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Factors Affecting on Healthy Package Food Selection; The Impact of Personality Traits

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Abstract

The growing tendency of ultra processed food among consumers hasmotivated practitioners and academic researchers to address the issue. The awareness about healthy packaged food selection is necessary. In the absence of formal education for packaged food consumption awareness, the food label plays a pivotal role. The researchers' of the current study have synchronized external factors and personality traits which create awareness among consumers in selecting healthy packaged food items. Authors have employed mixed method. Moreover, for quantitative data sample size was 1070 and for qualitative data there were 20 participants. The data was collected from membership card holders of three big retail outlets. The research model is underpinned with theory of planned behavior for the investigation of consumer's intention towards healthy packaged food consumption intention. Results have unfolded that health claims and user friendly food label affect consumer intention with the mediation of attitude. Moreover, subjective norm and self-efficacy were directly effecting on intention. The intended study implies that there are some factors which can develop a sense of balanced packaged food consumption intention among consumers.

Keywords: Traffic lights label, health claims, user friendly food label, intentionand personality traits

Owing to the high consumption of ultra-processed food items studies have witnessed the growing trends in chronic diseases up to 18.8% (Stanaway et al., 2018; World Health Organization, 2017b) and there is a need to create awareness among consumers.T here is no formal method to educate consumers to select healthy packaged food except food label. Past studies have reported the decisiveness of food label information for informed food choices at point of purchase (Kaur, Scarborough, & Rayner, 2017; Kerr, McCann, Livingstone, & Barbara E., 2015). Furthermore, food label is an integral strategy for the promotion of health related information to individual (Cecchini & Warin, 2016). Practitioners have suggested numerous food label designs such as back of pack label (BoP) and emerging front of pack label (FoP). Academicians have investigated the consumers' insights regarding suggested label schemes. Nevertheless, there is no generalized food label schemes found which can enable consumers to select healthy packaged food (Crockett et al., 2018). Researchers and practitioners are still in quest of customized food label schemes (Pomeranz, Wilde, Mozaffarian, Micha, 2019). The food consumption behaviors is an intricate subject and studies have accounted that there are numerous factors involved which shape individual preference towards food selection and personality traits is also one of them (Shangguan et al., 2019). Personality traits play pivotal role in shaping consumers' willingness to consult food label at point of purchase (Ayyub , Wang, Asif & Ayyub, 2018).

Although the food label information is playing the guiding role but the understanding of technical label information most often creates hindrance(Ganpat, Kathiravan & Dalrymple, 2018) and there is a need to design easy to understand label information. Traditionally food processing companies used back of pack label for the description of food related information like nutritional fact table, per serving size, expiry dates, manufacturing dates and ingredients (Kerr, McCann, Livingstone, & Barbara E., 2015; Miller & Cassady, 2015). These traditionally used back of pack label (BoP),which is mandatory, comprised of numeric data which needs specific proficiency to understand(Anastasioua, Millera, Dickinson, 2019).An emerging food label is front of pack (FoP) labeling to facilitate consumers with easy to understand food related information (Egnell et al.,

2018a).The front of pack label comprised of health claims, traffic lights symbols and guideline daily amount (GDA)to display energy levels. Front of pack labeling develop better understanding about nutritional information among individual at point of purchase (Egnell, Talati, Hercberg, Pettigrew, & Julia, 2018b).

Moreover, to print the text pertaining to the nutritional information with the combination of traffic lights color coding and percentage guideline daily amount enable consumer for healthier food choices (Thiene, Scarpa, Longo,& Hutchinson, 2018). However,there are limited studies which have found insignificance results regarding the effectiveness of front of pack label(Sacks,Rayner, & Swinburn, 2009). Consumer insights towards nutritional information varieslike some of the studies have reported the significance of traffic lights symbols (Egnell et al., 2018b) whereas few have found the effectiveness of health claims with warning labels (Khandpur et al., 2018). Consumer health consciousness and trust on label information is very decisive while consulting food label at point of purchase. Therefore, while designing food label individual personality traits cannot be ignored.

There are five personality traits, conscientiousness, openness to experience, agreeableness, extraversion and neuroticism. The aforementioned studies have accounted that individual's personality traits are also linked with the consumption pattern of food (Monds, MacCann, Mullan, Wong, Todd & Roberts, 2015). In addition to lower conscientiousness and higher neuroticism, as well as lower openness to experience and higher extraversion, are found to be associated with obesity (Armon, Melamed, Shirom, Shapira, & Berliner, 2013).Keller and Siegrist (2015) have reported the complex relationship between personality traits and food preferences, the conscientiousness trait is associated with fruit and vegetable and neuroticism is linked with unhealthy food selection.In addition to external factors stimulate consumers' for the selection of packaged food but individual's own personality influence for the selection of healthy and right amount of packaged food. Moreover, consumers' own personality traits most often play as moderating role.

Furthermore, studies have suggested that there is need to conduct research on population which is having poor diet, lack of awareness and having unable to interpret the label information (Anastasiou , Millera , Dickinson, 2019).Initially, packaged food liking encompassed developed countries' consumers. Later middle and low income countries are also found in experiencing this trend (Vandevijvere et al., 2013). The results of various studies have accounted that the increasing cause of chorionic diseases in Pakistan is the excessive consumption of processed food (Jahan, 2014). With the statistics of Sindh Bureau of Statistics the increasing percentage of processed food among Pakistani consumers the registered complaints pertaining to chronic diseases in various Sindh province have increased (Fazal, Valdettaro, Friedman, Basquin,& Pietzsch, 2013). Therefore, the present study has contributed in literature by investigating the consumer intention of Pakistani population. According to world statistics there are 18.8% of the world mortalities is due to chronic diseases which is the cause of high consumption of packaged food (World Health Organisation, 2017). Individuals' behavior towards imbalance packaged food consumption should be modified (Ludwig et al., 2011; Micha,Peñalvo,Cudhea,Imamura,Rehm,& Mozaffarian, 2017) with informed food purchase decisions. Furthermore, in the absence of formal education for packaged food consumption awareness the food label information seeking behavior of an individual plays a vital role in guiding consumer for balanced and healthy packaged food consumption (Lioutas, 2014). Moreover, the intervention of food label at the point of purchase can reduce the high fat, high saturated fat, salt and high calories oriented food items (Shangguan et al., 2019).

