as additional determinants of intention within the original TPB (Giampietri *et al*., 2018). The TPB states that the intention to perform a behavior is formed by the latent variables (Szejda *et al*., 2020):

i) Attitudes (positive or negative feelings of the person towards the behavior)

ii) Subjective norms (important values and perceived social pressure from people)

iii) Perceived behavioural control (self-efficacy or whether the behavior is believed to be under one's own control).

As aforementioned, actual behavior of indi-

vidual is projected by combination of actual intention and actual behavioural control. Behavioral control is conceptualized as a component of self-sufficiency (internal factors) and controllability (external factors). This also explains why intentions do not always lead to behavior change.

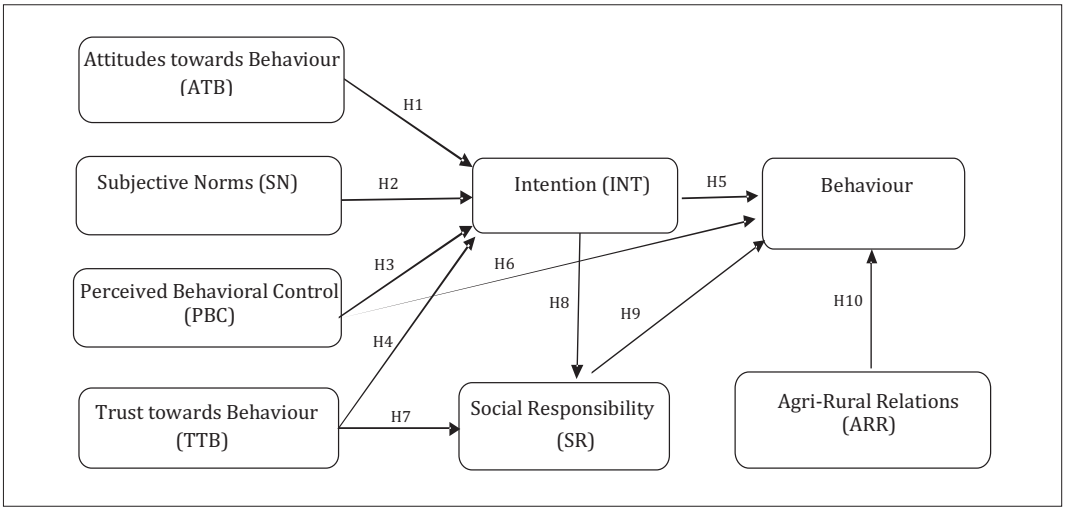
The extended-TPB structure used in this research is shown in Figure 2. The latent variables in the basic TPB are the variables consisted of attitude towards behavior (ATB), subjective norms (SN), and perceived behavioural control (PBC). In the basic model, it is accepted that these variables affect intention (INT) and intention affects to behavior. In the basic model, perceived behavioural control (PBC), one of the latent variables, is the variable that affects both the intention and the behavior directly or indirectly as a mediating factor between intension and behaviour.

As can be seen in Figure 2, it is assumed that the variable of trust towards behavior (TTB) in the extended-TPB can affect behavior both directly through intention and through social responsibility (SR) variable. Lack of consumer trust affect to consumer behavior both directly and indirectly. The indirect impact occurs through less favourable beliefs that causes less favourable attitudes and intentions. The direct affects occur by reducing consumers' propensity to purchase the product even if consumers indent to do so (Loera *et al*., 2022).

In this study, TPB is extended with SR, trust and the ARR constructs, which represents social responsibility, trust, and the agricultural-rural relationship level of consumers respectively, were considered as variables that directly affect the behavior. In a study conducted in Italy (Giampietri *et al*., 2018), the variable of trust towards behavior (with single item construct), fair-trade certified product consumption habit and the residential areas of consumers (urban/rural) were included in the extended-TPB. Trust was also used in the TPB as a moderating variable between intention and buying, and also between PBC and buying (Sultan *et al*., 2020). The ARR variable, reflects rural ties and consumer involvement in agriculture because of food security issues and supporting traditional cultural values, can be considered as a proxy for ethnocentric behaviour.

