

# WHAT GOES WELL WITH OUR PRODUCT? OPERATIONALIZING CONSTRUCTS IN ANTHROPOMORPHISM IN SIMPLE AND COMPLEX PRODUCTS

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## ABSTRACT

*This research on Anthropomorphic forms and features in product communications is a part of the doctoral work of the first author under the guidance of the second author. Anthropomorphism as a psychological construct has been studied and enforced for a long time (Guthrie 1993). However, as an area of experimentation for marketers, it has not yet been given a good standing of detail and reason. A marketer must have asked himself this question "What's the everyday option for our product during our advertising campaigns or communications?" If a marketer wants to attract the attention of patrons with natural traits, What's the right way to go or what's the right combination? This question is critical and needs to be addressed. That's the question that needs an academic explanation. This study is an extract from the thesis study, which is reserved to answering one of these many questions. This study focuses on handing a preparative rubric of natural shapes and characteristics suitable for use in products that have been classified as simple and complex in the literature to date.*

**Keywords:** Anthropomorphism, Sociality, Effectance, Elicited Agent Knowledge, Partial Anthropomorphism, Literal Anthropomorphism, Anthropomorphic Forms, Anthropomorphic Features.

## INTRODUCTION

People tend to look for human-like characteristics in objects; for example, they treat their car like real friends or see a human face in the clouds. People tend to believe that their computer or car has bad intentions, or they plan to do important work against it. As per literature, this phenomenon is known as Anthropomorphism (Srivastava, 2021). Anthropomorphism is a psychological phenomenon in which people tend to perceive the tangible or fictional behavior of objects with human-like properties that include motivations, intentions, or feelings (Epley, Waytz, & Cacioppo 2007). Guthrie (1993) provided a detailed qualitative explanation of anthropomorphism, anthropomorphic forms, and their use of prehistoric days in art, literature, and economics in the book "*Faces in the Clouds - A New Theory of Religion*." Researchers in their previous literature suggests that when humans attempt to understand or make sense of the behavior of a non-living object or entity, they tend to humanize, increasing the sense of control or predictability (Epley et al. 2008). Previous research also suggests that anthropomorphism as a human psychological phenomenon is relative to the object or entity perceived as human-like properties (Guthrie 1993).

Guthrie (1993) suggested anthropomorphic forms according to their levels and strengths as "*Partial, Literal and Accidental*" in his book. These suggested anthropomorphic forms depend on observing inanimate objects to have human-like properties, and it also depends on the relative strength of that perception. Of the three suggested ways mentioned above, the first two, "Partial" and "Literal," are incorporated into products by marketers during marketing campaigns and communications.

## **Anthropomorphism**

The earth is inhabited by almost 1.75 million species known to humankind, and there are numerous yet to be discovered (UNEP Biodiversity Assessment as cited by Heywood, 1995). 10,000 different religions describe their supernatural entities in their way (Barret, Kurian, & Johnson, 2001), and the world has seen tremendous growth in machines and devices helping human beings in their day-to-day jobs. Although this spread of living and non-living but non-human entities is vast, human beings still tend to represent them in a familiar structure or pattern. Humans tend to perceive them with human-like physical features, behavior, and intentions. Spiritual people tend to see the face of their God in clouds, some humans treat their cars as their best friends, and some call their pets as their friend or a relative. This tendency of perceiving non-humans as humans are known as Anthropomorphism. As defined by Epley, et al. (2007), "*Anthropomorphism is the tendency to imbue real or imagined behavior of non-human agents with human-like characteristics, motivations, intentions or emotions.*" The word Anthropomorphism was derived from the Greek word Anthropos (meaning "human") and Morphe (meaning "Shape" or "Form").

When a person calls his or her dog "*affectionate*," it is attributing the dog with human-like emotions (Guthrie 1993). Anthropomorphism as a phenomenon involves going beyond behavioral associations and associating mental or physical human-like characteristics (e.g., "*Dog owners often say; my dog loves me.*" This implies the owner's perception that his/her dog has a feeling of love or togetherness). This attribution involves the perception of mind or conscious nature in non-humans that includes animals also.