The investigation of consumer intentions for healthy food selection with the assistance of front of pack label (FoP) and back of pack label (BoP) have generated many results (Becker et al., 2016). Nevertheless it has been observed in past studies that it is very difficult to generalize contents of front of pack labeling at global level (Shangguan et al., 2019; Kanter et al., 2018;Pomeranz ,Wildeb , Mozaffarianb , Micha, 2019).Moreover, companies designing multiple food labels to provide nutritional information to target customers but the availability of these labels have made confusion for consumers. Therefore, there is need to investigate consumer insights towards the food label which enable consumer for healthy food selection at point of purchase. Keeping in view the inconsistencies in past literature, authors of the study were intended to involve the element of front of pack label scheme like health claim, traffic lights symbols and user friendly food label as well as personality traits for the investigation of consumer healthy packaged food selection intention and model is underpinned with theory of planned behavior.

Literature

The primary objective of nutritional label is to encourage consumer to take informed decision for healthy package food selection (Zhu, Lopezb, Liu, 2019). In advocating the significance of suitable and healthy food selection food label plays pivotal role (Kaur, Scarborough, & Rayner, 2017).Numerous researchers have supported that food label is an essential componentto display relevant information for the convenience of consumers (Labbe et al., 2013) and a cradle of promoting healthy food selection (Werle et al., 2013).The front of pack labeling elements such as health claims and traffic lights arewidely used internationally and communicating nutritional information conveniently as compared to complex and difficulty label schemes such as back of pack labeling (Loewenstein et al., 2014).

Readable Food Label with Front of Pack Label Elements

The health claim element of front of pack label scheme appears at front of pack label and provides a summary of nutritional information (Van Der Bend et al., 2014). Health claims have further two categories like nutritional claims and health related claims which provide a written description with one statement (Talati, Pettigrew, Hughes, Dixon, Kelly, Ball, Miller, 2018). The most commonly used health claims statements are 'Good source of calcium', 'Contains calcium for healthy bones and teeth' and 'Contains calcium to reduce the risk of osteoporosis' (FSANZ, 2014).Health claim is not only an educational tool which enhances nutritional awareness but also inform consumers regarding the relationship between food component and its impact on health (Talati et al., 2016). Studies have reported that repeated reinforcement of health claims positively transfer the knowledge to consumer pertaining to healthy food selection (Tan et al., 2016; Wills et al., 2012).Moreover, due to the easy to interpretable feature the health claims have geographically gained the attention among consumers (Coleman et al., 2014).Hartmann et al. (2008) have indicated that the correctness and truthfulness of health claims direct the economic benefits because it increases the purchasing efficiency of individual consumers.

Conversely, past studies have reported that text on label is less effective as compare to color coded schemes of label such as traffic lights symbols for the awareness and informed food choices (Jackey, Cotugna, & Orsega-Smith, 2017; Jacobs et al., 2010).Extensive studies conducted in four European countries have implied that traffic lights symbols are very effective for healthy food choices (Feunekes et al.,2008). Consumer least bothers to consult over crowded food label and this bottleneck must be removed (Sacks et al., 2011).Moreover, the traffic lights symbols are considered to be aneffective scheme of thefront of pack labeling(Pettigrew et al., 2011) and the cause is its familiarity and easy interpretive characteristics. Food label amplifies the intention of consumers towards better food selection but the association between easy food labeling and healthy food selection yet inconsistent (Campos et al., 2011; Lioutas, 2014).Front-of-pack nutrition labels are appealing (Visschers et al., 2010) because they care consumers' freedom of choice (Norton et al., 2015). In light of statistics, in the UK 60% nutritional information disseminated with the front of pack label, notwithstanding, lack of understanding, inefficiency andthe evasion of label information are experiential (Campos et al., 2011). The growing tendency of processed food making food labels decisive among consumers to select healthy foods (Sharf et al., 2012). Moreover, further empirical evidence required because it remains unclear that which interpretive elements of the front of pack nutritional label serve better at the point of purchase (Hodgkins et al., 2012). Facts of the International Food Information Council (IFIC) disclosed that 83% ofcitizens' of Baltimore and Chicago are not familiar with food label information (Borra, 2006).

Packaged food is the major source to take saturated fat, sodium, salt and fat (World Health Organisation, 2017a) and for the awareness of consumers the food label information is the right method (Cecchini & Warin, 2016; Kaur, Scarborough, & Rayner, 2017). In contrary to that a report of a meta-analysis between the relations of food label information and healthy food selection has unfolded the fact that they could not find the significant relationship (Crockett et al., 2018). It is very plausible to discuss in the favor of food labels' significancebut the availability ofempirical evidenceis scarce (Van Herpen and Trijp, 2011).The worldwide rising rate of obesity associated with public health cost(World Health Organization, 2007) and several stakeholders are weighing their option for counteraction (Aschemann-Witzel et al., 2013). Various instruments employed to improve individuals' diet but nutritional label found very effective which provide voluntary, conscious and informed decision making (Capacci et al., 2012).

Advocators of food label efficacy argued that consumers' interest is increasing towards consultation of label information(Annunziata & Vecchio, 2012) for healthy packaged food choices.Moreover, understanding and use of nutritional food label are country specific.Carrillo et al. (2014) havetargeted the population of Denmark and Spain to examine their health claims' understanding.Spaniard'sfamiliarity with health claims was better than Danes.The front of pack

label is taking position across the globe and companies are getting competitive edge. Nevertheless, studies have suggested investigating the validity and robustness of front of pack label by involving different nationalities (Banovic, Reinders, Claret, Guerrero, Krystallis, 2019). In continuation studies have found inconsistent results in the significance of front of pack label schemes. In some studies health claim statements get favorable results on the other side traffic lights color coded presentation of nutrients like fat, saturated fat, sodium and salt is effective for the selection of healthy packaged food (Emrich, Ying Qi, Lou, L'Abbe, 2017).