Social dimension of consumer buying behaviour was only included in the study conducted in Romania (Fleșeriu *et al*., 2020). The author extended the TPB with a variable called as "social consciousness" in their consumer organic food behavior study. They reasoned that besides tangible attributes, consumers purchasing decision is also affected by intangible attributes such as contributing local community development and keeping traditions alive. Because of this reason, consumers exhibit ethnocentric behaviour and to prefer domestic product against to imported

Figure 2 - Extend-Theory of Planned Behaviour.



products. The inclusion of the variable called SR in the TPB framework in this study is based on assumption that there are significant numbers of consumers acting with the motivation of supporting rural areas and agricultural cooperatives due to various reasons (i.e., acting as anti-capitalist or supporting farmer's collective actions, contribution to rural development, supporting short food supply chain etc.).

In recent years, success of various types of agricultural cooperatives in food supply chain, particularly, mid-and-down-stream part of the chain in Türkiye such as agricultural development, agricultural sales and agricultural credit may be influenced by the motivation of consumers to realize their social responsibilities towards agriculture/rural areas.

Structural equation model (SEM) was used to determine whether the socio-psychological variables in the theoretical model, as well as the social responsibility behaviours of consumers and the level of agro-rural relationship, influence the consumer purchasing decision. The model was used to test the validity of the H0 hypothesis that there is no relationship between consumer purchasing decision (behavior) and attitude towards behavior, subjective norm, perceived behavioural control, social responsibility perspective and consumer agricultural-rural relationship level. If the H0 hypotheses are not valid, the results will answer the questions of how much each variable explains the behavior. The hypothesis of the search is given in the Figure 2. The direction of the arrows indicates causal relationship, for instance social norm effects intention and intension effect behaviour.

3.2. *Data*

The data employed in this study was collected through a face-to-face interview with 284 adult persons (18+ years old) who are responsible for their household food purchase in three central districts of Antalya province (namely Kepez, Muratpaşa and Konyaaltı) in Türkiye. These three districts constituted almost 50 percent of province population as of 2021 (TurkStat, 2022). Currently, in terms of population size, Antalya is ranked first-fifth across 81 provinces in Türkiye. The province is keeping high population growth rate and becoming multicultural metropolitan area with new citizens from different countries (TurkStat, 2020). The sample size was calculated by using equation (1) below (Cochran, 1977; Oğuz & Karakayacı, 2017; Yamane, 2001).

$$n = \frac{\mathrm{N}*p*(1-p)}{(N-1)*\mathrm{D}^2+p*(1-p)} = \quad (1)$$

$$= \frac{405304*0.5*(1-0.5)}{(405304-1)*(0.0304)\text{^}2+0.5*(1-0.5)} = 270$$

In equation (1), lower case n stands for sample size, capital N stands for total household numbers in central districts (N = 405304 household), p represents ratio of consumer regularly and frequently purchasing cooperative branded food products in population (assumed 0.5), $D^2 = (d/t)$ represent varyans, d represents permitted error (0.5), and t stands for assumed confidence level (90%, t=1,65). In the field study, five percent more respondent were interviewed than the calculated sample size, so total 284 fully completed questionnaires were achieved. The survey study was implemented during October-December 2021 period[1]. The instrument used in data gathering includes questions on socioeconomic and demographic characteristic of respondents, frequency of purchasing cooperatives' branded products (behaviour construct variable: regularly, seldomly, only at discounted price, non-purchased, and not available in the store where I regularly shopping) and scaled questions involved in the E-TPB (See Table 2). A Semantic scale with 7 point was used to obtain rating score of consumers on dimension of variables are given in the model (Figure 2). Following question was asked to respondent to obtain their ratings on dimensions of the variables. Please mark your opinion on the following statements about purchasing

[1] It was the period that COVID-19 pandemic lockdown was substantially removed and partially allowed normal life including school attendance, business opening and work life, but aligning with social distance and protective measures and hygiene conditionalities. The questionnaire was implemented at a convenience place just outside of entrance of different supermarket chain outlet located at different part of the districts considered.

cooperatives' branded food products as [1] indicates "I strongly disagree" while [7] indicates "I strongly agree" opinion of respondent.