## **Psychological Elements**

The three-factor theory proposed by Epley et al. (2007) gave a theoretical understanding of Anthropomorphism as a psychological phenomenon. The three-factor theory is termed as "*SEEK*," which was a shortened form of the three factors named as 'Sociality,' 'Effectance,' and 'Elicited Agent Knowledge.' These were called the three psychological determinants of Anthropomorphism.

**Sociality:** Social connection is an important factor for human beings, and they have this tendency and desire to form establish the same with other humans around them. In the absence of a human being, they form this social connection with objects or non-living agents. This tendency is the third psychological determinant, and it is known as Sociality. People tend to speak to their machines or treat their pets as their child is an example of Sociality.

**Elicited Agent Knowledge:** The knowledge about human beings or chronic knowledge about human behavior while making inferences about non-humans. This knowledge about humans or self act as a source to conclude the behavior of objects or non-human agents. For example, a

person walking down a street during the night perceives a garbage bag as a person sitting at a distance. This particular incident shows that the person already had a notion of people sitting on the corner of the street with their specific intentions (Epley, et al. 2007).

**Effectance:** The tendency or the need of a human being to have an effective interaction with their environment or objects around them is known as Effectance, which is the second psychological determinant. This is a rousing factor to anthropomorphize objects or non-human agents and predict their actions and reduce uncertainty. These are common incidents like a person believes that their car always breaks down during an important visit and they are trying to make sense of this unusual behavior.

### Independent Factors of the Phenomenon

Several independent psychological factors in everyday life continuously interact with the proposed key psychological determinants (Epley et al. 2007), which are Dispositional, Situational, developmental, and cultural. (Epley et al. 2007) proposed an interactional matrix of these independent factors with psychological determinants and the outcome of such interactions on the reason behind varying Tendencies of Anthropomorphism. The below table describes such outcomes. To understand Anthropomorphism, it is critical to understand the below interaction and outcomes.

Dispositional relates to personal traits; situational factors are momentarily in nature, developmental and cultural are developed as a human grows in age and experience and perceives living and non-living agents as per his understanding and cultural knowledge about non-human entities and spirituality well. The below Table 1 highlights the outcomes which a human being perceives due to interactions of psychological determinants and these independent factors.

<b>Table 1</b>			
<b>KEY PSYCHOLOGICAL DETERMINATES</b>			
Categories of Independent Variables	Key Psychological Determinates		
	Elicited Agent Knowledge	Effectance Motivation	Sociality Motivation
Dispositional	Need for Cognition	Need for closure, desire for control	Chronic loneliness
Situational	Perceived Similarity	Anticipated interaction, apparent predictability	Social disconnection
Developmental	Acquisition of Alternative Theories	Attaining competence	Attachment
Cultural	Experience, norms and ideologies	Uncertainty Avoidance	Individualism and Collectivism

Source: Epley, Waytz, and Cacioppo 2007

### Anthropomorphism in Advertising

In advertising, the role of metaphors induced with human traits helps in successful communication with consumers (McQuarrie & Philips 2005; Delbaere et al. 2011). The research highlighted a relationship between visual personification and its impact on Product Liking. The study showed that Anthropomorphism enhances the brands to be perceived as human-being and get a place in consumer's minds. This helped in product attachment and

loyalty since Anthropomorphism developed an emotional attachment. Hence marketers of substitute products found it difficult to replace the established ones (Delbaere et al. 2011).

Delbaere et al. (2011) carried out a study on the role of Anthropomorphism in advertising. The study focused on explaining that visual personification of products in advertisements depicting human behavior leading to Anthropomorphism. The study proposed that personification leads to positive emotions, positive attribution to brand personality, and enhanced brand liking. Visual personification was induced in products in the following ways: Objects in two-dimensional, photorealistic images were arranged so that there would be a perceptual response after seeing a portrayal of some human action by an object. This was carried out as mentioned below:

1. The portrayal of human action is provided without any object in the picture being represented as a character. (e.g., by giving it a face).
2. The portrayal of human action once perceived simultaneously invokes a metaphor in which the human action is relevant for any attribution of qualities to the product/brand.

The author (Delbaere et al. 2011) stated that one of the most common attempts to initiate the act of Anthropomorphism in products is through spokes-characters, for example, Pillsbury doughboy, Mr. Peanut, and M&M Chocolate candy characters. The research proposed the concept of visual personification with the help of attributing human characteristics to objects. The study supported the concept of personification of products through advertisement using metaphorical features.

