

The Variances of Consumers' Materialistic Personality Traits and Reduced Consumption Behavior Among Demographics in Egypt

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Abstract

Throughout the consumer behavior's field, comprehending materialism across different countries has been of critical importance to transformative consumer research authors, marketers and policy makers. Materialism was discussed with its pros and cons in previous studies. However, present conflicting results exist across various contexts about its effects on socially responsible behavior. Nevertheless, the past studies included vast research on materialistic values, they embraced a limited research scope regarding the materialistic personality traits (MPT) and their influence on consumers' sustainable behavior. This study tests the validity and reliability of Belk's materialistic personality traits scale in Egypt, as one of the influential and mass consumer societies in the Arab region. It contributes towards understanding the influence of materialism as a personality trait on reduced consumption behavior and whether these dimensions vary among age, gender and place of residence. Large scale survey instrument was distributed across Egypt using quota non-random sampling which yielded 540 respondents. Plausible findings revealed significant effects of the materialistic personality traits on the reduced consumption behavior and indicated variances across the denoted demographics. This will help marketers and policy makers better describe and target the consumers' materialistic personalities through designing effective communication that develops a pro-sustainable consumption behavior to bring about a change for a sustainable future.

Keywords: Materialism; Belk materialism Scale; materialistic personality traits; pro-sustainable behavior; possessiveness; envy; non-generosity; reduced consumption behavior; demographics

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1. Introduction

Throughout the entire world, nations' economies are influenced by the way people produce and consume. It is apparent that some consumers' actions affected the availability of natural resources and aggravated pollution levels (Whitmarsh *et al.* 2017; Dubois *et al.* 2019). According to Dubois *et al.* (2019), some consumers' consumption activities negatively contribute to the world climate change. Their behaviors should be considered in setting the environmental policies and strategies. Furthermore, consumers' demographics may impact their sustainable actions. Environmental degradation, climate change and the Covid-19 crisis urged nations to plan their recoveries (Deloitte Insights 2022; UN 2022). The consumption behaviors of materialistic consumers influence the link between the Covid-19 pandemic severity and the consumption of scarce products. This may result in consumers' panic behaviors (Jin *et al.* 2020). The current state of the world, environment and economy necessitate taking actions towards dematerializing the economy which means using less resources (Whitmarsh *et al.* 2017). This will force nations to modify their consumption and production behaviors to more actions with less resources. Hence, nations should embrace and promote more futuristic and sustainable lifestyles because there is need for material attenuation (Whitmarsh *et al.* 2017; Deloitte Insights 2022; UN 2022).

The prevalence of exploring sustainability from the viewpoint of psychology is becoming more apparent in the fields of conservation psychology and marketing. It is crucial to understand the influence of psychological tendencies such as values, motives and personalities on pro-sustainable behaviors (Tapia-Fonllem *et al.* 2013; Solomon 2020). Among the different fields enforcing the topic of sustainable consumption, is marketing with its prudent function, specifically in transforming consumer behaviors. Nations should be taking further steps to stress the urgency of developing the pro-sustainable behaviors for their citizens (Helm *et al.* 2019; White *et al.* 2019). The sustainable behavior is synonymous with the pro-environmental behavior. However, it extends the concept from mere protection of the planet's natural resources to the consumers' activities, which preserve not only the natural environments but also the urban environments. Thus, it is more relevant and specific to denote the behavior as a pro-sustainable type that doesn't deprive future generations from their rights to use these resources (Tapia-Fonllem *et al.* 2013).

Compared to other personality traits and values, marketing researchers, consumers' activists and psychologists have increased interest in materialism due to its representation in more consumption and ownership (Duh 2015; Solomon 2020). There was always a challenge to comprehend the gap existing between consumers' attitudes and actual sustainable actions. Some consumers communicate their positive attitudes by exhibiting a sustainable lifestyle but they do not endorse its activities. This directed the interest towards the

psychological factors such as individual self, differences and their roles in motivating consumers' sustainable behaviors (White *et al.* 2019). According to consumerism thought, more consumption is among the indispensable reasons of environmental complications (Tapia-Fonllem *et al.* 2013; Solomon 2020). Helm *et al.* (2019) found that the effect of materialistic values on personal well-being is positive, however, on reduced consumption behavior is negative. Thus, they recommended further research into the well-being effects of materialistic actions and reduced consumption behavior (one of the pro-environmental behaviors that expresses the use and management of limited natural resources).

Consumers' views about different things or products may be shaped by their personalities. Exploring consumers' materialism as a personality trait might provide useful insights for marketing managers when developing the sustainable strategies. Subsequently, social marketers should better explore how materialistic behaviors may impact the societies and individuals' well-being at large. Slight individual differences existed in previous research about the pro-sustainable consumer behavior in relation to materialism. Trying to uncover the motives and personalities behind the pro-sustainable actions would provide more variances and ideas for marketers to persuade consumers. Limited research has included personal motives, which may affect the dematerializing behavior (Whitmarsh *et al.* 2017) or pro-sustainable behavior (Helm *et al.* 2019). Linking materialistic personality traits to reduced consumption behavior will help marketers understand the extent to which consumers' dispositions may influence well-being (the societal level) (Türk & Erciş 2017; Solomon 2020).

Formerly, studies emphasized the effect of materialistic values on individual well-being. However, few have focused on the influence of the materialistic personality aspects and relating them to the consumers' sustainable behaviors such as a general reduced consumption behavior. Therefore, materialism in this study is conceptualized as a personal trait following Belk's study (1985). Furthermore, researchers in the contemporary consumer behavior studies attempt to explore materialism with the consumers' responsible behavior (such as the reduced consumption actions in general) as part of the pro-sustainable behaviors. Wang & Huo (2022) designated the negative influence of materialism as a personal value on consumers' pro-environmental behaviors. However, this influence may be reduced in consumers who have high compassion with nature. Though they are materialistic, they may get involved in pro-sustainable behavior. Such behaviors encompass actions taken to prevent or resolve environment-related complications. Consumer's consciousness is denoted by the beliefs and individual responsibility towards the environment. Demographics and personal characteristics have been among the associates of the pro-sustainable behavior (Tapia-Fonllem *et al.* 2013) and antecedents of materialism (Belk 1985; Duh 2015). For example, young consumers were more materialistic than elders in China. Therefore, it is crucial for marketers in segmenting, targeting and communicating messages to comprehend the profile of consumers who undertake pro-sustainable behaviors and decide upon the factors affecting their reduced material consumption behaviors in various settings and nations. This study aims to comprehend the consumers' materialistic personality traits and their effect on the reduced consumption behavior while employing demographics namely age, gender and place of residence variances. Thus, it determines the impact of demographics and materialistic personality aspects on the general reduced consumption behavior in Egypt.

In year 2020, the percentage of poverty in Egypt amounted to 29.7%. The war in Ukraine and the effects of Covid-19 crisis were catalysts for directing people to socially change their behaviors. Regardless of the world pandemic, consumption behavior has been increasing in Egypt (Economist Intelligence 2020). However, the Central bank of Egypt reported that consumer-credit has been amplified to L.E. 699,407 million in 2022. The Egyptian consumer confidence has been reduced from 104 to 95 points by the end of 2021. This indicated that Egyptian consumers are pessimistic about their financial capabilities and intentions to spend over their required consumption patterns. The ministry of planning denoted that the Egyptian consumer spending has been lowered to reach L.E. 1,385 billion by the end of 2021 (Trading Economics 2022). However, Egypt has been regarded as one of the crucial nations due to its large population (exceeding 100 million) and consumers' behaviors, which have shifted to online consumption (especially for electronics, fashion clothing, medicine and groceries) by the beginning of Covid-19 crisis. Online purchasing is predicted to mount in Egypt by 30% by the end of 2022 (Engagement Bureau 2020; Moneim 2022).