Theory of Planned behavior and Food selection Intention

Research based on theory enables researchers to do a systematic and comprehensive investigation pertaining to influencing factors(Walters & Long, 2012).The preferred theory for nutritional behavior is Ajzen's (1991) theory of planned behavior which provides a framework to understand nutritional behavior's factors because it encompasses diverse motivational factors (Lim et al., 2015). Aforementioned studies have employed theory of planned behavior for the investigation of individual intention towards package food and organic food selection (Li et al., 2018; Long et al., 2017; Asif et al., 2018). According to theory of planned behavior individual's intention is determined by three factors like attitude, subjective norm and perceived behavioral control (Maleksaeidi et al., 2018). The current study has replaced perceived behavioral control with self-efficacy. In few studiesself-efficacy of (Bandura, 1982) has taken instead of perceived behavioral control(Ajzen, 1998; Conner & Abraham, 2001). Some studies' findings have described that PBC and self-efficacy are synonyms of each other (Chan et al., 2016). Verbeke and Vackier (2005) have involved thetheory of planned behavior to explain the fish eating intention of theindividual. McEachan et al., (2011) have examined the effect of TPB on physical activity and healthy eating of theindividual. According to McDermott et al., (2015) the role of theory of planned behavior for the development of nutritional intention among individual is very decisive.The constructs of theory of planned behavior are very effect for the investigation of individual's intention towards healthy food consumption (Dunn et al., 2011).The objective of the current study is to investigate the consumer intention of consumer towards healthy packaged food rather actual behavior. The cause to investigate intention is as aforementioned studies have accounted that strong intention leads towards actual behavior (Jun& Arendt, 2016). It has also been observed that intention is the proximal determinant of actual behavior (Close et al., 2017).Therefore, thecurrent study has employed TPB for examining the packaged food consumption intention of individuals.

Personality Traits and Food Selection behavior

Sutin et el., (2015) have reported that personality traits are involved in designing individuals dietary habit either increasing poor dietary intake or increasing quality of diet. Gohary and Heidarzadeh (2014) have noted that human personality playsa vital role in his/her decision making.Kakizaki et al., (2008) have indicated that extraversion personality trait is associated with the overweight; however, neuroticism has positive significant relation with underweight.Many researchers have established a positive and significant relation between personality traits and healthy behaviors (Yasunaga & Yaguchi, 2014). For this purpose, the most comprehensive personality traits model is (McCrae & Costa, 1987; McCrae & John, 1992; Goldberg, 1991) big five personality traits which include neuroticism,extraversion, openness, agreeableness, and conscientiousness.

Theoretical framework

Figure 1 is representing the graphical relationship among all the variables taken in the intended study. There were total twelve variables with the status of independent, mediator, moderator and as a dependent variable.

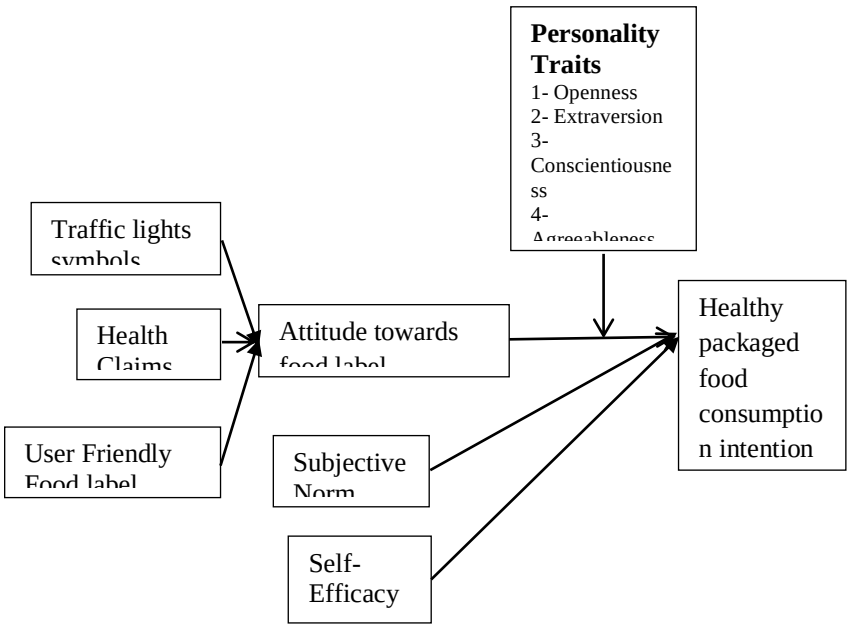

Figure 1: Individual differences theory of planned behavior

Hypotheses

H_1: Traffic lights symbols have a positive effect in making consumer's attitude towards food labels.
H_2: Health claims have a positive effect in making consumer's attitude towards food labels.
H_3: User friendly food labels have a positive effect in making consumer's attitude to read food labels.
H_4: The attitude towards food label has a positive effect on consumer's intention towards packaged food consumption.
H_5: Traffic lights symbols have a positive relation with packaged food consumption intention.
H_6: Health claims have a positive relation with packaged food consumption intention.
H_7: User friendly food label has a positive relation with packaged food consumption intention.
H_8: The attitude towards food label mediates in establishing a relationship between traffic lights symbols, health claims, and user-friendly food label with the intention to consume packaged food.
H_9: Subjective norm have a positive effect in developing consumer's intention towards packaged food consumption intention.
H_{10}: Self-Efficacy has a positive effect in developing consumer's intention towards the dietary quality intention.
H_{11}: The big five personality traits moderates between the attitude towards food label and the packaged food consumption intention.

Methodology

For the analysis of data structural equation modeling was used. The causal relations between latent exogenous and latent endogenous variables were measured with astandard coefficient and significance value of AMOS. The adequate fit was observed in the present study by comparing with standard fit indices (Bollen & Noble, 2011). The structural equation model was used to examine the factors which determine individuals' intention to consume packaged food

items. The intention of the current researchers was to involve maximum customers of retail outlets. The aforementioned study has supported for sample selection. A study conducted in Paris by taking three big retail outlets (Julia et al., 2015) similarly researchers' of intended study target three big retail stores of Pakistan namely Matro, Hyperstar,and Alfatha. The selected stores offer membership cards to their regular customers and maintain thedatabase. The rich databases of three retail outlets were very beneficial to engage customers at amassive level. Researchers have involved one volunteer employee for assistance from each retail outlet. It was common practice that Matro, Hyperstar,and Alfatha sent messages regarding updated promotional offers to their membership card holders. Therefore, researchers have taken this practice an opportunity and with the help of avolunteerssent messages to all members to ask their permission to participate in thesurvey. There were 1070 customers who granted permission. Data was collected with adapted questionnaires and the questionnaire was comprised of 87 items. The detail of instrument is given in table 1.Questionnaire was posted to their home addresses. The participant has answered each question on five pointLikert scale.