### **Anthropomorphic Forms**

Guthrie (1993) suggested that anthropomorphism as a tendency vary in strength in cultural mindset, and it is known that people having a firm belief in God or those who are religious have a social connection with the supernatural entity. They speak about it with firm convictions (Epley et al. 2007). Animals are anthropomorphized with human-like characteristics with emotions and actions of being angry or happy. Infants and toddlers usually are intrigued and usually pay attention to objects which move because such movements are attributed to human-like features (Guthrie, 1993). The work carried out by Guthrie (1993) in her book covers these instances of Anthropomorphism in a different culture in their art and literature. Guthrie (1993) proposed three forms of Anthropomorphism:

**Partial Anthropomorphism:** The presence of limited human physical or emotional features which lead to objects being perceived as human beings is known as Partial Anthropomorphism. For example, when a person sees a face in the clouds is the presence of some resemblance in the cloud's shape with a human face. This form of anthropomorphism takes limited human characteristics into considerations which acts as a trigger leading to object or entity being perceived as human. In 2013, Mercedes rolled out a campaign for its C-Class (2013) car with a tagline that stated that the car has a soul.

**Literal Anthropomorphism:** The presence of complete human features in an object leading to the object being perceived as a human being falls into the category of Literal Anthropomorphism. A complete human face, a product is talking as a person as some examples

of Literal anthropomorphism. Products in marketing campaigns are promoted as complete human beings by making them talk like human beings. Colgate, in the year 2007, rolled out an advertisement for its 360-degree toothbrush and showed it talking to a human being to a smaller toothbrush explaining its features. Literal form of anthropomorphism involves products given complete human form.

**Accidental Anthropomorphism:** This is one form of anthropomorphism that considers the mistakes or coincidences between human features and the perceiver at the right time and right place. This is coincidental that people accidentally perceive a non-living object as a human; for example, garbage bag being perceived as a human lying in the street. These incidents are situational and weak as they are corrected once the perceiver realizes one's mistake.

The categories suggested by Guthrie (1993) provided a justified explanation on forms of Anthropomorphism based on situations, and they vary from very strong to very weak in strength. Guthrie explained people treat their pets as their child, as they speak to them. These are strong from anthropomorphic beliefs. Whereas, when an individual tends to think that his car breaks down every time he wants to reach somewhere for important work, it is a weak form of Anthropomorphism because they are situational. The above note on the Psychological aspect of Anthropomorphism helps to understand human behavior and to explain Anthropomorphism.

### **Anthropomorphic Features**

Aggarwal & McGill (2007) carried out a study in this area to test the role of schema congruity in evaluating anthropomorphized products. The study focused on the theoretical basis of the evaluation of products imbued with schema congruent human features. The study describes schema as an active organization of past reactions or of past experiences (Bartlett 1992). Schema is also described as a stored framework of cognitive knowledge representing information about a topic, a concept, or a stimulus, including its attributes and relations among attributes (Fiske & Linville 1980).

The first objective was to highlight that consumer's ability to anthropomorphize products depends on the extent to which the product is endowed with human features congruent with the proposed human schema. The second objective was to propose that consumer's perception of the product in terms of human or object mediates the effect of feature type on product evaluation. The third objective was to propose that effective tags attached to a specific human schema moderate the evaluation and Anthropomorphism of products.

The study offered a conceptual framework to understand the act of Anthropomorphism in the presence of human traits and its impact on product evaluation. The study highlights the importance of humanistic features in products and their positive impact on product evaluations. This study was a notable addition in the literature of product anthropomorphism wherein the theory of the effect of schema congruity on Anthropomorphism and evaluation was substantiated. The study mentions further research on types of Anthropomorphism that are Partial, Literal, and Accidental and their impact on consumer anthropomorphism and evaluation of the product.