The Egyptian government and policy makers are urged to improve the public expenditure efficiency and the overgrowing population wellbeing. Issues such as securing food, preserving natural resources, preventing the waste of water and overconsumption behaviors are mandatory for having a sustainable behavior. The Euromonitor International Consumer Trends Reports emphasized worldwide attention to socially responsible behaviors to achieve a sustainable future. To sustain themselves and surpass difficulties during the time of uncertainty, firms must work and compromise the needs of tri-cornerstones, which are consumers, the planet and profit firms (Hafez 2022; World Bank 2022). Moreover, materialism is a vague consumption behavior that requires further investigation from researchers to determine its pros and cons or decide upon the factors affecting it or those factors affected by its existence (Duh 2015). There are inadequate research outcomes about the effect of consumers' demographics on consumption behaviors, especially, during and post Covid-19 pandemic (Hasan *et al.* 2021). The early study of Belk (1985) raised the importance of relating materialism as a personality trait to

demographic differences. Furthermore, the varying extent of materialistic personality features may reflect differences in the pro-environmental behaviors. In materialism research, researchers have directed their efforts to study materialistic values and gave less attention to the materialistic personality traits when it comes to pro-environmental behaviors. This shows a research gap that needs to be examined and a need to examine the validity and reliability of materialistic personality traits measures especially in the developing nations. To add, this study's target to comprehend the levels of the materialistic personality traits of Egyptian consumers. It suggests that materialism personality traits and reduced consumption behavior vary across age, gender and place of residence.

2. Literature Review and Hypotheses Development

This part reviews the previous literature on materialism representation with a personality aspect, reduced consumption behavior and the impact of demographics on these two dimensions.

2.1 Materialism and Reduced Consumption Behavior

Two mainstreams in consumer behavior research have dominated the interpretation of materialism. One stream is of Richins & Dawson (1992), which considered it a personal value. It interpreted materialism as the extent to which consumers find acquisition and ownership of material things imperative to their lives and accomplishment of their goals. The other mainstream is of Belk's research (1984; 1985), which denoted materialism by an overall inclination to crave possessions. However, it is viewed as a personal trait rather than a value. According to Belk (1985), materialistic consumers are characterized by possessiveness, envy and non-generosity in comparison to the non-materialistic consumers. Possessiveness signifies the consumer who desires more domination over his/her possessions. Such type of personalities places more control on what they have. If they own intangible things, such as experience, they are inclined to make them tangible them by touchable cues (Ger and Belk 1996). The envy trait here signifies the consumer who desires what others possess, a desire for others' possessions and begrudges other consumers who have what he/she wants. The non-generosity trait refers to consumers who dislike the act of giving, sharing, lending and donating to others. Ger and Belk (1996) added a fourth trait—preservation that was about making experiences tangible and was excluded from further studies such as that of Ahuvia & Wong (2002) due to having negative factor loadings.

According to Ahuvia & Wong (2002), the materialistic personality traits are represented by specific emotional outcomes responses, which make them more interpretive of the materialistic behavior than values. To add, Shrum *et al.* (2013) interpreted that such traits are emotionally led by unfulfilled ego, security and power motives. Belk (1985) and Sirgy (1998) argued that materialistic consumers are more likely to compare themselves with others regarding equity and income level, which causes feelings of anger and envy and in turn negatively affects their emotions and yields dissatisfaction of life. They have an inclination towards more consumption and spending behaviors rather than producing income. Nations and especially their consumers who have early experienced financial insecurity or suffered from deprivation in their economies are more prone to be materialistic. Their early age may be shaped by the materialistic related features. As adults, their behaviors are formed by materialism. This view was mainly supported by Inglehart and Belk who studied the materialistic personality traits (Ahuvia & Wong, 2002). Therefore, it is worth measuring the personality related-aspects of materialism.

Although materialism incorporates both negative and positive outcomes in various contexts, the contemporary lives of consumers, their consumption behaviors show their economic actions and way of living. Consumers' materialistic lifestyles have shown more of the bad rather than the good side of materialism. The negative effects such as less satisfaction about life, low happiness levels, less social and individual well-being and high financial debts have been declared as the dominating ones over the positive effects such self-esteem support or identity building (Duh 2015). Materialistic consumers have more inclination to losing control over their consumption behavior (Lee & Ahn 2016). People are urged all over the world to reduce their consumption behavior due to the effects of Covid-19 pandemic (Antiniene *et al.* 2021). According to Helm *et al.* (2019), achieving sustainability on the long-run is associated with a shift in consumer behaviors towards pro-environmental actions such as the reduced consumption behavior. Materialistic consumers are less inclined to be involved in the pro-environmental or sustainable actions. Therefore, this may not yield enough societal or individual benefits especially on the long-run (Shrum & McCarty 2001; Tilikidou & Delistavrou 2001). Many studies emphasized the negative relationship between materialism and the society and individual well-being. However, part of the well-being is to have a pro-sustainable behavior or the reduced consumption behavior. This is quite important when it relates to consumer societies and individuals who admire possessions. Materialism denotes more consumption and that is why the mainstream studies found it conflicting with anti or reduced consumption behaviors to impact the individual's well-being (Lee & Ahn 2016; Helm *et al.* 2019).

Materialistic consumers seek their own wealth and well-being over others and that is why they may be less attentive or thoughtful about sustainability and social-wellbeing. They are more self-centered (Belk, 1985; Lee &

Ahn 2016). Furthermore, Wang & Huo (2022) indicated that materialistic consumers might not be concerned with environmental issues and are less engaged in pro-sustainable behavior. Handa & Khare (2011) denoted the negative link between materialism and reduced consumption behavior. Therefore, in line with past studies, the negative association between materialistic personality traits and pro-environmental behavior as reflected in reduced consumption behavior may be expected. Therefore, based on the literature review, the following hypothesis is formulated as:

H1 Consumers' materialistic personality traits (possessiveness, non-generosity and envy) have negative and significant impact on consumers' reduced consumption behavior.

H1a: Possessiveness materialistic personality trait has negative and significant impact on consumers' reduced consumption behavior.

H1b: Envy materialistic personality trait has negative and significant impact on consumers' reduced consumption behavior.

H1c: Non-generosity materialistic personality trait has negative and significant impact on consumers' reduced consumption behavior.

2.2 Materialism and Demographics

Some previous studies such as Richins & Dawson (1992), Richins (1994), and Shrum & McCarty (2001) argued that further knowledge of individual's behavior may be explained by personal values or cues. Parashar & Jain (2017) studied the effect of demographics on Belk's materialism scale and found that materialism may vary with gender but not with education and income levels. Authors suggested that potential studies should investigate further demographics such as age and other variables which may influence materialistic personality traits to provide more information about materialism and individual's consumption orientations (Keech *et al.* 2019). Antiniene *et al.* (2021) studied the impact of demographics on consumers' materialistic tendencies. They concluded that younger individuals are more prone to materialistic values than older ones and have variances in consumers' materialistic values by gender. That is why this relationship is worthy of investigation. When targeting consumers for the purpose of applying the sustainability plans and strategies, individuals' behavior is the most crucial element for policy makers and marketers (Shrum & McCarty 2001). Wang & Huo (2022) suggested that researchers would examine the effect of age on materialism through including the various age groups of a population. Demographics and psychographics may be among the factors which help better comprehension of consumption behavior (Tilikidou & Delistavrou 2001).