4. Research results and discussion

4.1. *Descriptive Statistics*

Descriptive statistics with respect to respondent characteristics of survey data is reported in Table1. As seen in the Table 1, average age of respondent is 36.5 year, 59.5% of respondents are female, 54.5% of respondents are married, and 35.2% of respondents are single. Respondents are highly educated persons (almost 50% is university graduated, 33.5% high school graduated), 71.8% is working age population and almost one-third of respondent is professional occupation and one-quarter is unqualified service workers. Respondents purchasing frequency of cooperatives' food brand is found as 13%, 51.1%, 13%, 16.5%, and 3.5% respectively for purchase of regularly, seldomly, only at discounted price, non-purchased, and not available in the store where I regularly shopping. These results indicate that majority of consumers are familiar with cooperatives' branded food products.

Mean score corresponding to the dimension of latent variables of extended-TPB is reported in Table 2. The scale used in measuring respondent response was ranged from 1 to 7 with higher score corresponding more positive statements about the constructs and vice versa. The results are closer to positive-end since mean scores are greater than mid-point (3.5).

In deciding whether the data are suitable for SEM, in addition to mean scores, it is customary to check correlations between the data pairs and the Cronbach's Alpha value (Sogari *et al*., 2023). The correlation matrix of the latent construct is given in Table 3 shows that there is a statistically significant and positive relationship between the variables used in SEM. Cronbach's Alpha value was computed to confirm whether the latent variables are formed from observed variables (variables given in Table 2) are suitable for the analysis. As seen in Table 3, the Cronbach's Alpha values of the latent variables are relatively high (lowest 0.81 and highest 0.97) which confirms

Table 1. Demographic and Socioeconomic Characteristics of Survey Respondents.

Gender	*Frequency*	*%*
Female	169	59,5
Male	115	40,5
Marital status of respondents		
Married	155	54,6
Single	100	35,2
Divorced	16	5,6
Others (married lives apart, wife/husband died)	13	4,6
Education attained of respondents		
Primary School (or <)	39	13,7
Secondary	7	2,5
High school	95	33,5
Vocational School (or associate degree)	14	4,9
Faculty Graduate	112	39,4
Postgraduate (4.2% in master's degree)	17	6,2
Distribution of age among household members		
0-6 (infancy)	54	8,6
7-12 (childhood)	45	7,1
13-18 (adolescent/young)	66	10,5
19-64 (working population)	453	71,8
65+ (aging population)	13	2,1
Average age (year) and std. deviation	*36,5*	*11,8*
Employment status of respondent		
Public Servant	67	23,6
Working in the private sector (2.5% in part-time workers)	107	37,7
Works at own business or works	38	13,4
Agriculture producer/ employee	2	0,7
Retired	18	6,3
Unemployed looking for work	9	3,2
Unemployed not looking for a job	13	4,6
Students	18	6,3
Other (i.e., housewife)	12	4,2
Profession of respondent		
Executive/Manager	19	6,7
Office workers	35	12,3
Artist etc. service worker	8	2,8
Professional occupation	96	33,8
Service and salesperson	44	15,5
Technician, machine operator and assembler	6	2,2
Agriculture, Forestry, Fishing etc. service worker	4	1,4
Unqualified service workers	72	25,4

Table 2 - Average Score Measured by Semantic Scale on Dimension of E-TPB Model Variable.