### **Product Complexity**

Human-like characteristics like emotions or intelligence is usually attributed to products (Epley et al. 2007). This tendency of human beings may enhance the assessment of the products (Aggarwal & McGill 2007; Delbaere et al. 2011). Empirical work by researchers has focused on priming products with human features (Aggarwal & McGill 2007; Chandler & Schwarz 2010; Landwehr, McGill, & Herrmann, 2011). The study by Hart, Jones, & Royne (2013) showed varying Anthropomorphism in products based on their complexity. The study examines the relationship between consumer anthropomorphism and personal value. As per Hart et al. (2013), Complex Products are made of thousands of parts and many of which are developed through a cutting-edge technology and they perform many functions without human intervention. Simple Products are made of fewer parts and they cannot perform any task without direct human intervention.

The study carried out by Hart et al. (2013) used products devoid of any human features and were simple or complex in nature and the products were chosen as they are available in the market. A questionnaire used to take responses on the personal value of displayed products. The authors carried out convenience sampling in this study and chose students for this study and products commonly used by them - i.e. Laptop, Mobile Phone, Pen drive, and Toothbrush. The products were chosen as they provide a wide range with respect to Price, frequency of use, methods of acquisition, and perceived complexity. The products were also different in terms of complexity, and the authors suggested that it would explain the second hypothesis on the relationship between product complexity and Anthropomorphism.

## RESEARCH METHODOLOGY

The study proposes to identify anthropomorphic forms and features distinctly which can be imbued in products perceived as Simple and Complex. This was carried out by developing experimental stimuli which was spread across three parts. It was required to check the perception of proposed products as being successfully categorized into simple or complex types. In the first study, based on the definition given by Hart et al. (2013), six products were chosen and were displayed to subjects (respondents) to see if they fall under two categories, i.e., simple or complex products. In the second study, the chosen simple or complex products were given human features to see if they are distinctly perceived to be Anthropomorphic Physical Features or Anthropomorphic Emotional Features. Similarly, in the third study, the chosen simple or complex products were given anthropomorphic forms to see if they are distinctly perceived to be Anthropomorphic Partial Forms or Anthropomorphic Literal Forms. Based on the study results, treatment conditions were designed for the main study, and manipulation checks will be done. The following chapter of this Thesis provides details on the findings, analysis, and conclusion of this Study.

**Part 1:** To check product categorization as Simple or Complex products.

The first part of the study was carried out to check product categorization as Simple or Complex. Three products were chosen from each product category from the list of products mentioned in past researches. Car, Laptop, Mobile Phone were chosen to be perceived and categorized as Complex, and Toothbrush, Chocolate Bar and Beverage Bottle were chosen to be perceived and categorized as a simple product. (Hart, Jones and Royne 2013) conducted a study on a sample (N=44) to measure perceived product complexity on a single-item measure (5 points Likert scale) and categorized the products. In the current study, the respondents

(Working Executives, N=44) were asked to rate their perceived product complexity on a 5 point Likert scale (1- Least complex and 5 - Highly Complex), keeping it convenient for the respondents. It was assumed that car, laptop, and mobile phone would be rated higher on the complexity scale, whereas toothbrush, chocolate bar, and beverage bottle will be rated lower. To verify the same, a single item-measure (binary scale) was used during the main study to screen out respondents who differ in perceiving the products as is assumed by the Researcher on product complexity.

**Part 2:** To check the difference between Physical and Emotional Features in Simple and Complex Products.

The second part of the Study was conducted in-person in a classroom with students (N=39) of a university in Hyderabad. Three products from each product category (as in the first part of the study) were shown to the respondents after graphically inducing with Anthropomorphic Physical features or Emotional features. Respondents (students, N=39) were asked to rate the Anthropomorphic features on a 5-point Likert scale (1: Strongly Disagree, 5: Strongly Agree). As per past Literature, Hands and Names have been identified as distinct in physical and emotional features, respectively (Aggarwal & McGill, 2007; Landwehr, McGill, & Herrmann, 2011). Therefore, the products (Car, Laptop, Mobile, Toothbrush, Beverage Bottle, & Chocolate Bar) were induced with Physical features (Hands, Eyes, or Mouth) or Emotional Features (Name given to a product) to have physical or emotional features in the products respectively. In each treatment condition, the question was placed along with the anthropomorphized image of the selected product as given below. Although not a part of this Study, the treatment conditions are coded as 1 or 2 based on Literal or Partial form# while running the data on the data analytics tool.