Tarka *et al.* (2022) concluded that the association between the consumers' personality traits and compulsiveness in purchasing behaviors varies by gender. Also, Tanaka & Lowrey (2011) concluded that the association between materialism and family values varies by gender. Past studies, such as of Larsen *et al.* (1999), conveyed that materialism may vary by gender. To add, they argued that demographics may interpret consumers' materialistic inclinations. Unlike males who are more vigilant in products' possessions, females are more vigilant in social relationships or people in general than products, which makes them less inclined to materialism. Earlier studies had inconsistent outcomes regarding materialism variances among demographics. Eastman *et al.* (1997) and Kamineni (2005) emphasized that males are more materialistic than females. Unlike Segal and Podoshen (2013) who found gender differences in terms of materialism in USA, Keech *et al.* (2019) denoted no gender differences. Teng *et al.* (2016) denoted that materialism is higher in females with low self-concept than males. Keng *et al.* (2002) indicated that materialism varies among demographics such as age and gender. Females were less materialistic than males. People across varied age groups differ in their materialistic tendencies. Teenagers were less materialistic than those in their twenties and in the mature age. Past studies have shown that youth and middle-aged consumers are more materialistic than elder groups of consumers (Belk 1985; Handa & Khare 2011) and materialistic values vary among gender (where females were less materialistic than males) (Inglehart 2015).

Although Easterlin *et al.* (2011) indicated varying materialism levels among territorial areas, Umar *et al.* (2016) found no materialism variances in urban versus rural areas. Massom & Sarker (2017) indicated that individuals are less concerned about possessions (they have material simplicity) in their childhood time, has a maintained concern level in their adulthood and more concerned about having possessions as they grow older. Umar *et al.* (2016) study indicated that males are more materialistic than females. However, no variances of materialistic values were found between urban and rural consumers. Maintaining the outcomes of earlier studies, the following hypotheses were developed:

H2: There is a difference in materialistic personality traits among consumers' demographics

H2a: There is a difference in possessiveness personality trait among consumers' age groups

H2b: There is a difference in non-generosity personality trait among consumers' age groups

H2c: There is a difference in envy personality trait among consumers' age groups

H2d: There is a difference in possessiveness personality trait among consumers' place of residence

H2e: There is a difference in non-generosity personality trait among consumers' place of residence

H2f: There is a difference in envy personality trait among consumers' place of residence

H2g: There is a difference in possessiveness personality trait between male and female consumers

H2h: There is a difference in non-generosity personality trait between male and female consumers

H2i: There is a difference in envy personality trait between male and female consumers

2.3 Reduced Consumption Behavior (As Part of Pro-Sustainable Actions) and Demographics

The pro-sustainable behavior and dematerialized consumption activities involve green actions such as recycling and reduced consumption behaviors such as repairing in place of buying new products. They may vary by demographics and psychological factors such as the individuals' identities (De young 1996; Whitmarsh *et al.* 2017; Helm *et al.* 2019). Jaska *et al.* (2022) advised researchers to assess the pro-sustainable behavior while employing demographics and considering urban and rural residential areas. Michalik-Marcinkowska *et al.* (2022) mentioned that place of residence is one of the most socio-demographic variables which help in conveying the context in which, for example, elders live and display their standard of living. It is the place where consumers experience many things or problems. Previous studies mentioned that people residing in rural areas have more tendencies to act in a pro-sustainable fashion. This is because they are frequently surrounded by nature or have connection with it. Nonetheless, this link between place of residence and pro-sustainable behaviors has not been adequately examined. Duron-Ramos *et al.* (2020) argued that past studies were more directed towards consumers in the Western and developed contexts than those in the less developed. However, consumers in developing nations have growing negative influence on the overall environment. To add, they advocated researchers to further study the link between place of residence and pro-sustainable behaviors in the developing nations (with varying physical aspects) to generalize results. Rampedi & Ifegbesan (2022) denoted that several earlier researches, which employed age, gender and place of residence offered dissimilar association outcomes with pro-environmental behavior. Although, females have more pro-environmental behaviors than males, other studies have dissimilar results. In their study, place of residence and age have been strong predictors of pro-environmental behavior.

Patel *et al.* (2017) concluded that compared to males, females exhibited lower pro-sustainable behaviors. Males are more likely to involve in actions that minimize the harmful consequences on the environment and society than females do. Age is positively linked to pro-sustainable behavior. The mid-age groups of consumers are more materialistic than younger and elder groups. The pro-sustainable behavior involves source reduction and recycling activities. A reduced consumption lifestyle is expected to yield individual satisfaction if it is well communicated and practiced. Satisfaction may be achieved with the pro-sustainable directed personalities towards frugality and participation (De Young 1996; Solomon 2020). Some consumers adopt the reduced consumption behavior because they relate it to their personal consciousness of well-being even if they will not get any physical compensation. Therefore, marketing messages about reduced consumption may be persuasive when using intrinsic or self-motivating dimensions such as the personality aspects. Using such types of personal motivation may be helpful in communicating the messages about pro-sustainable actions effectively (De Young 1996). Duron-Ramos *et al.* (2020) study conveyed that place of residence and consumers' pro-sustainable behavior have positive and direct association. It denoted that children residing in urban locations exhibit less pro-sustainable behavior than those living in rural ones and that this association was strengthened because of consumers' connection to nature. They spend longer time with nature, which makes them emotionally attached to it. To add, their study found this association to be more in girls than boys, so gender also has an effect and denoted a variance in the pro-sustainable behavior. Hence, the following hypotheses were developed:

H3: There is a difference in reduced consumption behavior among consumers' demographics

H3a There is a difference in reduced consumption behavior among consumers' age groups

H3b There is a difference in reduced consumption behavior between male and female consumers

H3c There is a difference in reduced consumption behavior among consumers' place of residence

2.4 The Concluded Conceptual Framework

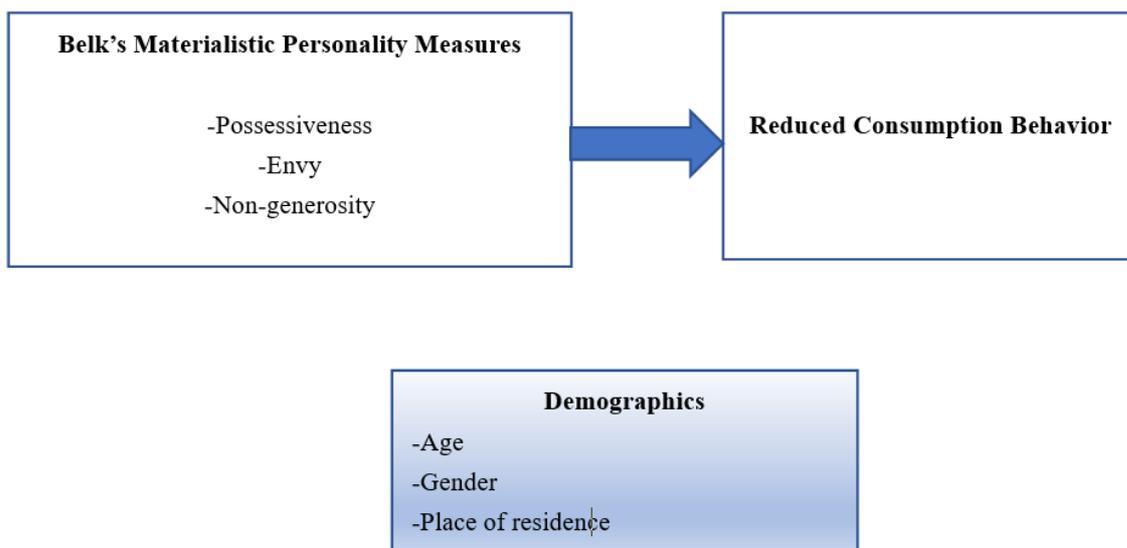
The Covid-19 pandemic has alleviated economic and health pressures over the globe, which urged nations and citizens to be more cautious and reduce their consumption levels (Whitmarsh *et al.* 2017; Helm *et al.* 2019). Duh (2015) and Keech *et al.* (2019) emphasized the need to comprehend the materialism related variables. Very few studies investigated materialism while embracing consumers' personal traits or tested the validity and reliability of Belk's MPT scale in the developing nations (Ahuvia & Wong 2002).

