

Individual's Own Consent and External Support Shape Consumer Decision towards Healthy Packaged Food Intention

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Abstract

The increasing percentage of processed food has transformed human diseases trends from acute to chronic diseases which are the cause of unhealthy food choices. To educate consumers the food label is the most suitable source of information. The primary objective of the current study is to examine how external factors encourage consumers to purchase package food and to what extent consumers' inner voice reply. The model was tested on 467 sample size. For the final analysis SEM AMOS was employed. Results have unfolded the fact that there is partial mediation exist. Conscientiousness has made relation weaken which indicates that although external factors such as attitude towards food label and subjective norms are decisive for informed food choices but personality traits' role is inevitable. The current study has contributed in existing literature but a comprehensive model required in developing consumers' awareness towards selection of right amount package food. Practical: Food processing companies are designing easy to interpretive labels but the understanding of consumers' personality traits can give them competitive edge in market.

Key-words: Conscientiousness, Attitude Towards Food Label, Subjective Norm and Intention to Consume Package Food.

1. Introduction

Food plays pivotal role in our life and studies have exposed that some people are facing overconsumption of food problems like overweight and obesity whereas some are struggling to acquire sufficient supply of nutrients food (Ma, Chen, Pu, Guo, Jiang, Huang, & Xu, 2020). Human

health can be improved by providing food access and controlling food wastage (Zhao, Lin, & Chen, 2020). Furthermore, overconsumption of food and insufficient of food nutrients both effect consumer well-being. In 21st century the practitioners and researchers have observed transition in individual's food selection from fresh food to processed packaged food. There is a need to create awareness among consumer regarding healthy food selection for their well-being. Owing to the convenience factor in processed food consumer's tendency to consume excessive packaged food is high.

Researchers and practitioners have suggested improving consumer knowledge regarding healthy food nutrients specifically for the consumption of processed food. Consumers' awareness towards nutritional food intake in their daily life is essential for healthy life style (Chan, Prendergast & Ng, 2016). Food as health is new paradigm which is linked with individual independent decision making strength. In continuation with there is no formal method available for creating awareness among consumers pertaining to healthy food selection (Hodgkins et al., 2012) and most commonly practice method is to consult food label information at point of purchase. Although food labels are mandatory but to understand the numerical display of food related information is a hindrance for consumer. Food processing organizations and policy makers have taken initiatives for designing food labels easy to understand for average consumers (Grunert, Wills & Fernandez-Selemin 2010; Aryee et al., 2019).

The traditional back of pack (BoP) food labeling scheme was comprised of information with numerical and technical pattern (Campos et al., 2011; Nieto, Tolentino-Mayo et al., 2020). It is mandatory food label and food processing companies describe information in table format which is called nutritional facts panel. The information pertaining to nutrition is being displayed with percentage. Consumer needs technical proficiency to understand these percentages. The information with percentage format does not guide individual as per their body requirement except to provide information regarding the percentage of nutrients in packed food. Moreover, the numerical information confuses consumers in understanding nutrients facts.

The emerging concept of front of pack (FoP) labeling has made food label information easy to understand (Ares et al., 2012). Likewise, the FoP scheme has made it easy by using traffic lights symbols, health claims and nutritional claims, logos and various colors which assist consumers in selection of healthy package food. Studies have indicated that user friendly and easy to understand labeling encourages consumers to read label information at the time of purchase (Draper et al., 2011). The front of pack label scheme is voluntary and back of pack labeling is compulsory but the rate of both schemes varies from country to country. In Turkey FoP response rate is (24%) whereas in UK (82%) (Bonsmann et al., 2010).

Aforementioned studies have reported that there are various socializing agents such as parents, friends, family members, government policies and voice of food retailers for influencing consumers for healthy food selection (Veeck et al., 2014). Consumers most often adapt shopping behavior from their peers and follows. The acceptance of healthy food products is based on consumers' trust (Strijbos et al., 2016). The trust is developed by others experiences. Studies witnessed that consumer's self-reporting behavior towards ultra-processed food selection is influenced by their family members and close friends (Bialkova & van Trijp, 2010; Graham et al., 2012). Family life style and close circle of family members share their eating habits. These information sharing attitude sometime convince them to use packaged food items in their daily food options. Later taste and convenience make their strong conviction towards usage of packaged food.