7-Point Semantic Scale: [1] "I strongly disagree"... and [7] "I strongly agree"	*Av.*	*S.dev.*
1 - If I buy cooperative branded food products, it gives me happiness (ATB)	4.43	1.65
2 - If I buy cooperative branded food products, it gives me a feeling of solidarity with the producer (ATB)	4.98	1.65
3 - If I buy cooperative branded food products, it gives me a sense of quality and healthy product consumption (ATB)	4.90	1.58
4 - Most people who are important to me want me to buy cooperative branded food products (SN)	4.36	1.76
5 - Most people who are important to me approve of purchasing cooperative branded food products (SN)	4.59	1.72
6 - Most people who are important to me think that I should buy cooperative branded food products (SN)	4.34	1.82
7 - It is easy for me to buy cooperative branded food products (ease of purchase) (PBC)	4.65	1.68
8 - I can buy cooperative branded food products if I want (very easily accessible) (PBC)	4.95	1.7
9 - It is entirely up to me (I can buy) whether to buy cooperative branded products (PBC)	5.39	1.71
10 - I am thinking of purchasing cooperative branded products in the next shopping. (INT)	4.85	1.56
11 - I plan to buy cooperative branded products in the next shopping (INT)	4.85	1.55
12 - I am ready to buy cooperative branded products in the next shopping (INT)	4.80	1.66
13 - I think cooperative branded products are safe (TTB)	5.28	1.56
14 - Cooperative branded products seem reliable to me (TTB)	5.31	1.58
15 - I trust cooperative branded products (TTB)	5.31	1.59
16 - If I buy cooperative branded products, farmers become stronger against intermediaries (SR)	5.40	1.58
17 - If I buy cooperative branded products, I will contribute to agriculture and rural development (SR)	5.36	1.63
18 - If I buy cooperative branded products, I will provide social support to the farmers (SR)	5.35	1.6
19 - If I buy cooperative branded products, I will support the strengthening of cooperatives (SR)	5.47	1.57
20 - If I buy cooperative branded products, I protect the exploited (farmers and consumers) against the capitalist system (SR)	5.32	1.73
21 - If I buy cooperative branded products, I will fulfil my social responsibility towards agriculture and rural development (SR)	5.37	1.65

the scale validity of the variables. These results confirm that the scores given to the observed variables used to obtain each latent variable are internally consistent.

4.2. *Confirmatory Factor Analysis*

The overall fit of the measurement model was assessed by confirmatory factor analysis (CFA). The composite reliability (CR), average variance extracted (AVE) and discriminant validity are commonly used indexes for the construct validity. In this study, as seen in Table 4, the composite reliability of all six constructs is varied between 0.812 to 0.966, which exceeds the minimum reference threshold of 0.70 suggesting internal consistency of multiple items for each construct is adequate. The measurement model was also assessed using the AVE index to determine whether each construct satisfies convergent validity. The AVEs of all constructs are higher than the 0.5 threshold indicating convergent validity of the all the constructs. Comparing the AVE values with the squared correlations among constructs is used to verify discriminant validity of the construct. All the squared correla-

Table 3 - Correlation relationship between implicit variables and scale validity.

	ATB	*SN*	*PBC*	*TTB*	*INT*	*SR*	*ARR*
ATB	1						
SN	0,706**	1					
PBC	0,499**	0,492**	1				
TTB	0,717**	0,679**	0,540**	1			
INT	0,699**	0,666**	0,574**	0,747**	1		
SR	0,664**	0,541**	0,446**	0,798**	0,622**	1	
ARR	0,199**	0,118*	0,101	0,189**	0,191**	0,170**	1
Cronbach's Alfa	0,92	0,93	0,81	0,93	0,97	0,96	

*Asterisk ** and * indicates that coefficients are statistically significant at the 5% and 10% significance level.*

tions of the involved constructs were found less than the value of AVEs, confirming discriminant validity of the constructs.