Materialism may exist in developing and developed nations with varying degrees. It's related to the general personal attributes of consumers in different cultures, sub-cultures and context (Griffin *et al.* 2004; Massom & Sarker 2017). Furthermore, it can be foreseen that it is growing in the developing nations (Massom & Sarker 2017). This is crucial for comprehending materialism in general and denoting the personality attributes of materialistic people in specific across different cultures. Although some studies, such as that of Tilikidou & Delistavrou (2004), indicated that high materialistic consumers may be engaged in pro-environmental behavior.

More recent studies, such as that of Helm *et al.* (2019), confirmed the negative relationship between materialism and reduced consumption behavior as one component of the consumers' sustainable behavior. Comprehending whether or not there are demographics' differences in materialism and reduced consumption behavior may be useful for marketers to send effective messages designed to improve the citizens' consumption behavior and for policy makers in terms of evaluating the importance they place on reducing the consumption pattern. Keech *et al.* (2019) emphasized the increasing interest in gender related studies to wealth distribution, equity and consumers' dispositions. There is a continuing disagreement over variances in materialism by gender. This proves that outcomes of different studies showed conflicting results.

The accumulation of wealth made people more materialistic and this was found to be more prevalent in males than females (Umar *et al.* 2016). Hofmeister & Neulinger (2013) denoted the variances in materialism among gender and age because they may have different attitudes towards consumption. They considered inter-factors effects and determined that females were more materialistic than men. Elder females were more materialistic than young males. In general elders were specified to be more materialistic than youth and significant variances between age groups existed in terms of the sub-traits of materialism. Age and gender were among the antecedents of materialism (Duh 2015) and age had a negative association with it (Segev *et al.* 2015). This was previously denoted by Larsen *et al.* (1999) that elders have lower materialism levels than youth do and youth have less materialism levels than children.

Figure 1 demonstrates the proposed conceptual model for this study. This research contributes to the current materialism and sustainability research by increasing the knowledge of the association between materialistic personality traits and the reduced consumption behavior as a general part of the pro-sustainable behavior. To add, this research effort is directed to understand the variances in consumers' materialistic personalities and reduced consumption behavior in relation to demographics.



Hypothesized Conceptual Model- Figure 1-Adapted by researcher

3. Methodology

The study has a quantitative nature following a conclusive approach. The researcher designed a large-scale questionnaire and carried out a pilot testing to confirm the reliability and validity of instrument. The piloting phase included 60 completed surveys, which were further included in the overall sample. The researcher (with the support of four research peers) self-administered the questionnaire to ensure guidance to respondents about the topic and to elicit them to completing it. The researcher emphasized the prominence of the study to support having a sustainable future. The questionnaire was written in Arabic, translated into English and then back-translated into Arabic to confirm the required denotations of each of its statements. It includes the cover letter, socio-demographics of respondents, two parts, which measure materialism and reduced consumption behavior respectively. The data was gathered using non-probability quota sampling technique.

The researcher gathered data from Egyptian consumers across all of its 27 governorates over three months' period starting from the beginning of June till the end of August 2022. During this time, all Covid-19 restrictions ceased, no lockdown or restrictions. In this research, there is no specific sampling frame to be used, it's based on convenience. An infinite number of Egyptian consumers in the population exist. Hence, according to Saunders *et al.* (2019), the equation at 95% confidence here that the sample size will encompass at minimum 384 consumers. Respondents received a free package of hand sanitizer and face mask for responding to the survey. This study

endorsed human involvement from Egyptian citizens who were informed prior to survey completion about the anonymity and confidentiality of provided information. The researcher presented a written consent form to citizens, ensuring that it should be read and signed in advance of participation. Citizens are voluntary involved and have the right for refusal of survey completion at any time.

3.1 Measures

3.1.1 Materialism Representation by Belk's (MPT) Scale

According to the study of Belk (1985), materialism refers to the personality trait in which consumers admire owning or possessing objects, may envy each other and prevent themselves from being generous to others. Belk's materialism multi-dimensional scale denoted these three noticeable personal traits for materialistic people, which are possessiveness, non-generosity and envy. The researcher used the original 24 statements along the agreement type/Likert scale ranging from strongly disagree as 1 and strongly agree as 5. Hofmeister & Neulinger (2013) indicated its use internationally and that it yielded useful benchmarking data in cultural studies. Furthermore, Schroeder & Dugal (1995) denoted that materialism measures are of a psychological nature. Considering the materialism construct as one that is related to the self generates more expressive and powerful display of findings.

3.1.2 Reduced Consumption Behavior as A Type of Pro-Sustainable Behavior

According to Whitmarsh *et al.* (2017), pro-environmental or sustainable behavior is about managing the scarcity of natural resources (Lee *et al.* 2016; Helm *et al.* 2019). The subject of sustainability encompasses satisfying consumers' needs whereas preserving the environment at the same time. The sustainable behavior is measured mainly through self-reporting type of actions taken by consumers in attempt to preserve the environment. Among the deliberate pro-sustainable behavior are the intentions taken to behave in a sustainable manner (Tapia-Fonllem *et al.* 2013). Thus, the scale adopted here is the one developed by Helm *et al.* (2019) and considers reduced consumption behavior as a part of the pro-sustainable behavior rather than the other type, which is green purchasing behavior (it is not applicable here with the problem under study). Statements are measured on a seven-point Likert /agreement scale. Three main indicators which include consumers' actions, mainly, resisting buying impulsively, preventing buying unneeded things and repairing old things rather than buying new.

3.1.3 Demographics as Control Variables

Studies contributing to employing demographics (age, gender, place of residence) with materialism had different views with some studies viewing them as moderators and others including them as control variables. Previous studies have produced conflicting outcomes about the influence of socio-demographics on reduced consumption behavior and materialism. Thus, age, gender and place of residence were set as control variables in this study to evaluate whether or not materialism personality traits and reduced consumption behavior vary among them.

3.2 The Sample Descriptive Profile

The questionnaire was directed to respondents who are easy to access. It is directed to a number of 1000 respondents, while a number of 586 responses were received. A number of 540 responses were only considered in the analysis after excluding invalid or missing responses. Hence, response rate (fully completed) is 54%. The socio-demographic profile of the sample is quite different, which is required in empirical studies for sample representativeness. Geographically, Egypt is divided into upper (south), lower (north) and middle (center) Egypt, which encompasses 27 governorates.

The quota sampling was based on the percentage of population in each of the three main residential places in Egypt. According to the Central Agency for Public Mobilization and Statistics (CAPMAS), the total population 101,463,702 million, males count for %51.5 and females count for %48.5 of the total population (UNDP Report 2021). Depending on CAPMAS Census data presented in UNDP Report (2021). The researcher approached consumers using convenience quota sampling. Table 1 demonstrates the percentage of population in each of the three residential places and the achieved response rate of the sample.