Although quantitative research technique provides breadth in research but offers limited depth whereas qualitative method adds depth and deeper understanding of individuals' emotions and attitudes (Pope & Mays, 1995). Therefore, the mix method was adopted for data collection.Previous studies imply the efficacy of mix method for detail analysis of any subject (Holsten et al., 2012; Bonsmann et al., 2010). After one week another message sent to 1070 respondents to ask their willingness for anin-depth interview. Interview is a time taking activity and most often people hesitate. Therefore, only 20 respondents have shown their interest. To ensure thequality of interview data only two interviews were scheduled in a day and it took 10 days to target 20 respondents.Moreover, even the willing respondents have given 40 minutes almost. Therefore, researchers of the current study have extracted each question from each variable for the convenience of respondents. For instance, "What is your opinion if companies describe nutritional information at food label with color coded format like red, yellow and green", "What is your opinion if companies write statement on food label for nutritional guidance like "Low fat", "High fiber"", "if companies make food label less crowded and easy to understand information can help you in healthy food selection", "Food label can change your attitude if you consult at point of purchase", "Who influence you while selecting packaged food like family members, friends or suggested by colleague", "How much you have control of yourself while selecting package food", "which personality traits do you have for instance conscientiousness, openness to experience, extraversion, agreeableness or neuroticism".

Table 1. *Measurement Instruments*

Variables	**Items**
Traffic Light Symbols Sonnenberg et al., (2013)	
	Nutrients on food label with red, yellow and green traffic lights is effective for healthy package food selection
	Familiarity of traffic lights symbols on package food label take consumer's attention
	Traffic lights symbols easily demonstrate high, medium and low (fat, sodium, salt, saturated fat and fiber) information
	Traffic lights symbols benefit consumer to consider the food label for healthy package food selection.
	Traffic light colors' labels influence consumer to select healthy package food.
	Traffic lights symbols on food label make consumer's attitude to read food labels for healthy package food selection.
	Health Claims Cavaliere et al., (2015)
	Energy claims such as "Low Energy", "Energy-Reduced" and

	"Energy Free" at food label help consumer to select the quality of package food. **Fat claims** such as "Low Fat", "Fat-Free", "Low Saturated Fat" and "Saturated Fat-Free" at food label help consumer to select quality of package food. **Sugar claims** such as "Low Sugar", "Sugars-Free" and "With no Added Sugars" at food label help consumer to select the quality of package food. **Vitamin claims** on food labels help consumers to select the quality of package food. **Fiber claims** such as "Source of Fiber" and "High Fiber" at food label help consumer to select the quality of package food. **Sodium/salt claims** such as "Low Sodium/Low Salt", "Very Low Sodium/ Very Low Salt"," Sodium-Free/Salt Free" at food label help consumer to select the quality of package food. **Health claims** on food label make consumer able to read food labels for healthy package food selection,
User Friendly Label Han, et al., (2019)	
	Availability of required information on food label benefit consumer at the time of purchase. Less cluttered food label information benefit consumer at the time of purchase. Clear and easy to understand food label information benefit consumer at the time of purchase. Simple and straightforward food label information benefit consumer at the time of purchase. Quick facts on food label with easy to read language benefit consumer at the time of purchase. Avoiding too much category of information at food label benefit consumer at the time of purchase. Brief information on food label benefit consumer at the time of purchase. Detailed with simple words' information on food label benefit the consumer at the time of purchase.
Attitude (Towards food label) Van der Merwe et al. (2014)	
	The information on food labels is more useful for healthy package food selection and it is important for me. The written information on food labels is most relevant to healthy package food selection and it is important for me. A food label is a good source of information for healthy package

	food selection and it is important for me.
	Easy to understand information on food labels is supportive of healthy package food selection and it's important for me.
	Food labels provide information about the food product for healthy package food selection and it is important for me.
	Food labels provide good quality information which is supportive of healthy package food selection and it is important for me.
	Food labels contain sufficient information for healthy package food selection and it is important for me.
	Symbols on food labels are a useful source of information for healthy package food selection and it is important for me
Personality Traits Goldberg,& Stycker, (2002)	
	Extroversion
	Extroverted
	Energetic
	Talkative
	Bold
	Active
	Assertive
	Adventurous
	Agreeableness
	Warm
	Kind
	Cooperative
	Unselfish
	Agreeable
	Trustful
	Generous
	Conscientiousness
	Organized
	Responsible
	Conscientious

	Practical
	Thorough
	Hardworking
	Thrifty
	Neuroticism
	Calm
	Relax
	At ease
	Not envious
	Stable
	Contented
	Unemotional
	Openness
	Intelligent
	Analytical
	Reflective
	Inquisitive
	Imaginative
	Creative
	Sophisticated
Subjective Norm Watanabe et al., (2015)	
	People important to me think I should eat healthy package food People important to me approve to eat healthy package food
	People important to me want me to eat healthy package food
	Many people who are important to me eat healthy package food
	The mass media suggest that I should use healthy package food products The mass media urge me to use healthy package food products
	The mass media and advertising consistently recommended that I should use healthy package food products
Self-Efficacy(Artino, 2012)	
	For me it is difficult to select healthy package food due to small

	font size at a food label.
	For me it is difficult to select healthy package food due to lack of knowledge about nutrients.
	My nature to eat quickly hinder me to select healthy package food.
	It is entirely up to me to select healthy package food
	Shopping foods with others (e.g., friends) make difficult for me to select healthy package food
	For me it is difficult to select healthy package food because nutritional information is placed at the back of the pack food label
	It is easy to select healthy package food if I can understand the nutrients on the label (e.g., Calorie, fat, etc.).
	It is easy to select healthy package food if I can understand the nutrient content per serving size on the label (e.g., Calorie 400kcal, fat 10g, etc.)
	It is easy to select healthy package food if I can understand the percentage daily values of nutrients on the label
Intention (Healthy package food consumption) Chung et al., (2010)	
	I give importance to nutrients in the purchasing of packaged food items
	I mostly prefer to eat healthy package food
	I frequently purchase healthy package food
	I am willing to pay extra for healthy package food
	I intend to take healthy package food
	I plan to take healthy package food
	I want to take healthy package food

Analysis

There were 1070 questionnaires which were sent to respondents' home addresses. For respondents' convenience and to increase the response rate an envelope with postal stamp were also attached with aquestionnaire. The received number of questionnaires was747. The response rate was 70%. There were705questionnaires were usable for preliminary tests out of received 747 questionnaires. In these 705questionnaires,316 were female and 389 were male. The average age of female was (32.34) and themale was (34). In female questionnaires,40% were working women and the rest of them were house wives whereas in male participants 39% were self-employed and restwere employed in various organizations.