Several factors can influence consumers' intention towards healthy life style and healthy eating behavior and consumers' social circle could be one of them (Tonkin et al., 2015). The proficiency to understand food label information is necessary. Although mandatory food label information and opinions of others play pivotal role in shaping consumer buying intention for healthy packaged food but external motivational factors strike individual's own personality traits and develop consent or dissent. Therefore, individual's own consent, commitment and motivation is necessary for healthy packaged food consumption. The over consumption of ultra-processed food has transmuted the diseases pattern from acute diseases to chronic diseases and consumer awareness and motivation is inevitable. Therefore, the aim of the intended study is to examine the influence of attitude towards food label and subjective norm on consumers' intention for package food consumption with mediation of conscientiousness personality trait. The notion to involve consumers' conscientiousness personality trait is that the consumers' decision about food selection is the combination of some internal and external factors. Therefore, it was investigated in present study that to what extent conscientiousness trait of consumer plays its role as mediator.

2. Review of Related Literature

Developed and developing countries have observed that chronic diseases which are the cause of overweight and obesity have reached at an alarming stage. Chronic diseases have not only constituted public health issues but also burden national economy. Overweight and obesity reduce individual's productivity. Researchers and practitioners have suggested multiple measures to handle public health issue but public intervention is one of them. Public awareness regarding nutrients can overcome the issue. There is no formal education for the awareness of individual to select healthy food except food labels. The convenience of processed food has accelerated the market share of

processed food companies. Furthermore, the food processing companies are adhering food act binding by displaying nutrients information at back of pack labels for the awareness of consumers.

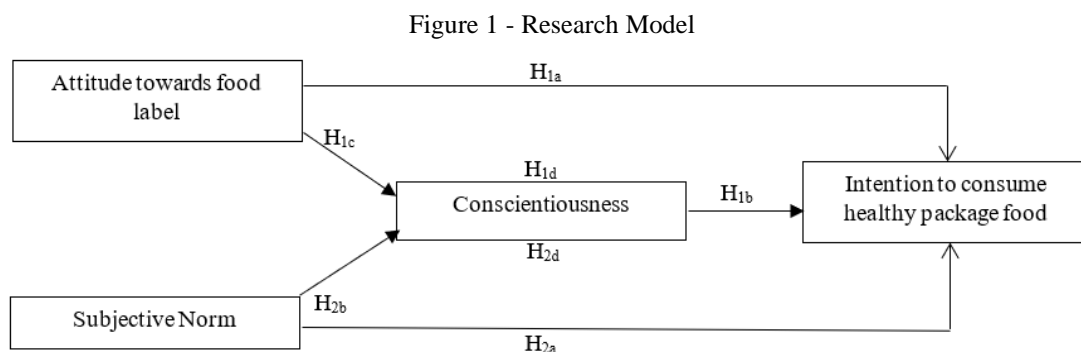
The correct interpretation of food label information is decisive to maintain consumer health condition (Ma, & Zhuang, 2020). The consumer is demanding transparent food label information which can be easily interpreted at point of purchase. Moreover, it has been observed that consumer do not consult food label information at time of purchase due to education, lack of confidence and lifestyle. Studies have suggested examining the effectiveness of food label information for the selection of right amount of nutrients (Egnell et al., 2020; Ajmal & Kumar, 2021). Although food processing companies are promoting healthy food awareness with food label information but majority of consumer consider food label as marketing tool. Therefore, consumer perception towards food label usefulness most often becomes ineffective. Consumer's social interaction is another factor of ultra-processed food selection. The referral groups in society sometime endorse new food trends in society. Ajzen' theory of planned behavior has addressed this issue with title "subjective norm". In contrary to that studies have reported that consumer's decision towards the selection of processed food is individuals' personal likes and dislikes.