Table 1 Percentage of Total Population and respondents rate Per Residential Place

Place of residence	Governorates	Total population (Millions)	% of total population	Respondents % to the total sample
Lower Egypt	Alexandria, Matrouh, Behera, Kafr El Shiekh, Ismailia, Damietta, Gharbia, Menoufia, Dakahlia Sharqia, Ismailia, Portsaid, North Sinai	46,169,523	45%	30%
Middle	Cario, Giza, Qaliyubia & Suez	25,946,168	25%	46%
Upper Egypt	Beniseuf, Menya, Fayoum, Asyut, New Valley Sohag, Qena, Luxor, Aswan, Red Sea, South Sinai.	30,748,326	30%	24%

The descriptive statistics for the respondents' personal profile is illustrated here. The frequency in this research has been analyzed and several observations were considered. As shown in Table 2, the sample under study contains 57% females and 43% males. As for the education level of the sample, 45.4% were university graduates. To add, the majority of the sample belonged to the "31 to 40" age group with a percentage of 42.2% of the total sample.

Furthermore, most of the sample had an average monthly income of "more than 12,000" with a percentage of 23.9%. Moreover, the majority of the sample were married with a percentage of 49.3%. Furthermore, 75.9% of the sample chosen the "working" status. Finally, when asking about Place of Residence "middle Egypt" had the most responses with a percentage of 45.6%.

Table 2: Respondents Profile Frequencies

Profile	Items	Frequency	Relative Frequency (%)
Gender	Male	232	43.0
	Female	308	57.0
Age	Below 21	64	11.9
	21-30 Years	179	33.1
	31-40 Years	228	42.2
	41-50 Years	61	11.3
	Above 50 Years	8	1.5
Education	High School	39	7.2
	IGCSE Or Equivalent	17	3.1
	Two Years After School	68	12.6
	University Graduate	245	45.4
	Post Graduate or Professional Degree	171	31.7
Average Monthly Income in Egyptian pound (L.E.)	Less Than 3,000	85	15.7
	3,000 Less Than 6,000	126	23.3
	6,000 Less Than 9,000	94	17.4
	9,000 Less Than 12,000	106	19.6
	More Than 12,000	129	23.9
Marital Status	Single	263	48.7
	Married	266	49.3
	Divorced	9	1.7
	Widowed	2	0.3
Working Status	Working	410	75.9
	Non-Working	130	24.1
Place of Residence	Upper Egypt	131	24.3
	Middle Egypt	246	45.6
	Lower Egypt	163	30.2

4. Data Analysis

This section examines the relationship between materialism personality traits and reduced consumption behavior by using AMOS – Version 25. Additionally, the differences in materialism personality traits and reduced consumption behavior according to consumers' demographics are tested by using SPSS – version 26. A confirmatory factor analysis is applied using the covariance method and then the structural equation modeling is

used to test the first objective. On the other hand, the test of differences using T-test and ANOVA test are conducted for the second objective. As a preliminary step, a descriptive analysis is displayed for the research variables.

4.1 Descriptive Analysis for Research Variables

Table 3 illustrates the descriptive analysis for the 5-points Likert scale variables. It was observed that the mean value of possessiveness is 3.6833, with a standard deviation of 1.0237. The mean value of non-generosity is 3.5389, with a standard deviation of 1.05347. The mean value of envy is 3.6407 with a standard deviation of 1.01227. This means that responses observed are all within the midpoint and respondents are neutral regarding the research variables, which might refer to the presence of a problem that the respondents are not satisfied with the level of the research variables. Moreover, it could be observed that among the Egyptian group of respondents, possessiveness is the highest (Mean = 3.6833), as one of the materialistic personality traits among Egyptian consumers, followed by Envy (Mean = 3.6407), while non-generosity is considered the least materialistic personality traits among Egyptian consumers (Mean = 3.5389).

Table 3: Descriptive Analysis of 5-points Likert Scale Variables

MPT	Mean	Std. Dev.	Frequency				
			1	2	3	4	5
Possessiveness	3.6833	1.02370	9	108	17	317	89
Non-generosity	3.5389	1.05347	15	117	40	298	70
Envy	3.6407	1.01227	9	108	30	314	79

Table 4 illustrates the descriptive analysis for the 5-points Likert Scale variables. It was observed that the mean value of reduced consumption behavior is 3.2481, referring to the fact that the respondents are in the neutral zone and they are not actually satisfied with the consumption behavior. Accordingly, the researcher continues to show how the research variables are considered valid and reliable through their measurement scale using the convergent validity and confirmatory factor analysis (CFA).

Table 4: Descriptive Analysis of 7-points Likert Scale Variables

Variable	Mean	Std. Dev.	Frequency						
			1	2	3	4	5	6	7
Reduced Consumption Behavior	3.2481	1.76901	62	193	99	43	48	68	27

4.2 Validity and Reliability Tests

Table 5 displays the validity and reliability tests for the study variables. The findings revealed sufficient Kaiser-Meyer-Olkin (KMO) sample adequacy score (higher than 0.5). This indicator is used to test the sample adequacy. Values of KMO greater than 0.5 reveals that the sample is enough to be used for testing the validity. In addition, values of AVEs greater than 50% means that the statements are considered similar in variation, which means that they could be used together to measure a certain construct. It could be observed that all AVE values are greater than 50%. Furthermore, factor loadings (FL) are greater than 0.4, higher loadings reflect better contributions for the assigned statements. On the other hand, weak loadings reflect poor contributions. The numbers illustrated in table 4 implies good convergent validity for the constructs understudy. Regarding the reliability test, the Cronbach's alpha is used to refer to good reliability. It could be observed that Cronbach's alpha for all constructs under study are greater than 0.7, which implies that the constructs under study have adequate reliability.

Table 5: Validity and Reliability Tests

Variables	KMO	AVE %	Cronbach's Alpha	Items	FL
Possessiveness	0.966	76.391	0.961	POS1	0.801
				POS2	0.710
				POS3	0.781
				POS4	0.715
				POS5	0.776
				POS6	0.784
				POS7	0.752
				POS8	0.796
				POS9	0.761
Non-generosity	0.925	71.543	0.933	NG1	0.724
				NG2	0.747
				NG3	0.680
				NG4	0.701
				NG5	0.706
				NG6	0.732
				NG7	0.717
Envy	0.950	72.759	0.946	EN1	0.686
				EN2	0.740
				EN3	0.726
				EN4	0.761
				EN5	0.745
				EN6	0.746
				EN7	0.773
				EN8	0.642
Reduced Consumption Behavior	0.753	87.405	0.927	RC1	0.879
				RC2	0.901
				RC3	0.843
Overall Reliability				0.920	

Table 6 shows the discriminant validity of the personality traits as well as reduced consumption behavior. The square root of AVE for possessiveness (0.874) is greater than the correlations between possessiveness and all other variables (0.790, 0.823 and -0.691). Similarly, the square root of AVE for non-generosity (0.846) is greater than the correlations between non-generosity and all other variables (0.790, 0.801 and -0.670). In addition, the square root of AVE for envy (0.853) is greater than the correlations between envy and all other variables (0.823, 0.801 and -0.692). Moreover, the square root of AVE for reduced consumption behavior (0.953) is greater than the correlations between reduced consumption behavior and all other variables (-0.691, -0.670 and -0.692). This means that the research constructs all achieve good discriminant validity.

Table 6: Discriminant Validity for Materialism Personality Traits and Consumption Behavior

	POS	NG	EN	RCB
Possessiveness (POS)	(0.874)			
Non-generosity (NG)	.790**	(0.846)		
Envy (EN)	.823**	.801**	(0.853)	
Reduced Consumption Behavior (RCB)	-.691**	-.670**	-.692**	(0.935)

4.3 Confirmatory Factor Analysis

The model fit indices are obtained by applying the covariance method to run the confirmatory factor analysis.