The imputation method was adopted to deal with missing data.There were 113 questionnaireshaving missing data less than 10%.Mahalanobies(Hair et al., 2010) test deleted 23 questionnaires which were anoutlier. Therefore, 682 questionnaires were included for final results analysis. The validity of the constructs was examined with convergent validity and discriminant validity. Convergent validitymeasured with Cronbach alpha and composite reliability (Fornell &Larcker, 1981; Hair et al., 2006). The cutoff value for Cronbach Alpha and composite reliability is

0.60 (Hair et al., 2006). Some authors have advocated that cut off value 0.70 provides better reliability (Nunnally &Bernstein, 1994).

The discriminant validity was examined with average variance extraction (AVE). According to the rule of thumb,the square value of the correlationbetween two measured constructs should be less than AVE (Kearns & Lederer, 2003). Furthermore, if the square root of the average variance extracted (AVE) is greater than the square of thestandardized correlation value of two constructsindicates the discriminant validity. The range of AVE is from 0 to 1, and for adequate discriminant validity, the AVE value should be greater than 0.50 (Bagozzi & Yi, 1989; Fornell & Larcker, 1981). Table 2and 3are having the values of composite reliability, average variance extracted and discriminant validity respectively.

Table 2. *CR, AVE and Factor Loading*

Variables	**Factor Loading**	**AVE**	**CR**
Traffic Lights Symbols			
TLS2	.745		
TLS3	.823		
TLS4	.756	0.521	0.765
TLS5	.701		
TLS2	.745		
Health Claims			
HC2	.709		
HC3	.772	0.510	0.755
HC4	.703		
User Friendly Food Label			
UFFL1	.500		
UFFL3	.657	0.592	0.744
UFFL4	.738		
UFFL5	.504		
Subjective Norms			
SN1	.926		
SN2	.934		
SN3	.815	0.633	0.871
SN6	.802		
SN7	.773		
Self-Efficacy			
SE1	.796		
SE2	.923		
SE7	.852	0.534	0.773
SE8	.934		
SE9	.706		
Attitude towards food label			
ATFL2	.677	0.621	0.831
ATFL3	.774		
ATFL4	.700		
ATFL5	.683		
Conscientiousness			
PTraitA2	.726		
PTraitA3	.764	0.592	0.744
PTraitA4	.686		
PTraitA5	.606		
Openness to Experience			
PTraitB4	.690		
PTraitB5	.743	0.556	0.714
PTraitB6	.701		
Agreeableness			
PTraitC2	.675		
PTraitC3	.711	0.763	0.518
PTraitC4	.651		
PTraitC5	.747		

PTraitC6	.793		
Openness to Experience		AVE	CR
PTraitD1	.785		
PTraitD2	.882	0.556	0.714
PTraitD3	.736		
PTraitD7	.737		
Neuroticism			
PTraitE3	.601		
PTraitE4	.760		0.818
PTraitE5	.750	0.600	
PTraitE6	.650		
PTraitE7	.678		
Healthy Package Food Consumption Intention			
HPFCI4	.816		
HPFCI5	.806	0.525	0.813
HPFCI6	.880		
HPFCI7	.768		

Table 3. *Discriminant Validity*

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Openness	**0.746**											
Traffic Lights Symbols	0.184	**0.722**										
Health Claims	0.125	0.513	**0.714**									
Subjective Norm	0.263	0.310	0.317	**0.796**								
Self-efficacy	0.172	0.309	0.309	0.348	**0.731**							
Intention to consume Packaged food	0.296	0.342	0.407	0.552	0.467	**0.724**						
Extraversion	0.654	0.151	0.169	0.230	0.196	0.346	**0.724**					
Agreeableness	0.534	0.137	0.119	0.180	0.122	0.328	0.553	**0.719**				
Conscientiousness	0.699	0.180	0.124	0.211	0.116	0.279	0.623	0.702	**0.770**			
Neuroticism	0.578	0.151	0.040	0.169	0.188	0.243	0.505	0.518	0.609	**0.775**		
User Friendly Food labels	0.241	0.424	0.583	0.440	0.314	0.436	0.271	0.204	0.232	0.236	**0.770**	
Attitude towards	0.162	0.390	0.506	0.514	0.398	0.503	0.206	0.174	0.176	0.192	0.713	**0.788**

Figure 2 is the measurement model which confirmed that items are theoretically close to each other pertaining to factor loading and goodness of fit (Hair et al., 2010). To achieve the goodness of fit indices items were deleted and table 4 is having the final results.