In SEM analysis, confirmatory factor analysis (CFA) is used to overall fit of the measurement model. The result of CFA in this study is given below in the Table 5. The factor loads obtained by CFA have the lowest value of 0.61 and the highest value of 0.97. It has been generally reported that the factor loads of the variables observed in the CFA should be at least 0.70 (Dorce *et al*., 2021; Rahamat *et al*., 2022). The factor load of the PBC3 variable (one of the dimensions of perceived behavioural control) was 0.61 that falls below commonly agreed threshold value of 0.70. In the literature, it was reported that a factor loading value higher than 0.50 for an item is significant (Beldad & Hegner, 2018). The values between 0.6 and 0.7 were also considered adequate (Dorce *et al*., 2021; Hair *et al*., 2010). Factor loadings of all observed variables except PBC3 are higher than the commonly accepted critical value and all but except PBC3 are in the range of 0.85-0.97 points. The commonly used statistics for model goodness of fit is the Chi-square statistic (CMIN/DF statistic), comparative fit index (CFI) and root mean square error (RMSE) statistics (Beldad & Hegner, 2018; D'Souza, 2022; Essakkat *et al*., 2021; Farid *et al*., 2023; Giampietri *et al*., 2018; Kim, 2014; Menozzi *et al*., 2015; Pandey *et al*., 2021; Rahamat *et al*., 2022; Zhu, 2018). The value of Chi-square (CMID/DF) statistic was 3.1 ($\chi 2$ = 532.7 / Degrees of Freedom = 173). According to this result, the goodness of fit of the model is interpreted as perfect. Another commonly used statistic for model goodness of fit is the index expressed as comparative fit index (CFI). In this study, the CFI value was found as 0.95. According to this result, the goodness of fit can be expressed as excellent.

The root mean square error (RMSE) is generally accepted statistic for model goodness of fit measure. In this study, the RMSE value was obtained as 0.086, according to this value the model is acceptable range at the margin. Ac-

Table 4 - Validity Analysis.

	CR	*AVE*	*SR*	*SN*	*PBC*	*ATT*	*ATB*	*INT*
SR	0,965	0,823	**0,907**					
SN	0,932	0,819	0,564***	**0,905**				
PBC	0,812	0,598	0,493***	0,635***	**0,773**			
ATT	0,966	0,905	0,827***	0,717***	0,592***	**0,951**		
ATB	0,922	0,798	0,714***	0,754***	0,572***	0,763***	**0,894**	
INT	0,931	0,819	0,664***	0,711***	0,658***	0,785***	0,745***	**0,905**

Table 5 - Confirmatory Factor Analysis.

			Standard Factor Loads	*CR*	*AVE*
SS3	←	SR	0.94	0,965	0,823
SR2	←	SR	0.92		
SS6	←	SR	0.89		
SS1	←	SR	0.90		
SS5	←	SR	0.87		
SS4	←	SR	0.89		
SN3	←	SN	0.92	0,932	0,819
SN2	←	SN	0.92		
SN1	←	SN	0.88		
PBC2	←	PBC	0.74	0,812	0,598
PBC3	←	PBC	0.61		
PBC1	←	PBC	0.94		
ATB1	←	ATB	0.85	0,922	0,798
ATB3	←	ATB	0.93		
ATB2	←	ATB	0.90		
INT2	←	INT	0.93	0,931	0,819
INT1	←	INT	0.89		
INT3	←	INT	0.90		
TTB3	←	TTB	0.94	0,966	0,905
TTB2	←	TTB	0.97		
TTB1	←	TTB	0.94		

cording to all three goodness of fit statistics, it can be said that the sub-dimensions (observed variables) of latent construct are statistically significant and well representing latent variables.

4.3. *Path analysis*

The second stage of SEM is the path model which is given below in Table 6. The path model shows the relationships between the observed variables and their latent counterpart variables, the bilateral co-variance relationships among the latent variables, and the relationship between the latent variables and the behavior variables.