Psychologically likes and dislikes tendency of consumers reveals by individuals' attitude (Hung et al., 2016). Moreover, researchers have explored that purchase intention and actual behavior are strongly correlated therefore favorable attitude and intentions make positive purchase behavior (Van Lange, Kruglanski, & Higgins, 2011). Furthermore, the increasing percentage of obesity and health related issues among consumers and the inclination of individuals' towards processed food selection is noticeable (Barreiro-Hurlé et al., 2010). To educate consumers pertaining to healthy food selection is necessary. Food labels contained comprehensive information which guides consumers to select right product (Siegrist et al., 2015). To develop consumers' attitude and to grab consumers' attention to consult food label is still equivocal (Grunert & Wills, 2007; Hawley et al., 2013). Health promoters have highlighted in their studies that food label information should be designed in easy to understandable pattern rather to confuse consumers (Hieke & Taylor, 2012). The food related attitude of consumers is based on their taste and convenience (Strijbos et al., 2015). Therefore, to divert consumers' attention from taste and convenience to healthy and nutritional food needs a comprehensive campaign and for that purpose individuals' attitude towards food label reading is decisive (Visschers, Hess, & Siegrist, 2010; Hersey et al., 2013; Bialkova & van Trijp, 2010; Visschers et al., 2010). Moreover, food label is a successful strategy to counter with obesity and other health related issues (Kiesel et al., 2011). Food label information encourages consumers to take conscious decision (Just & Payne, 2009).

Furthermore, electronic media, family members and peers also influence consumers' decision making process for the selection of healthy food items (Nepper & Chai, 2016). Subjective norm is the construct of Ajzen's theory of reason action (Fishbein & Ajzen, 1977) and theory of planned behavior (Ajzen, 1991). Subjective norm investigates that how some influencing people motivate individuals for specific behavior (Lim et al., 2015). Aforementioned studies have examined that influence of subjective norm is inconsistent. Some have reported positive relation with intention (Kothe & Mullan, 2014) whereas some have found no relation or effect in creating intention towards an object (Kim et al., 2006; Montaña & Kasprzyk, 2008). Moreover, family support, peers' motivation, media influence and government policies invest in developing individuals' commitment towards healthy food choices (Scammon & Mason, 1999). Several authors have investigated the effect of normative influence on consumers' intention such as fish consumption intention (Thorsdottir et al., 2012) and reduced fat products (Kassem & Lee, 2005). Past studies have witnessed that subjective norms have positive relation with dietary supplements usage (O'Conner & White, 2010; Chung et al., 2012). Therefore, the researchers of the intended study have employed subjective norm for the investigation of consumers' intention towards package food consumption. Although past studies have documented the effectiveness of other's opinion for the selection of any object but individual's own preference and willingness to take any object also play pivotal role.

The contribution of personality traits in obesity and overweight issues cannot be ignored (Roehling et al., 2008; Kakizaki et al., 2008). Moreover, personality traits are linked with cognitive, behavioral and emotional patterns which most often contribute in unhealthy and unmanageable body weights. It has been documented in various studies that there is a strong relationship between personality traits and eating behavior (Cassin & von Ranson, 2005). Some survey results have reported that personality traits assist individuals in food selection (Elfhag & Morey, 2008). In big five personality traits each personality trait has different effect and influence on individual's health outcome (Sullivan et al., 2007). Likewise, the most commonly employed personality trait for the investigation of health related issues is conscientiousness (Mottus et al., 2013; Gerlach et al., 2015) which represents the dutiful and disciplined attributes. Personality traits' associated with dietary habits (Azadbakht et al., 2005). Moreover, the relationship between personality traits and individuals' attitude towards nutrition was examined and found positive significant outcomes (Chan, 2007; Nocella et al., 2012). The information pertaining to taste, liking, convenience, price and brands is based on consumers' perception and personality traits. In addition to past survey results have unfolded the fact that food related personality traits depends upon individuals' importance towards their health (Chan, 2007). This study has employed one personality trait named conscientiousness as

mediator with attitude towards label, subjective norm and intention to purchase healthy package food. Figure 1 is the graphical representation of the relationship established among variables for present study.