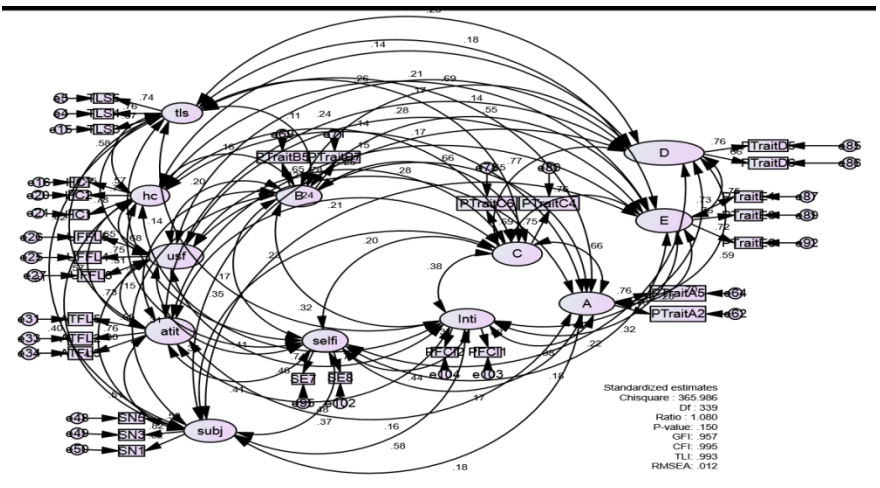

Figure 2: Exogenous and endogenous confirmatory factor analysis

Table 4. *Confirmatory Factor analysis of all measurement and Goodness of fit*

Code	Items	R-Items	Chi-S	CMIN	CFI	GFI	AGFI	NFI	RMSEA	P-V
TLS	6	4	3.522	1.761	.997	.997	.980	.990	.038	.172
HC	7	5	8.404	1.681	.996	.994	.981	.990	.038	.135
UFFL	8	5	12.769	2.554	.997	.997	.984	.993	.038	.172
ATI	8	4	2.216	1.108	.998	.999	.990	.995	.014	.330
SN	7	4	4.019	2.010	.998	.996	.981	.996	.043	.134
SE	9	5	8.478	1.696	.994	.990	.982	.976	.036	.132
Extra	7	5	3.687	0.737	.999	1.00	.992	.992	.000	.595
Agree	7	4	4.000	2.000	.996	.996	.982	.993	.043	.135
Cons	7	4	2.462	1.231	.998	.999	.988	.997	.021	.292
Nuro	7	4	3.453	1.727	.997	.998	.984	.994	.037	.178
Opne	7	4	4.150	2.075	.996	.996	.981	.992	.045	.126
ENDO	7	4	2.817	1.408	.997	.999	.987	.995	.028	.245
EXO	80	28	315.00	1.068	.990	.960	.945	.940	.011	.202

EXO/END	87	30	365.98	1.080	.995	.957	.941	.936	.012	.150

In the current study, there were various hypotheses pertaining to the direct and indirect relation. The model was initially tested with absolute, incremental and parsimonious. The goodness of model fit is assessed by NFI ratio, IFI, TLI, CFI, RMSEA, AGFI, TLI, CFI, NFI, and GFI. Table 5 is having the required values which have indicated the goodness of fit and figure 3 is the graphical representation.

Table 5. *Hypothesized model goodness of fit*

Indicators	Hypothesized Model	Threshold Values (Hair et al., 2010)
Absolute		
Chi-Square	162.676	Less than 2
DF	136	
Ratio/CMIN	1.196	
Incremental		
CFI	0.992	Greater Than 0.90
GFI	0.969	Greater Than 0.90
AGFI	0.956	Greater Than 0.90
NFI	0.952	Greater Than 0.90
Parsimonious		
RMSEA	0.019	Less than 0.080 (Lesser is better)
P-value	0.059	Greater Than 0.05 (Bigger is better)

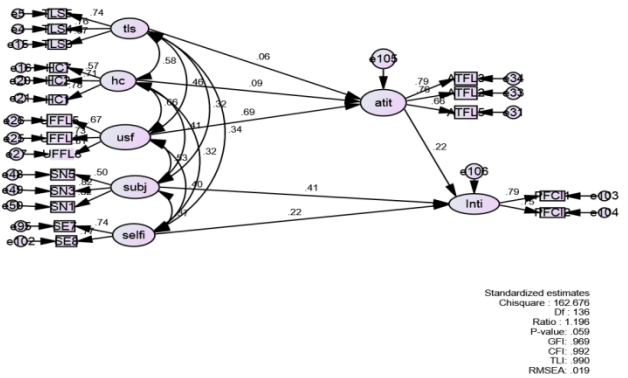

Figure 3: Hypothesized model after fit

After achieving the goodness of fit indices for the hypothesized model the second stage was to examine the effect of each exogenous variable on anendogenous variable. Table 6is having the standardized effect of all hypotheses.

Table 6. *Hypotheses standardized results*

End0		Exoge	Estimate	S.E.	C.R.	P	Status
Attitude	<---	UFFL	0.502	0.094	4.302	***	Signi
Attitude	<---	HC	0.347	0.123	2.385	0.017	Signi

Attitude	<---	TLS	0.051	0.065	0.576	0.565	Insigni
Intention	<---	SN	0.502	0.17	5.39	***	Signi
Intention	<---	SE	0.156	0.077	2.413	0.016	Signi
Intention	<---	ATFL	0.191	0.115	2.701	0.007	Signi
Intention	<---	TLS	-0.027	0.106	-0.253	0.80	Insigni
Intention	<---	HC	0.121	0.197	0.613	0.54	Insigni
Intention	<---	UFFL	-0.101	0.183	-0.554	0.58	Insigni

Researchers of the current study have taken subjective norm and self-efficacy with adirect effect on intention to consume packaged food. Results have indicated that the intention to consume packaged food is 50% explained by subjective norm and self-efficacy. Furthermore, attitude towards food label is the criterion and its predictors are health claims, user friendly food label and traffic lights symbols.

There were three independent variables which were mediated with theattitude towards food label for the explanation of their effect on intention to consume packaged food. These three variables were traffic lights symbols, health claims,and user friendly food label. The results have specified that attitude towards food label fully mediatedby user friendly food label and health claims whereas no mediation effect was found with traffic lights symbols. The results are presented in table 7.

Table 7. *Mediation effect of Attitude towards food label*

Endo	Mediator	Exoge	Estimate	S.E.	C.R.	P	Status
Intention	Attitude	UFFL	0.502	0.094	4.302	***	Full Mediation
Intention	Attitude	HC	0.347	0.123	2.385	0.017	Full Mediation
Intention	Attitude	TLS	0.051	0.065	0.576	0.565	No Mediation

The current study has examined the moderation effect of an individual's personality traitsbetween attitude towards food label and the intention to consume packaged food. The moderating effect of five personality traits was testedand the resulting model is presented in figure 4.