**Part 3:** To check the difference between Partial and Literal Human form in Simple and Complex Products.

The third part of the Study was conducted in-person in a classroom with students (N=38). Three products from each product category (as in the first part of the study) were shown to the respondents after graphically inducing with anthropomorphic Partial Form or Literal Form. Respondents (students, N=38) were asked to rate the Anthropomorphic Forms on a 5-point Likert scale (1: Strongly Disagree, 5: Strongly Agree). As per past Literature, Products with Tagline and Products Talking as a Human Being have been identified as distinct in Partial and Literal forms, respectively (Guthrie, 1993;1995; Aggarwal & McGill, 2007; Landwehr et al. 2011). Therefore, the products (Car, Laptop, Mobile, Toothbrush, Beverage Bottle, and Chocolate Bar) were induced with Partial Forms (Taglines) or Literal Forms (Talking as a Human Being) to have physical or emotional features in the products. In each treatment condition, the question was placed along with the anthropomorphized image of the selected product as given below. Although not a part of this Study, the treatment conditions are coded as 1 or 2 based on Emotional or Physical features, respectively.

## Participants and Design

The study was carried out to understand the perception of products, anthropomorphic forms, and features. Therefore, a section of Working executives from the Marketing/ Business Domain and Students from Management courses were targeted after taking due permission

from the Department heads or Class Teachers. The Sample for the three parts of the study comprised 44 executives and 77 students (N=121). The words participants, subjects, and respondents have been interchangeably used throughout this draft. The study is a 2x2 factorial design, including two value levels. The first variable is Anthropomorphic Forms (Partial, Literal), and the second variable is Anthropomorphic features (Physical features, Emotional Features) and their impact on Anthropomorphizing them as human beings. The analysis and findings chapter will also provide detailed information on participants and design as per the sample groups being tested on their respective groups of Hypotheses.

## Variables

The Study includes two independent categorical variables (or factors), each with two value levels. The first variable is Anthropomorphic Forms (Partial, Literal), and the second variable is Anthropomorphic features (Physical features, Emotional Features). The Study includes one continuous dependent variable in order to design treatment conditions. The dependent variable is Consumer's Degree to Anthropomorphize the simple/ complex products. The terms 'Variable(s)' and 'Measure(s)' have been synonymously used throughout the study.

## Findings

**Part 1:** To check product categorization as Simple or Complex products.

The first part of the study was carried out to check product categorization as Simple or Complex. Three products were chosen from each product category from the list of products mentioned in past research. Car, Laptop, Mobile Phone, Toothbrush, Chocolate Bar and Beverage Bottle were chosen to be categorized as a simple or complex product. (Hart et al. 2013) conducted a separate study on a sample (N=44) to measure perceived product complexity on a single-item measure (7-point Likert scale) and categorized the products. In the current study conducted in person, the respondents (Working Executives, N=44) were asked to rate their perceived product complexity on a 5-point Likert scale (1- Least complex and 5 - Highly Complex), keeping it convenient for the respondents. It was assumed that car, laptop, and mobile phone would be rated higher on the complexity scale, whereas toothbrush, chocolate bar, and beverage bottle will be rated lower. To cross verify the same, a single item-measure (binary scale) was also used during the main study to screen out respondents who differ in perceiving the products as is assumed by the researcher on product as simple or complex.

## Sample Characteristics

Gender distribution of respondents (N=44) was Male-56.8% (25) and Female-43.2% (19). The age distribution of respondents (N=44) was found normal with ZSkewness\*= 1.6554 and Zkurtosis\* = 0.162 (Kim H. Y. 2013). The working executive sample (N=44) were from 12 different locations in India and Overseas. \*Z is standardized estimate.

## Findings

Car (M=3.64, S.D.=1.203) and Toothbrush (M=1.66, S.D.=0.914), H0: Means are equal.



Maximum allowable value for a t-test: skewness  $<|2|$  & kurtosis  $<|9|$  (Posten 1984). Thus, Car & Toothbrush responses are normally distributed as their skewness and kurtosis values are within the limit. The null hypothesis of equal complexity between Car & Toothbrush is rejected as ( $t(43) = 10.209$ ,  $p < 0.05$ ). The car mean was higher than that of the toothbrush suggests that the sample perceives the car as complex and the toothbrush as a simple product. Similarly, all other pairs were checked and were successfully categorized as simple, and complex based on the difference in mean as perceived by the respondents.