In Table 6, three (***), two (**), and one (*) asterisk on the standardized beta coefficients (regression coefficients) are p values which confirming the coefficients are statistically significant at the level of 0.1%, 1%, and 5%, respectively (Beldad & Hegner, 2018; D'Souza, 2022; Giampietri *et al*., 2018; Kim, 2014; Menozzi *et al*., 2015; Pandey *et al*., 2021; Rahamat *et al*., 2022; Wang, 2020).

CMIN/DF, CFI and RMSE statistics are commonly used for model goodness of fit (Beldad & Hegner, 2018; D'Souza, 2022; Essakkat *et al*., 2021; Farid *et al*., 2023; Giampietri *et al*., 2018; Kim, 2014; Menozzi *et al*., 2015; Pandey *et al*., 2021; Rahamat *et al*., 2022; Zhu, 2018). Among these goodness-of-fit statistics, CMIN/DF ($\chi 2$ = 405.7/ Degrees of Freedom = 149) value is 2.72 (excellent), CFI value is 0.954 (>95 excellent), and "root of mean square error approximation" (RMSE) is found 0.078 (< 0.08 is at an acceptable level).

In the model, except for SN, other variables (ATB, TTB and PBC) affect intention (INT) in a statistically significant and positive way. Intention does not affect SR and TTB affects SR. Intention has not direct statistically significant

Table 6 - Path Analysis Results.

Estimator	*Result*	*Standardized Beta*	*Estimator*	*Result*	*Standardized Beta*
ATB	INT	0,224 **	INT	INT2	0,931 ***
SN	INT	0,114	INT	INT1	0,888
TTB	INT	0,400 ***	INT	INT3	0,895 ***
PBC	INT	0,221 ***	TTB	TTB3	0,945 ***
INT	SR	0,019	TTB	TTB2	0,966 ***
TTB	SR	1,028 ***	TTB	TTB1	0,942
SR	SR2	0,688	ATB	ATB1	0,843
SR	SR1	0,749 ***	ATB	ATB3	0,936 ***
SR	SR5	0,740 ***	ATB	ATB2	0,898 ***
SN	SN3	0,92	*INT*	*Behaviour*	-0,007
SN	SN2	0,918 ***	*SR*	*Behaviour*	0,189 *
SN	SN1	0,877 ***	*PBC*	*Behaviour*	0,243 **
PBC	PBC2	0,744	*ARR*	*Behaviour*	0,171 **
PBC	PBC3	0,607 ***			
PBC	PBC1	0,934 ***			

effect on behavior. Social Responsibility (SR), Perceived Behavioral Control (PBC) and Agricultural-Rural Relationship Level (ARR) significantly and positively affect behavior at 5%, 1% and 1% levels, respectively.

According to the results obtained by SEM estimation, H1, H3, and H4 hypothesis given in Figure 2 are accepted and H2 is rejected. The results of hypothesis test suggest that attitude towards behavior affects the intention to purchase cooperatives' branded food. Similarly, the perceived behavioural control also affects the intention to purchase cooperatives' branded food. Behavioral trust has impact on cooperatives' food purchase intention. Previous studies found that either directly or as a mediating variable, trust was found statistically significant variable on buying behaviour (Ding *et al*., 2022; Giampietri *et al*., 2018; Khan *et al*., 2023; Sultan *et al*., 2020). The subjective (normative) norm variable does not have a statistically significant effect on the intention to purchase cooperatives' branded food. According to the results of the first four hypotheses, latent variables related to attitude, perception and trust have a statistically significant effect on purchase intention, while subjective norm (SN) has no significant effect on intention. Similarly, intention has no effect on cooperatives' branded food purchase, therefore H5 was rejected. Perceived behavioural control (PBC) variable has a direct effect on purchasing behavior, so hypothesis H6 is accepted.