3. Hypotheses

- H1a. Attitude towards food label effect on intention to consume healthy package food
- H1b. Conscientiousness effect on intention to consume healthy package food
- H1c. Attitude towards food label effect on conscientiousness
- H1d. Conscientiousness mediates in establishing the relationship between attitude towards food label and intention to consume healthy package food
- H2a. Subjective norm effect on intention to consume healthy package food
- H2b. Subjective norm effect on conscientiousness
- H2c. Conscientiousness mediates in establishing relationship between subjective norm and intention to consume healthy package food

4. Methods

The target population for the intended study was university and college faculty of two cities Sargodha and Faisalabad. The objective to select faculty as a population of the study was that they are considered to be the opinion leaders in their family. The total faculty including universities and colleges were 5023. According to Krejic and Morgen (1970) table method sample size 361 is sufficient when the target population is between 5000-6000. The distribution of the sample among all the institution was according to faculty ratio of each institution. Table 1 is having the distribution detail.

Table 1 - Sample distribution

Institutions	Total faculty	Percentage i.e. (1200/5023)*100	Sample i.e. (23.89*361)/100	Sample technique i.e. (361/86)
1	1200	23.89	86	4kth
2	230	4.58	17	22kth
3	370	7.37	27	14kth
4	400	7.96	29	13kth
5	212	4.22	15	24kth
6	321	6.39	23	16kth
7	422	8.40	30	12kth
8	390	7.76	28	13kth
9	457	9.10	33	11kth
10	630	12.54	45	8kth
11	391	7.78	28	13kth
	5023	100%	361	

Data was collected with cross-sectional method and sampling technique was systematic random sampling. Researchers have sent request letter to Dean/Principal of each department and ask permission to conduct survey. The aim of the study was also attached with cover letter which contained brief description about study. The intended study did not have any objectionable contents therefore all the institutions have granted permission. The data was collected with self-administered adapted questionnaire. Total numbers of questions excluding demographical questions were 29. There were only two demographical questions such as gender and age. All questions were adaptive from previous studies. Researchers did minor modification to make them adjustable with current study objective. The questions regarding attitude towards food label were taken from Van der Merweet al. (2014), subjective norm questions were adapted from Watanabe et al. (2014), conscientiousness items were taken from Goldberg et al. (1992) whereas intention to consume package food items were adapted from Cavaliere et al. (2015).

5. Findings

The data was collected with self-administered questionnaire adapted carefully from relevant studies. To achieve the required sample size 361, researchers have distributed 722 questionnaires. Out of these 722 questionnaires 507 questions were received which depicts a response rate of 70%. Furthermore, to resolve the outlier issues Mahalanobis test was run (Hair et al., 2010; Hau & Marsh, 2004) and the cases were treated appropriately. Additionally, while conducting Mahalanobis test 40 responses were deleted. In continuation with out of the received questionnaire 467 found usable for further analysis. The missing values were treated with multiple imputation method by using SPSS 21. Skewness and kurtoses test were conducted to analyze the data normality. For skewness assumption -3 to +3 and for kurtosis -7 to +7 brackets were advised by past researchers (Hu, Bentler & Kano,

1992) and data fulfilled both assumption. There were 37% female and 63% male. The average age of female was 31 and 34 for male. Before final analysis data reliability and validity was examined and conducted composite reliability and discriminant validity. The results are shown in table 2.

Table 2 - Constructs reliability and validity

Constructs	CR	AVE	Attitude	Subjective Norm	Conscientiousness	Intention
Attitude	0.781	0.546	0.739	--	--	--
Subjective Norm	0.764	0.530	0.504	0.728	--	--
Conscientiousness	0.710	0.516	0.233	0.229	0.719	--
Intention	0.748	0.598	0.476	0.582	0.377	0.773

For the analysis of complete model AMOS 21 used for structural equation model (SEM). The model fitness was examined with Tucker-Lewis Index (TLI), comparative fit index (CFI) and root mean square error of approximation (RMSEA). More specifically the proposed model achieved the entire fit indices threshold such as TLI= 0.91, CFI= 0.93 and RMSEA= 0.046. The fit indices have described the model good fit. 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). The model was initially tested with absolute, incremental and parsimonious. Researchers of the intended study have developed direct and indirect hypotheses. Figure 2 is the graphical representation of measurement model and figure 3 is having graphical results of path model.