**Part 2:** To check the difference between Physical and Emotional Features in Simple and Complex Products.

The second part of the Study was conducted in-person in a classroom with students ( $N=39$ ) of Management Program(s) of a university in Hyderabad. Three products from each product category (as in the first part of the study) were shown to the respondents after graphically inducing with anthropomorphic Physical features or Emotional features. Respondents (students,  $N=39$ ) were asked to rate the Anthropomorphic features on a 5-point Likert scale (1: Strongly Disagree, 5: Strongly Agree). As per past Literature, Hands and Names have been identified as distinct in physical and emotional features, respectively (Aggarwal & McGill 2007; Landwehr, McGill, & Herrmann 2011). Therefore, the products (Car, Laptop, Mobile, Toothbrush, Beverage Bottle, and Chocolate Bar) were induced with Physical features (Hands, Eyes, or Mouth) or Emotional Features (Name given to a product) to have physical or emotional features in the products, respectively. In each treatment condition, the question was placed along with the anthropomorphized image of the selected product.

### Sample Characteristics

Gender distribution of respondents ( $N=39$ ) was Male-51.3% (20) and Female-48.7% (19). The age distribution of respondents ( $N=39$ ) was found normal with ZSkewness= 0.624, Zkurtosis= 0.829 (Kim H. Y.2013). The sample represents students from 14 different Indian states and from different specialization areas in their management programs, with an approximate average of three respondents per state.

### Findings

Hands as Physical Features in Car ( $M = 4.23$ ,  $S.D.=0.986$ ) and Name as Emotional feature in Car ( $M = 3.64$ ,  $S.D.=1.564$ )  $H_0$ : Means are equal. Maximum allowable value for a t-test: skewness  $<|2|$  & kurtosis  $<|9|$  (Posten, 1984). Thus, responses on Physical and Emotional features were normally distributed as their skewness, and kurtosis values are within the limit. Null hypothesis of equality of mean between Physical and Emotional feature in Car is rejected as ( $t(38) = 6.73$ ) observed for (Car with Physical Features); ( $t(38) = 5.379$ ) observed for (Car with Emotional Features) with  $p < 0.05$ .

Similarly, Hands as Physical Features in Toothbrush ( $M=4.18$ ,  $S.D.=1.073$ ) and Name as Emotional feature in Toothbrush ( $M=3.38$ ,  $S.D.=1.664$ ).  $H_0$ : Means are equal. Maximum allowable value for a t-test: skewness  $<|2|$  & kurtosis  $<|9|$  (Posten 1984). Thus, responses on Physical and Emotional features are normally distributed as their skewness, and kurtosis values

are within the limit. The null hypothesis of equality of mean between Physical and Emotional features in Toothbrush is rejected as ( $t(38) = 7.177$ ) observed for (Toothbrush with Physical features); ( $t(38) = 6.676$ ) for (Toothbrush with Emotional features) with  $p < 0.05$ . The mean difference was significant for physical and emotional features. Similarly, all other pairs have been also checked. Therefore, based on the above-paired t-test findings, Hands and Names can be used in products as physical and emotional features, respectively. This is also supported by past literature (Aggarwal & McGill 2007).

**Part 3:** To check the difference between Partial and Literal Human form in Simple and Complex Products.

The third part of the Study was conducted in-person in a classroom with students ( $N=38$ ). Three products from each product category (as in the first part of the study) were shown to the respondents after graphically inducing with anthropomorphic Partial Form or Literal Form. Respondents (students,  $N=38$ ) were asked to rate the Anthropomorphic Forms on a 5-point Likert scale (1: Strongly Disagree, 5: Strongly Agree). As per past Literature, Products with Tagline and Products Talking as a Human Being have been identified as distinct in Partial and Literal forms, respectively (Guthrie 1993; Aggarwal & McGill 2007; Landwehr et al. 2011). Therefore, the products (Car, Laptop, Mobile, Toothbrush, Beverage Bottle, and Chocolate Bar) were induced with Partial Forms (Taglines) or Literal Forms (Talking as a Human Being) to have physical or emotional features in the products. In each treatment condition, the question was placed along with the anthropomorphized image of the selected product. Although not a part of this Study, the treatment conditions are coded as 1 or 2 based on Human Emotional or Physical features, respectively.