Considering that the intention, which is accepted as the antecedent of the behavior, can affect the behavior through social responsibility, the H7 hypothesis, which is established as intention affects social responsibility, is rejected. On the other hand, the H8 hypothesis, which was established with the statement that trust toward behavior (TTB) affects social responsibility, is accepted under the assumption that TTB can have an impact on behavior through social responsibility. It can be assumed as SR a mediating variable between trust and buying behaviour. A similar result was found in a study realized in Romania on organic food buying behaviour. However, it was found that social consciousness is not significant variable affecting buying intention, but has effect on personal attitudes and indirectly buying intension (Fleşeriu *et al*., 2020). It was indicated that traditional eating (reflecting cultural identity) is an mediating variables between intention and basic TPB latent variables social norms, attitudes and perception (Sogari *et al*., 2023).

Path analysis results show that the H9 and H10 hypotheses defined in the E-TPB model are valid. In other words, the hypothesis that SR is decisive on cooperatives' branded food purchasing behavior is accepted. The H10 hypothesis, which is defined as the level of agricultural and rural relationship of respondents is decisive on the behavior of purchasing cooperatives' branded food, is also accepted. Previous studies indicated that consumer ethnocentrism is significantly effecting buying intention directly and also basic latent variables of TPB (Miguel *et al*., 2022) or predictor of attitudes towards purchase intention (Maksan *et al*., 2019), as aforementioned, agricultural and rural ties (relation level) in this study reflects consumer ethnocentrism and directly effecting the behaviour.

5. Conclusion

This study aims to determine whether social responsibility (SR) perspective and agri-rural interest of consumers play a significant role in purchasing the agricultural cooperatives' branded food (collective brand). The theory of planed behaviour-TPB is extended with consumers' trust, social responsibility (SR), and agri-rural interest of consumers to verify validation of the TPB in collective food brand context. A survey data gathered via a face-to-face questionnaire implemented with a sample consisting of 284 person who is responsible for household food expenditure, with 18+ age and living in the central districts of Antalya province in the autumn of 2021. Simple random probability sampling based on finite population ratios was used to determine the sample size. Structural Equation Model (SEM) is used to test whether the E-TPB is valid.

Descriptive statistics indicates that average age of respondents is 36.5 year, 59.5% of respondents are female, 54.5% of respondents are married, and 35.2% of respondents are single. According to the results, respondents are highly educated persons (almost 50% is university graduated, 33.5% high school graduated), majority (71.8%) is working age population, almost one-third of respondent is professional occupation and one-quarter is unqualified service workers. Respondents purchasing frequency of cooperatives' food brand is found as 13%, 51.1%, 13%, 16.5%, and 3.5% respectively for purchase of regularly, seldomly, only at discounted price, non-purchased, and unavailable in the store. These results indicate that majority of consumers are familiar with cooperatives' branded food products.

According to the SEM results of the E-TPB model, social responsibility and agricultural-rural relationship level of consumer are found as significant model construct variables in the cooperatives' branded food purchasing behavior of consumers. Empirical results show that highlighting "social responsibility and agro-rural ties" in the marketing and communication of cooperatives' branded food products will strengthen the preference of these brands by consumers. In addition, strengthening the perception towards cooperatives' food brands will also positively affect purchasing behavior.

It can be said that strengthening the social responsibility behavior of consumers in relation to agriculture and rural development, highlighting the agricultural and rural relationship level of individuals, and strengthening the positive perception towards cooperatives' branded products can be a part of the product promotion and public relations strategy of the cooperatives. Additionally, cooperatives should support programs and projects aimed to enhance socially responsible consumers or requesting fund to such program from the agricultural support budgets.

This research will further be extended with nationwide representative survey or actual purchase data enabling to determine regional differences. Although the present study provides important information about consumer purchasing behaviour with respect to cooperatives' food brand, it has also some limitation since self-reported measures of behaviour does not reflect actual behaviour as sated in many studies. In addition, survey is not regionally and nationally representative, therefore results can be used with caution for generalizing results for nationwide or regionwide.

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