Figure 2 - Measurement model

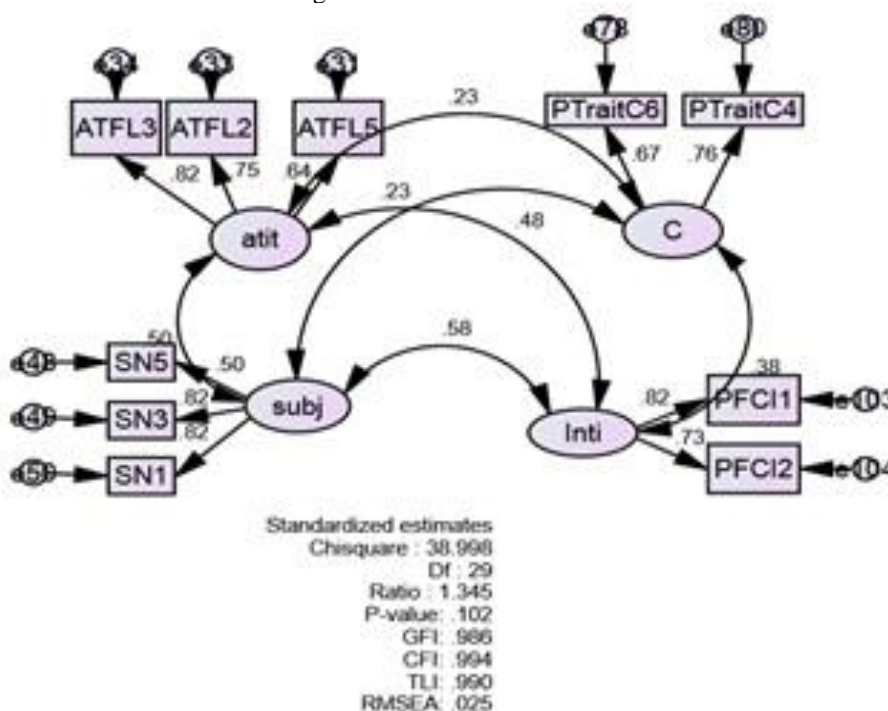


Figure 3 - Path model

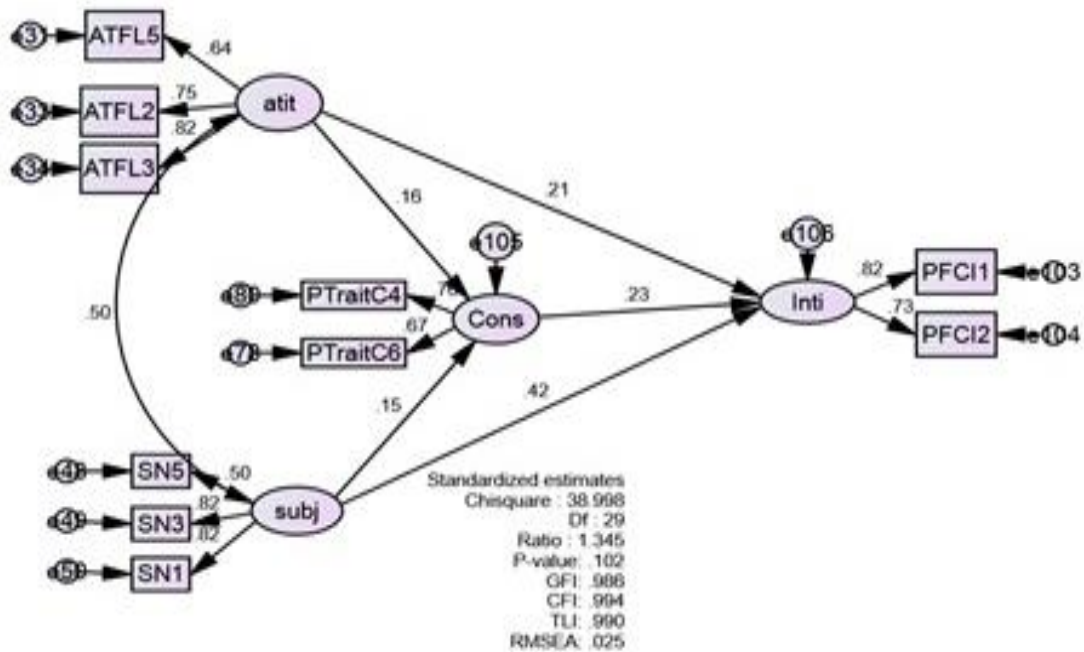


Table 3 is having direct and indirect results of hypothesized model. According to the results attitude towards food label and subjective norm have positive significant effect on consumer intention to consume package food items. Furthermore, conscientiousness plays partial mediation role in establishing relationship among attitude, subjective norm and intention with reference to Baron and Kenny (1986).

Table 3 - Direct and indirect effects

Dependent	Mediation	Independent	Estimated	S.E.	C.R.	P	Decision
Intention	Conscientious	Attitude	0.258	0.086	4.831	***	Partial Mediation
Intention	Conscientious	Subjective	0.449	0.131	6.966	***	Partial Mediation
Intention	<---	Attitude	0.302	0.085	5.465	***	Accepted
Intention	<---	Subjective	0.493	0.134	7.172	***	Accepted
Intention	<---	Conscientious	0.23	0.097	4.064	***	Accepted
Conscientious	<---	Attitude	0.37	0.043	2.903	***	Accepted
Conscientious	<---	Subjective	0.21	0.135	3.125	***	Accepted

The findings have explained that in direct effect of attitude on intention the beta value is 0.302 whereas with the involvement of conscientiousness personality trait the beta value is 0.258. Moreover, the effect of subjective norm is different such as with direct influence the beta value is 0.493 whereas with mediation of conscientiousness personality trait value is 0.449.

6. Discussion

Consumers' demand for package food is mounting due to low prices, taste and convenience. Moreover, diet related diseases graph is also directly proportion to this rising demand of package food. The transitional pattern of diseases from acute to dietary diseases has also been noticed. It is quite difficult to change consumers' taste habits except by developing awareness about nutritional benefits. Therefore, there is a need to detect influential factors which can provoke consumers' instinct to select healthy package food. Owing to the unavailability of proper method to educate consumers pertaining to nutritional food selection numerous researchers have suggested to promote food label reading habits among consumers (Hawthorne et al., 2006). Therefore, researchers of the intended study have tried to contribute in past studies to design a model for the investigation of consumers' intention towards package food items. To achieve the present study objective there were four variables involved such as attitude towards food label, subjective norm, conscientiousness and intention to consume package food. Conscientiousness was the mediator in establishing relationship among attitude, subjective norm and intention.