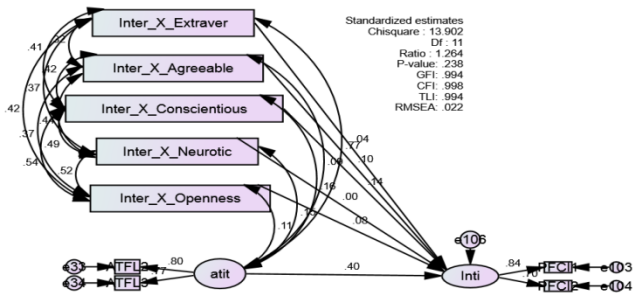

Figure 4: Moderation effect of Personality Traits

Table 8constitutes the moderation results of each personality traits. Two personality traits namely conscientiousness and agreeableness moderated between attitude towards food label and intention to consume packaged food. Both traits have weakened the previously established relationship.

Table 8. *Moderation effect of five personality traits*

End	Moderator	Predictor	Estimate	S.E.	C.R.	P	Status
Inti	<---	Attitude	0.397	0.152	3.586	***	Signi
Inti	Extraversion	Attitude	0.045	0.019	0.399	0.69	No Moderation
Inti	Agreeableness	Attitude	0.104	0.014	1.982	0.048	Moderation
Inti	Conscientiousness	Attitude	0.137	0.015	2.406	0.016	Moderation
Inti	Neuroticism	Attitude	0.003	0.015	0.052	0.959	No Moderation
Inti	Openness	Attitude	0.084	0.017	1.379	0.168	No Moderation

For detailed analysis to understand individuals' intention towards packaged food consumption qualitative method was also employed. In-depth detailed interviews were conducted and respondents expressed their opinion about consumption of packaged food, theeffect of food label information, understanding of label information, theinfluence of traffic lights symbols and health claims and to what extent the label information is understandable at the point of purchase. To derive themain theme out of these responsesresearchers of the intended study have conducted analysis on Nvivo version 11 and reported results with word clouds and word tree. Figure 5 and6 are the word cloud and word tree respectively.

Figure 5: Word cloud

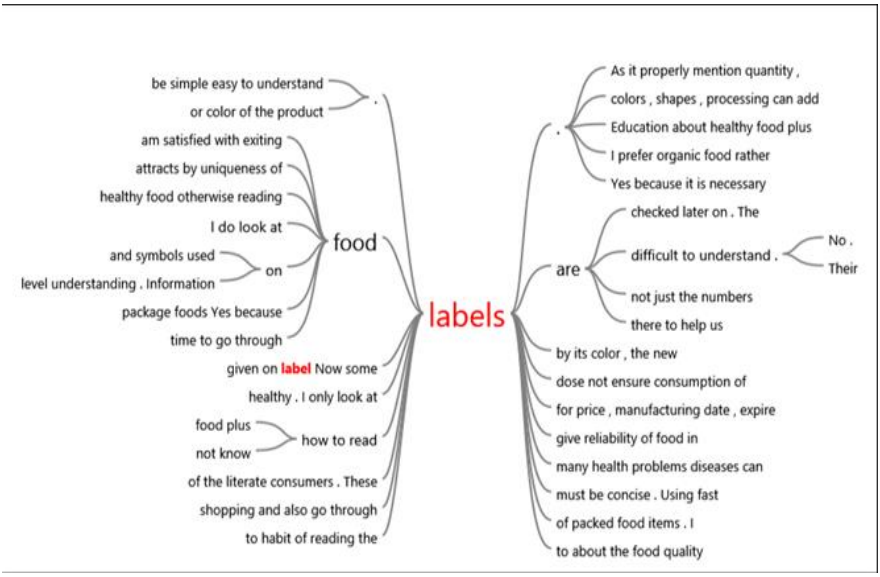

Figure 6:Word tree

Discussion

The analysis of the present study has demonstrated that the display of nutritional information with traffic lights symbols (TLS) did not influence Pakistani consumers' intention towards healthy packaged food choices. Although the effectiveness of TLS method is accepted in several countries and observed that sign post colors such as traffic lights symbols at food label are very effective in understanding nutritional information (Olstad et al., 2015). Notwithstanding, few studies have indicated that traffic lights symbols did not grab consumers' intention to consult food label at the point of purchase (Sacks et al., 2009; Dodds et al., 2013). Therefore, a reflection of past studies' findings was also seen in current results.

Results have unfolded the fact that there was no direct influence of health claims and user friendly food labels on consumers' intention to consume healthy packaged food. Moreover, full mediation was found significant. Studies have witnessed that nutritional benefits statements such as health claims have the ability to convert credence of individuals into search attributes to read food labels for healthy food choices (Muth etal., 2013). Health claims are beneficial for all kind of nutrients such as calories, fat, saturated fat, salt and sodium (Kim et al.,2000). Findings have been reported in past study that consumer prefers simplified information on the food label (Cowburn & Stockley, 2005) because unnecessarily detailed information make confusion while making decisions for healthy packaged food choices (Shilpa et al., 2016). Some of the empirical findings have suggested that visualizations and logos are better formats to communicate label information to consumers (Sharf et al., 2012).

Subjective norm and self-efficacy positively and significantly effect on consumers' intention to consume packaged food products. The outcome of the present study is linked with past findings where it was mentioned that subjective norm has a strong effect on individuals' healthy food selection (Kothe & Mullan, 2014; Eto et al., 2011).Self-efficacy is a stemfrom social cognitive theory(Bandura, 1986). The self-efficacy is actually the degree of individuals' convincing ability to achieve aspecific goal. Moreover, the role of self-efficacy for weight loss and health maintenance is also very appreciating (Blacksher, 2008; O'Dougherty et al., 2010; Hankonen et al., 2010). According to Teixiera et al., (2010) self-efficacy is the strongest predictor of a healthy life style.

In the light of common notion pertaining to food, selection likes and dislikes of food based on individuals' belief. The foundation of the intended model was consumers' packaged food choices. Therefore, to figure out individuals' differences with respect to food selection present study has employed all personality traits. The moderating effect of personality traits between attitude towards food label and the intention to consume packaged food was analyzed. Results have indicated that only two personality traits have positive significant moderation affect namely

agreeableness and conscientiousness. In past studies, it was observed that conscientiousness and agreeableness have positive significant direct or indirect effect while examining individuals' behavior towards healthy food selection (Chapman et al., 2009; Friedman, 2008). The moderating personality traits have weakened the relationship between attitude and intention for packaged food selection. This outcome expresses that although external factors are very effective for developing consumers' intention to consume readily to eat a meal overwhelming characteristics of some personality traits indices individuals to shun imbalance packaged food.