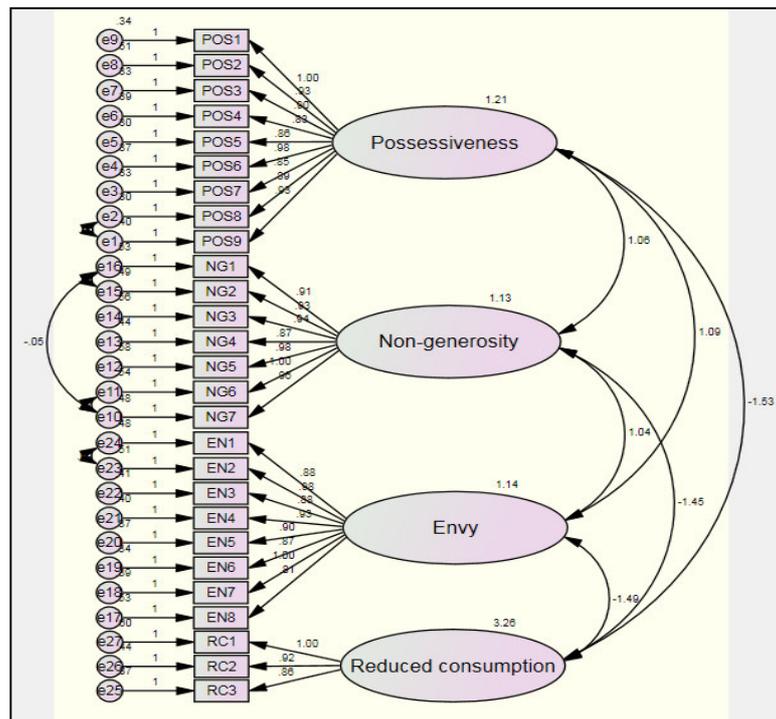


Figure 2: Measurement Model

It was observed that CMIN/DF is 1.715 (CMIN/DF < 3.00), which refers to the chi-square value for the model divided by the model degrees of freedom. Furthermore, GFI is 0.931 (GFI > 0.8), which refers to the model goodness of fit index. In addition, AGFI is 0.916 (AGFI > 0.8), which refers to the model adjusted goodness of fit index. Moreover, NFI is 0.964 (NFI > 0.8), which refers to the Bentler-Bonett normed fit index. The TLI is 0.983 (TLI > 0.8), which refers to the Tucker-Lewis index. CFI is 0.985 (CFI > 0.8), which refers to the comparative fit index. To add, RMR is 0.034 (RMR < 0.1), which refers to the root mean square residual. Finally, RMSEA is 0.036, which refers to the root mean square of approximation. Figure 2 illustrates the covariance method used for the measurement model for examining the confirmatory factor analysis. The factor loadings are shown on the arrows going from the latent to the observed variables. The values shown on arrows and illustrated in table 7 indicate good factor loadings for the confirmatory factor analysis (Factor Loadings > 0.400).

Table 7: Item Loading Using the Covariance Method

			Estimate	S.E.	C.R.	P
POS9	<---	Possessiveness	.931	.033	27.921	***
POS8	<---	Possessiveness	.889	.030	29.527	***
POS7	<---	Possessiveness	.854	.031	27.988	***
POS6	<---	Possessiveness	.975	.033	29.371	***
POS5	<---	Possessiveness	.864	.030	29.034	***
POS4	<---	Possessiveness	.829	.032	26.200	***
POS3	<---	Possessiveness	.900	.031	29.009	***
POS2	<---	Possessiveness	.930	.036	25.924	***
POS1	<---	Possessiveness	1.000			
NG7	<---	Non-generosity	.965	.039	24.797	***
NG6	<---	Non-generosity	1.000			
NG5	<---	Non-generosity	.983	.044	22.239	***
NG4	<---	Non-generosity	.870	.039	22.416	***
NG3	<---	Non-generosity	.944	.043	21.952	***
NG2	<---	Non-generosity	.928	.041	22.518	***
NG1	<---	Non-generosity	.914	.042	21.834	***
EN8	<---	Envy	.813	.036	22.291	***
EN7	<---	Envy	1.000			

			Estimate	S.E.	C.R.	P
EN6	<---	Envy	.873	.033	26.419	***
EN5	<---	Envy	.900	.034	26.309	***
EN4	<---	Envy	.932	.035	26.329	***
EN3	<---	Envy	.883	.035	25.376	***
EN2	<---	Envy	.983	.039	25.326	***
EN1	<---	Envy	.878	.036	24.138	***
RC3	<---	Reduced consumption	.858	.029	29.650	***
RC2	<---	Reduced consumption	.915	.026	35.541	***
RC1	<---	Reduced consumption	1.000			

4.4 Hypothesis Testing Results

4.4.1 Testing the Effect of Materialistic Personality Traits on Reduced Consumption Behavior

Table 8 illustrates the effect of MPT; possessiveness, envy, and non-generosity on reduced consumption behavior using the SEM. The model is conducted where the materialistic personality traits are independent variables and the reduced consumption behavior is dependent variable. It was found that there is a negative significant impact of possessiveness on reduced consumption behavior, as the corresponding P-value is less than 0.05 (P-value = 0.001) and the corresponding estimate is less than zero (Estimate = -0.492). Therefore, the first sub hypothesis of the first hypothesis “H_{1a}: Possessiveness materialistic personality trait affects consumers’ reduced consumption behavior” is supported. Similarly, there is a negative significant impact of non-generosity on reduced consumption behavior, as the corresponding P-value is less than 0.05 (P-value = 0.028) and the corresponding estimate is less than zero (Estimate = -0.380). Therefore, the second sub hypothesis of the first hypothesis “H_{1b}: Non-generosity materialistic personality trait affects consumers’ reduced consumption behavior” is supported. Moreover, there is a negative significant impact of envy on reduced consumption behavior, as the corresponding P-value is less than 0.05 (P-value = 0.024) and the corresponding estimate is less than zero (Estimate = -0.382). Therefore, the third sub hypothesis of the first hypothesis “H_{1c}: Envy materialistic personality trait affects consumers’ reduced consumption behavior” is supported.

Furthermore, the R square is 0.624, which means 62.4% of the variation of the reduced consumption behavior can be explained by this model. Based on the results mentioned above, the first hypothesis “H₁: Consumers’ materialistic personality traits (possessiveness, non-generosity and envy) affect consumers’ reduced consumption behavior” is fully supported.

Table 8: SEM Analysis of MPT on Reduced Consumption Behavior

			Estimate	P	R ²
Reduced consumption	<---	Possessiveness	-.492	.001	.624
Reduced consumption	<---	Non-generosity	-.380	.028	
Reduced consumption	<---	Envy	-.382	.024	

Figure 3 illustrates the SEM model conducted for the effect of the MPT on Reduced Consumption Behavior. The model fit indices obtained are all achieving good model fit (CMIN/DF = 1.528, GFI = 0.945, CFI = 0.990, AGFI= 0.932, and RMSEA = 0.031).