The results have indicated that attitude towards food label significantly effect on consumers' intention to consume package food. Similar results have been found in past studies. Aforementioned studies have indicated that food label information make consumer able to take informed food choice (Kreuter et al., 1997; Lin et al., 2004; Butler et al., 2010). The consultation of food label at the point of purchase enhances the nutritional awareness among consumers and reduced high fat contained food (Temple et al., 2011; Campos et al., 2011). Food label information educate consumers for right food selection with respect to individuals' health condition (Grunert et al., 2010) but the avoidance of food label usage at the point of purchase is due to its complexity and numeracy of interpreting available information (van Trijp, 2009). Notwithstanding, the decisiveness of food label usage is inevitable and assist consumers for better food choices (Hoefkens et al., 2011). Even some of the studies have reported that food label usage influence consumers' present and future food choices (Liu et al., 2014).

Subjective norm was the second independent variable which has positively and significantly influenced consumers' intention to consume package food items. The respondents of the current study have expressed their opinions that advise of some influential people effect on their package food choices intention. Package food items are confined to limited options and include items which are collectively consumed therefore opinions of parents, family members, peers and media effect on individuals' decision making regarding package food selection. Evidences have been found in past studies which have indicated that subjective norm significantly effect on consumers' intention

(Conner & Norman, 2002; Al-Swidi et al., 2014; Ibrahim & Arshad, 2018; Umer et al. 2021). The effect of personality traits was also examined for the various behaviors of individuals (Elfhag & Erlanson-Albertsson, 2006).