Theoretical Contribution

It is the requirement of every new study to contribute in existing study and bring some updated and worth reading results for future researchers. To accomplish such demand the contribution portion of every study brings novelty. Researchers take keen interest in reading and contributor pay much attention in writing that major part of his/her research. It would not wrong to state that current study model itself a contributing which has not been designed yet for the investigation of any intention in any context. But some unique contributions of the current study which need to be highlighted are as follows:

To the best of author's knowledge there is no study found in aforementioned literature which have simultaneously employed the front of pack labeling facets such as traffic lights symbols, health claims and user friendly food label for the investigation of intention to consume package food items. The individual effect of each food label whether front of pack labeling facets or back of pack labeling facets have several time examined on consumer purchase decision. Whereas the simultaneous examination of front of pack labeling facets provide the detailed analysis of each facets as well as deliver the awareness that which is most effect for making consumer attitude to consult food label while purchasing or creating intention to consume package food items. In individual investigation positive significant effects were reported. Whereas the intensity of each front of labeling facets with combine effect has been first time judged in current study. Furthermore, results have indicated that in the presence of traffic lights symbols, health claims and user friendly food label the most preferred choice for consumers to understand food label is overall user friendliness of food labels.

To investigate individual's behavioral intention the most suitable and preferred theory is Theory of Planned Behavior by Icek Ajzen (1991). It was first time investigated in the current study where researcher of the intended study has taken three front of pack labeling (FoP) facets consecutively as an antecedent of attitude towards food label and examined the mediation effect of each FoP with attitude towards food label on intention to consume package food. In this mediation it was investigated that which FoP facet has indirect effect on creating individual intention to consume package food items. This contribution has practical application which would be discussed separately under the heading practical contribution.

Theory of planned behavior has served many industries and several societies but TPB model with all FoP facets in Pakistani environment has not yet been tested. Another uniqueness of the current model is that not study has been found so far which have employed FoP all facets with TPB model for the investigation of Pakistani consumers' intention to consume package food items. Pakistani authors have involved expire dates, manufacturing dates, ingredients and nutritional information to examine the Pakistani respondents' purchase decisions for food items. There was no comprehensive model designed for Pakistani respondents to investigate their intention towards package food consumption. The effect of traffic lights symbols and health claims have also been investigated in numerus countries whereas in Pakistani environment with quantitative analysis has been first time discussed.

Goldberg big five personality traits have got the popularity among many researches. Researchers have employed sometime all and sometime few of personality traits to examine their effect on various endogenous variables. Big five personality traits have been involved with many other variables and play pivotal role as exogenous variables. Sometime researchers have taken the sole service of personality traits for the judgment of their effect on any dependent variable. But so far no study has been taken the moderating effect of personality traits with the construct of theory of planned behavior. Researcher of the intended study has hypothesized that whenever some external factors involved in making consumers' attitude towards food label reading and this attitude develop intention among consumers to consume package food the inner characteristics of individuals participate positively or negatively. Such inner characteristics best represented by big five personality traits. Therefore, in present study the analysis of data unveiled that two personality traits moderated between attitude and intention. In this moderation personality traits involvement have weaken the relationship. Moreover, it indicates that although attitude and intention have

always positive relation and have highest explanatory power but there are some factors which can play pivotal role in weakening this relationship.

Managerial Contribution

Food processing companies spent millions of dollars on designing and printing food labels. Their aim and objective is to deliver maximum information to consumers and make them aware pertaining to the selection of healthy and nutritious food items. With the increasing growth in package food products due to their convenient characteristics food related diseases have also sprout out and increased the medical expenses not only on state but also on individual's private pocket. Therefore, designing effective and efficient food label in now the core concern of food processing companies because such kind of issues are not confined to under developing or developing countries but developed countries also overwhelmed by this disaster. But this issues is becoming giant in developing countries due to their social and economic setup. The current model was tested in Pakistani environment and results have indicated that majority of consumers interested in reading food label but due to its technical language unable to read but due to convenience prefer package food. This convenience and economical food shopping increasing their medical expenses and increasing obesity and food related diseases. If organizations make food label user friendly and provide information with easy to understand language people would get aware and take rational decision while purchasing package food.

Food processing organizations should also pay attention to the individual personality traits of consumers which make them differ from each other. Personality differences make consumers able to perceive and conceive differently which effect their behavioral intention towards anything. The food related items are most of the time based on individual liking and disliking therefore targeting consumers' traits with external factors such as designing easy to understand labels and promoting health related benefits attached with package food will have more positive significant effect on consumers.

Limitation

Furthermore, consumers' intention towards packaged food was the prime objective of the current study. It is better to involve actual behavior in future studies. Although strong intention direct towards actual behavior but empirical evidence is necessary. Cross sectional study disclose an individual's existing opinion about any object but longitudinal method uncover the consistency of respondent's response and it is advised to adopt in future researches.

In present study authors have examined the factors which makes consumer's attitude to read food label but it should also be investigated in future that which factors create hindrance. The consultation of food label information varies from product to product. Therefore, in future researchers should identify the processed food items which are having high calories, fat, saturated fat, slat and sodium. Then these products' label information should be examined that how much it should be easy to understand for consumers' at point of purchase.

Moreover, in future study Pakistani adolescent should also be targeted and to investigate their point of view regarding food label information and its decisiveness at point of purchase. Because the popularity of packaged food is increasing among adolescents and their awareness is necessary.

Conclusion

The prime objective of the present literary effort was to determine the influencing factors on individuals' intention to consume packaged food. For that purpose, a framework was designed and empirically tested. Health claim and user friendly food label were also tested with a direct and indirect relationship with intention to consume packaged food products. Owing to the technical method used to display nutritional information on the food label. The need for technical numeracy for interpreting food label information is required. Easy to understand food label makes consumers' attitude towards food label. Subsequently, this attitude provokes consumers to read food label while purchasing packaged food. The outcome of the present study corroborates the applicability of subjective norm and self-efficacy in developing consumers' intention to consume packaged food.

The mixed method of present study has filled the gap pertaining to healthy packaged food selection because it was also suggested in aforementioned studies that qualitative method unveils the actual opinion of respondents (Lioutas, 2014).Food processing companies should figure out the best possible solution to display label information which can be easy to interpret.

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