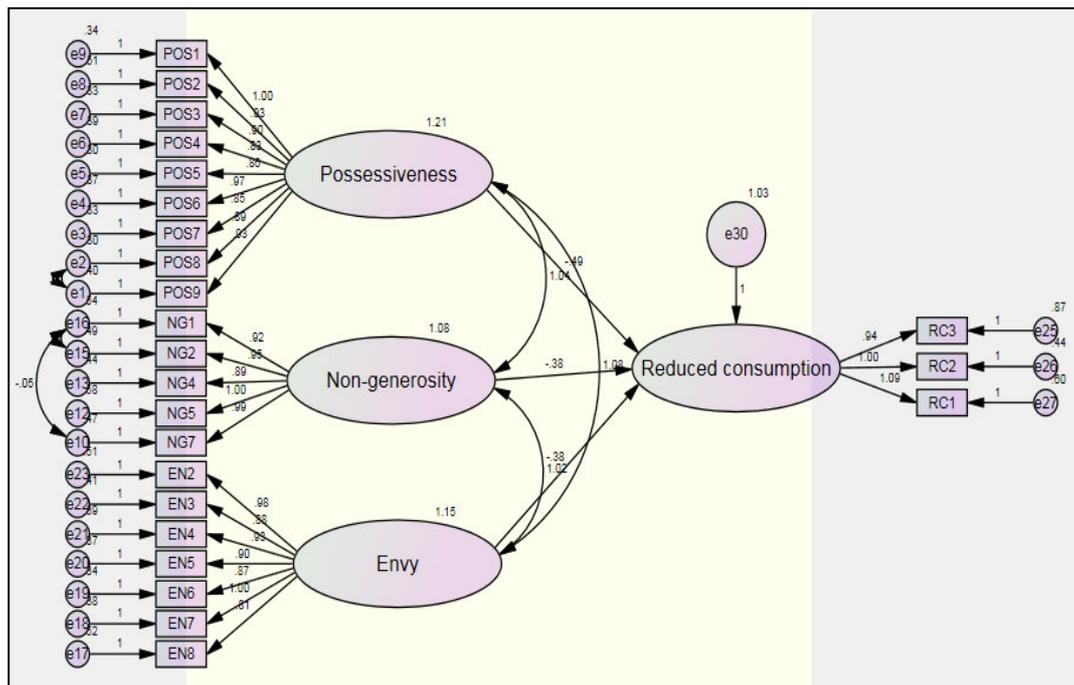


Figure 3: SEM for Materialistic Personality Traits on Reduced Consumption Behavior

4.4.2 Testing Differences in Materialism Personality Traits among Consumers' Demographics

Table 9 shows the ANOVA Test for the difference between Belk's MPT; possessiveness, envy, non-generosity according to age. It shows that there is a significant difference of possessiveness according to age, as the corresponding P-value is less than 0.05 (P-value = 0.000). Furthermore, it could be observed that the mean value for possessiveness in the age group "above 50 years" respondents (Mean = 4.2500) is the highest, while possessiveness in the age group "below 21" respondents (Mean = 3.0938). Therefore, the first sub hypothesis of the second hypothesis "H_{2a}: There is a difference in possessiveness personality trait among consumers' age groups" is supported.

Similarly, there is a significant difference of non-generosity according to age, as the corresponding P-value is less than 0.05 (P-value = 0.000). Moreover, the mean value for non-generosity in the age group "above 50 years" respondents (Mean = 4.1250) is the highest, while non-generosity in the age group "below 21" respondents (Mean = 3.0156) is the lowest. Therefore, the second sub hypothesis of the second hypothesis "H_{2b}: There is a difference in non-generosity personality trait among consumers' age groups" is supported. Moreover, there is a significant difference of envy according to age, as the corresponding P-value is less than 0.05 (P-value = 0.00). To add, the mean value for envy in the age group "41-50 Years" respondents (Mean = 4.0656) is the highest, while the mean value for envy in the age group "below 21" respondents (Mean = 3.0781) is the lowest. Therefore, the third sub hypothesis of the second hypothesis "H_{2c}: There is a difference in envy personality trait among consumers' age groups" is supported.

Table 9: ANOVA Test for Age

MPT	Age	N	Mean	P-value
Possessiveness	Below 21	64	3.0938	0.000
	21-30 Years	179	3.6927	
	31-40 Years	228	3.7193	
	41-50 Years	61	4.0656	
	Above 50 Years	8	4.2500	
	Total	540	3.6833	
Non-generosity	Below 21	64	3.0156	0.000
	21-30 Years	179	3.5140	
	31-40 Years	228	3.5789	
	41-50 Years	61	3.9344	
	Above 50 Years	8	4.1250	
	Total	540	3.5389	
Envy	Below 21	64	3.0781	0.000
	21-30 Years	179	3.6201	
	31-40 Years	228	3.6886	
	41-50 Years	61	4.0656	
	Above 50 Years	8	4.0000	
	Total	540	3.6407	

Table 10 shows the ANOVA Test for the difference between materialistic personality traits; possessiveness, envy, non-generosity according to place of residence. It shows that there is a significant difference of possessiveness, according to place of residence, as the corresponding P-value is less than 0.05 (P-value = 0.000). It could be observed that the mean value of possessiveness for the “Upper Egypt” respondents (Mean = 3.8397) is the highest, while that of “Lower Egypt” respondents (Mean = 3.4172) is the lowest. Therefore, the fourth sub hypothesis of the second hypothesis “H_{2d}: There is a difference in possessiveness personality trait among consumers’ place of residence” is supported.

Similarly, there is a significant difference of non-generosity, according to place of residence, as the corresponding P-value is less than 0.05 (P-value = 0.001). Moreover, the mean value of non-generosity for the “Upper Egypt” respondents (Mean = 3.7710) is the highest, while that of “Lower Egypt” respondents (Mean = 3.3190) is the lowest. Therefore, the fifth sub hypothesis of the second hypothesis “H_{2e}: There is a difference in non-generosity personality trait among consumers’ place of residence” is supported. In addition, there is a significant difference of envy, according to place of residence, as the corresponding P-value is less than 0.05 (P-value = 0.001). In addition, the mean value of envy for the “Upper Egypt” respondents (Mean = 3.8321) is the highest, while that of the “Lower Egypt” respondents (Mean = 3.4110) is the lowest. Therefore, the sixth sub hypothesis of the second hypothesis “H_{2f}: There is a difference in envy personality trait among consumers’ place of residence” is supported.

Table 10: ANOVA Test for Place of Residence

MPT	Place of Residence	N	Mean	P-value
Possessiveness	Upper Egypt	131	3.8397	0.000
	Middle Egypt	246	3.7764	
	Lower Egypt	163	3.4172	
	Total	540	3.6833	
Non-generosity	Upper Egypt	131	3.7710	0.001
	Middle Egypt	246	3.5610	
	Lower Egypt	163	3.3190	
	Total	540	3.5389	
Envy	Upper Egypt	131	3.8321	0.001
	Middle Egypt	246	3.6911	
	Lower Egypt	163	3.4110	
	Total	540	3.6407	

Table 11 shows the T-Test for the difference in Belk’s materialistic personality traits; possessiveness, envy, and non-generosity between males and females. It shows that there is a significant difference of possessiveness according to gender, as the corresponding P-value is less than 0.05 (P-value = 0.000). It could be observed that the mean value for possessiveness in females’ respondents (Mean = 3.8409) is more than that of males (Mean = 3.4741). This means that the seventh sub hypothesis of the second hypothesis “H_{2g}: There is a difference in possessiveness personality trait between male and female consumers” is supported. Similarly, there is a

significant difference of non-generosity according to gender, as the corresponding P-value is less than 0.05 (P-value = 0.003). Moreover, the mean value of non-generosity for females' respondents (Mean = 3.6753) is more than that of males (Mean = 3.3578). This means that the eighth sub hypothesis of the second hypothesis "H_{2h}: There is a difference in non-generosity personality trait between male and female consumers" is supported. In addition, there is a significant difference of envy according to gender, as the corresponding P-value is less than 0.05 (P-value = 0.005). Moreover, the mean value of envy for females' respondents (Mean = 3.7565) is more than that of males (Mean = 3.4871). This means that the ninth sub hypothesis of the second hypothesis "H_{2i}: There is a difference in envy personality trait between male and female consumers" is supported. The above results indicate that the second hypothesis "H₂: There is a difference in materialism personality traits among consumers' demographics" is fully supported.