### Sample Characteristics

Gender distribution of respondents ( $N=38$ ) was Male - 42.1% (16) and Female – 57.9% (22). The age distribution of respondents ( $N=38$ ) was found normal with ZSkewness= 0.756, Zkurtosis = 0.003 (Kim H. Y. 2013). The sample represents students from 15 different Indian states and from different specialization areas in their management programs, with an approximate average of three respondents per state.

### Findings

Tagline as Partial Form in Car ( $M = 3.66$ ,  $S.D.=1.775$ ) and Talking as a Human being as Literal Form in Car ( $M = 4.71$ ,  $S.D.=0.654$ )  $H_0$ : Means are equal. Maximum allowable value for a t-test: skewness  $< |2|$  & kurtosis  $< |9|$  (Posten, 1984). Thus, responses on Partial and Literal Forms are normally distributed as their skewness and kurtosis values are within limit. Null hypothesis of equality of mean between Partial and Literal forms in Car is rejected as ( $t(37) = 7.499$ ) observed for (Car with Partial Form) and ( $t(37) = 6.859$ ) observed for (Car with Literal Form), both with  $p < 0.05$ . Partial and Literal forms were distinctly perceived by the respondents.

Similarly, Tagline as Partial Form in Toothbrush ( $M=3.37$ ,  $S.D.=1.89$ ) and Talking as a Human being as Literal Form in Toothbrush ( $M=4.26$ ,  $S.D.=0.828$ ).  $H_0$ : Means are equal. Maximum allowable value for a t-test: skewness  $< |2|$  & kurtosis  $< |9|$  (Posten, 1984). Thus, responses on Partial and Literal Forms are normally distributed as their skewness and kurtosis

values are within limit. Null Hypothesis of equality of mean between Partial and Literal forms in Toothbrush is rejected as ( $t(37)=5.715$ ) observed for (Toothbrush with Partial Form) and ( $t(37)=7.575$ ) observed for (Toothbrush with Literal Form) both with results  $p<0.05$ . Partial and Literal forms were distinctly perceived by the respondents. Similarly, all other pairs were checked and were successfully categorized as Partial and Literal forms based on the difference in mean as perceived by the respondents.

Therefore, Tagline and Talking as a Human Being can be used in Complex and Simple products as Partial and Literal Forms, respectively, based on the above-paired t-test findings. This is also supported by past literature (Guthrie 1993; Aggarwal & McGill 2007; Landwehr, McGill & Herrmann 2011).

The Study in three parts concluded with the following findings:

1. Car, laptop, and Mobile Phone are perceived as Complex Products, and Toothbrush, Beverage Bottle, and Chocolate Bar are perceived as Simple Products.
2. Hands and/or Eyes and/or Mouth are perceived as Human Physical Features, and Name given is considered as Emotional Features.
3. A tagline is perceived as Partial Form, and Product Talking as a Human Being is perceived as Literal Form.

## DISCUSSION

The study identified Anthropomorphic Forms and Features which can be imbued in simple and complex products based on their suitability. The study on suitability of Forms and Features as per the complexity of the products will be studied further. This Past Literature provided variety of concepts and theoretical explanations of Anthropomorphism as a Psychological phenomenon (Epley et al. 2007), as a religion (Guthrie 1993), and in art and craft from pre-historic days (Guthrie 1993), and in the area of marketing (Aggarwal et al. 2007). This study offers a systematic and precise understanding of fundamentals of Anthropomorphism as a psychological concept but on a common ground marketing theory of products being marketed using anthropomorphic features and forms. This study empowers academicians to take a step back and review the systematic role of Anthropomorphism as a tool for marketing studies and relevant research. Product marketers design products with the ground-breaking campaign, and this study offers easy and effective recommendation in this area of expertise.

The study does not consider the Brands of the proposed Product as this study is focused on Products only. Also, to remove any brand-based bias, the treatment conditions were designed without any relation to any brands. Also, this study excludes the role of Demographic factors because those factors are not part of the proposed model and formulated Hypotheses. The above-mentioned points are limitations of this study which also can be pursued as future scope of research.

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