Therefore, researchers of intended study have employed one personality trait as mediator. Conscientiousness trait was the most commonly tested variable for healthy food selection (Maclaren et al., 2009; Atherton et al., 2014). Conscientiousness personality trait is comprising of disciplined and organized attributes and past results have witnessed that high conscientiousness individuals are less obese (Lahti et al., 2013; Sutin et al., 2011). There are several controlling factors of obesity and one of them is nutritional food products whether fresh or package food items. The outcomes of present study linked with past results where it was found that conscientiousness has significant effect in healthy food choices. According to present study the direct effect of attitude and subjective norm on intention to consume package food products was significant and high whereas by involving conscientiousness trait it makes the relationship weaken. This finding explained that when external factors target consumers' instinct to consume package food the internal personality trait provokes individuals to make cognitive decision. Present study unlocks another dimension pertaining to the investigation of consumers' intention towards package food label. It is better to involve rest of the personality traits such as neuroticism, agreeableness, extraversion and openness to experience to find their effect as moderator or mediator or independent with other external factors which play as a trigger in selection of healthy food products.

7. Limitation and Future Direction

Researchers of the intended study have employed relevant factors for developing consumer intention towards the selection of healthy packaged intention. Nevertheless, it is suggested to examine other personality traits' effect on consumer intention. Moreover, perceived behavioral control should also be involved in future study because external factors shape consumer attitude towards an object but the consent of individual's internal control system also plays pivotal role. It is also suggested that in future researchers should make a list of packaged food products and examine participants' perception towards each category of packaged food product. Methodologically future researchers should examine the purchase intention of common people towards packaged food selection and the data should be collected at point of time. The reason is that it has been observed in aforementioned research that individual's actual behavior and reported behavior towards an object is different. Therefore, when questions will be filled at point of purchase it will elaborate consumer's actual behavior. It is more preferable to examine consumer behavior qualitative method for better insights of

consumer's intention towards food label reading attitude, their personality traits effect on label consultation at point of purchase, influence of opinion leader's on consumer's decision as well as consumer self-intention.

8. Practical Implications

The processed food items exist in every shopping list. The convenience of processed food has make consumer attitude to avoid fresh food items. The unnecessary, inappropriate and excessive use of packaged food is increasing obesity and overweight issues among population. The obesity and overweight issues have transformed the diseases pattern from an acute disease to chronic disease. It is an issue which demand urgent cure. Owing to absence of appropriate method to educate consumer regarding selection of healthy and right amount of packaged food the only source is food label information. Therefore, it is the responsibility of food processing companies to educate consumers for shopping not only processed food but healthy packaged food items. Hence, to educate consumer it is necessary to provide nutritional information to consumer to make their attitude to select healthy packaged food products. Additionally, it is the core responsibility of food processing companies to understand consumer's preferences while designing label information format. In continuation with food processing companies are playing their role in providing maximum information using mandatory food label as well as voluntary food label formats nevertheless individual's self-motivation is inevitable. There must be compatibility between food label information and individual internal personality traits, because consultation of food label at point of purchase is based on consumer own internal decisions which is being motivated by external factors like food label information. Hence, the author of the study suggests to food processing companies to evaluate consumer behavior before designing food label format.

9. Conclusion

The results of the current study have unfolded that consumer attitude to consult food label information positively and significantly effect on healthy packaged food selection. Owing to the lack of consumer education for healthy food selection companies' food label information is decisive for right amount of packaged food selection. Moreover, opinion leaders of society or the people who influence consumer's decisions should also guide consumers for healthy and balanced packaged food selection. It is not possible to alter consumer eating habit from ultra-processed food to fresh food but to educate consumer for balanced and right proportion of ultra-processed food product items. This

study is a small contribution by employing few factors which effect on consumer intention towards healthy packaged food selection.

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