Table 11: T-Test for Gender

MPT	Gender	N	Mean	P-value
Possessiveness	Male	232	3.4741	0.000
	Female	308	3.8409	
Non-generosity	Male	232	3.3578	0.003
	Female	308	3.6753	
Envy	Male	232	3.4871	0.005
	Female	308	3.7565	

4.4.3 Testing Differences in Reduced Consumption Behavior among Consumers' Demographics

Table 12 shows the ANOVA Test for the difference in reduced consumption behavior according to age. It shows that there is a significant difference in reduced consumption behavior according to age, as the corresponding P-value is less than 0.05 (P-value = 0.004). Furthermore, the mean value of reduced consumption behavior for the age group "below 21" respondents (Mean = 3.9531) is the highest, while that of age group "above 50 Years" respondents (Mean = 2.5000) is the lowest. Therefore, the first sub hypothesis of the third hypothesis "H_{3a}: *There is a difference in reduced consumption behavior among consumers' age groups*" is supported.

Table 12: ANOVA Test for Age

Variable	Age	N	Mean	P-value
Reduced Consumption Behavior	Below 21	64	3.9531	0.004
	21-30 Years	179	3.0335	
	31-40 Years	228	3.2982	
	41-50 Years	61	3.0492	
	Above 50 Years	8	2.5000	
	Total	540	3.2481	

Table 13 shows the T-Test for the difference in reduced consumption behavior between males and females. It shows that there is a significant difference in reduced consumption behavior according to gender, as the corresponding P-value is less than 0.05 (P-value = 0.001). Moreover, the mean value of reduced consumption behavior for males' respondents (Mean = 3.4440) is more than that of females (Mean = 3.1006). Therefore, the second sub hypothesis of the third hypothesis "H_{3b}: *There is a difference in reduced consumption behavior between male and female consumers*" is supported.

Table 13: T-Test for Gender

Variable	Gender	N	Mean	P-value
Reduced Consumption Behavior	Male	232	3.4440	0.001
	Female	308	3.1006	

Table 14 shows the ANOVA Test for the difference in reduced consumption behavior according to place of residence. It shows that there is a significant difference in reduced consumption behavior according to place of residence, as the corresponding P-value is less than 0.05 (P-value = 0.000). In addition, the mean rank for the reduced consumption behavior of the "Lower Egypt" respondents (Mean = 4.0368) is the highest, while that of "Upper Egypt" respondents (Mean = 2.6947) is the lowest. Therefore, the third sub hypothesis of the third hypothesis "H_{3c}: *There is a difference in reduced consumption behavior among consumers' place of residence*" is supported. The above results indicate that the third hypothesis "H₃: There is a difference in reduced consumption behavior among consumers' demographics" is fully supported.

Table 14: ANOVA Test for Place of Residence

Variable	Place of Residence	N	Mean	P-value
Reduced Consumption Behavior	Upper Egypt	131	2.6947	0.000
	Middle Egypt	246	3.0203	
	Lower Egypt	163	4.0368	
	Total	540	3.2481	

5. Discussion and Conclusion

Very limited studies examined materialism as a personality and self-related concept. Some studies such as of Larsen *et al.* (1999) and Hofmeister & Neulinger (2013) questioned the reliability of Belk's MPT measure. Other authors such as of Ahuvia & Wong (2002) found low or average reliability for the sub components of materialism and good reliability for the overall MPT measure. This study contributed by adding to the prevailing literature that Belk's MPT has proven to be reliable and valid in the context of one of the developing nations, Egypt. To add, there was always a challenge to policy makers, consumer activists' groups and marketers to comprehend the research gap between MPT and reduced consumption behavior which was overlooked by researchers in past studies especially in the Arab context. This study's conceptual model uncovers the significant and negative link between the personality determinants of materialism and the general reduced consumption behavior as art of the pro-sustainable behavior in one of the influential consumer societies in the Arab world, Egypt. This may open roads to marketers and policy makers in understanding materialism and its association with sustainable consumption-related aspects. According to this study, materialistic personalities do not take reduced consumption activities, they may detest and envy others if they have what they want to own, they want control over their possessions and refuse sharing behavior in general. Therefore, social marketers should focus their messages to be persuasive in nature in order to make a behavioral change. They have to convince consumers about the offers that would achieve their pleasure state but at the same time with no harm to the social wellbeing. Marketers may use regret and fear appeal in their messages to express how overconsumption may negatively impact the individuals' and society's well-being. Policy makers and educational managers should emphasize need for the reduced consumption activities and educate people about the various options such as repairing and consuming less to keep resources for future generations.

This paper empirically investigated the impact of materialistic personality traits on reduced consumption behavior in relation to age, gender and place of residence that were yielding conflicting outcomes in past studies. Both MPT and reduced consumption behavior vary among the three denoted demographics. Unlike those consumers who are below 21 years old and other young and mid-age groups, elders (over 50 years old) were found to be the highest in possessiveness and non-generosity. The age group of 41-50 was the highest in envy. Elders in Egypt may be affected by the pressing economic problems and feel more secured with ownerships. This may imply that current young and mid-age generations may have different personalities and among their profiles could be the clean lifers who pursue more simple and conscious lifestyle. This open new paths for marketers to segment and target these groups of young and middle age consumers and satisfy their conscious desires to build a sustainable future. Upper Egypt consumers were the highest in possessiveness, envy and non-generosity. Although mainly those in upper Egypt are known to have the collectivistic culture they are acting differently. This implies that the current economic situation and pressures may be among the factors forcing them to change their consumption behaviors. Furthermore, consumers in upper Egypt may not be well educated about the need for the reduced consumption activities as those in other governorates of middle and north of Egypt which include the major metropolitan areas such as Cairo and Alexandria. Concerning gender, results indicated that females are higher than males in the three materialistic personalities. They are possessive, envy and non-generous. This may imply that females motivational and personal factors such as self-image, ego, low altruism could be among the reasons to explain their materialistic and consumption behaviors.

Males were higher than females in their reduced consumption behavior which may be explained due to having lower MPT than females. Consumers below 21 engage in reduced consumption activities more than elders (above 50) which entitle that they are not pro-consumption or ownership in general as elders. They may repair, seek less consumption and avoid impulse purchasing. Finally, unlike upper Egypt consumers, those in lower and center of Egypt are more engaged in reduced consumption behavior. This contradicts with view of Wang & Huo (2022) that consumers connected with nature may be exhibit more pro-sustainable behaviors.

This study employed a non-probability sampling technique in which the generalization of findings is not possible. Data was collected with a cross-sectional study which may not capture changes in consumption behavior over long time. The reduced consumption behavior scale includes desirable consumers' actions at the social level, thus consumers' responses may be subject to a social favored type of bias. Hence, future studies should adopt measures for both intentions and actual consumption behaviors. To add, potential research may include data gathering through longitudinal designs to assess variances in consumers' pro-sustainable behaviors over time. Researchers may further investigate the link between various kinds of pro-sustainable behaviors and materialistic personality aspects in different cross-cultural settings. Exploring the obstacles that people may experience while endorsing the reduced consumption behavior would be useful in setting an effective guide for implementation. To induce the pro-sustainable behavior, policy makers and responsible bodies should develop pre-planned social and economic structures to reward those who exhibit the reduced consumption lifestyles. Further studies should include inter-effects of the consumers' socio-demographics which may yield more insights about the profiles of materialistic consumers and aid marketers to use multiple segmentation bases. Moreover, researchers may conduct qualitative studies to uncover and interpret some of the consumers' motives

related to the MPT and reduced consumption behavior.

7. References

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