Essays in Individual Differences in

Consumer Behavior

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Committee

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DEDICATION

To my grandfather, Bodh Raj,
who has inspired me to have the greatest scholarly aspirations

To my mother, Sneh,
who has taught me to love the ideas I care about

To my father, Dalip,
who provided me with an unwavering support

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ABSTRACT

The understanding of how and why consumers differ is central to theory advancement in consumer research. In my dissertation, I explore two distinct areas of consumer cognition and decision making that are guided by individual differences among consumers.

In my first essay, I examine the role of cultural differences in the perception of brands. Cultural differences represent *shared* individual differences that reflect prevalent cognitions (such as schemas and norms) and behaviors (such as customs and practices). Cultural psychology research shows that to some extent, all the cultures contain same ideas and meanings, however, cultural differences reveal a certain subset of ideas and meanings that are paid more attention to and are more accessible in a specific cultural population. Brand personality, a culturally embedded construct, is essential for understanding human relationship with brands. In three studies, I explore how cultural differences influence the organization of brand personality construct. There is an emergence of a culturally unique dimension of divinity in an Indian culture that reflects the importance placed on religiosity in this cultural population. The findings also document the presence of semantic differences in isomorphic dimensions of brand personality.

In my second essay, I introduce an individual difference variable of person-thing orientation in marketing literature. Individuals vary in their orientation towards two primary elements of their environment- things and people. I examine how an individual's orientations are related to other personality variables that are already present in consumer behavior literature. In addition, this research documents that orientations predict when and in what form individuals prefer to help out others. Thing-orientation predicts greater preference for donating in the

form of money compared to time, leads to lesser ingroup bias in helping behavior

and moderates the impact of person orientation on compassion for multiple

victims. In contrast, person-orientation predicts equal preference for helping in the

form of time and money, leads to greater ingroup bias in helping behavior and

predicts compassion for a single victim.

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CHAPTER 1

BEYOND GENERALIZATION: THE CASE FOR EXPLORING PARTIAL CULTURAL UNIVERSALS

ABSTRACT

In psychology, the discovery of theoretical frameworks entails generalizability of findings across diverse populations. As important this form of theory development is, it is critical to use diversity within each culture for academic advancement. Partial universals integrate both isomorphic features as well as culturally distinctive aspects and hence provide additional theoretical insights that go beyond generalization. Three studies examined partial universals in brand personality and document that both perceptual structures as well as meanings associated with the structure of consumption symbols vary in the Indian context. The results illustrate that the examination of partial universals (1) advance the search for new theoretical constructs in specific underexplored cultures (e.g. divinity in India) (2) provide other differentiating variables that transcend major cultural classifications such as individualism-collectivism. The implications of this research for country specific cultural research and globalization are discussed.

Keywords: attitudes and persuasion, cross-cultural research, branding.

INTRODUCTION

The assumption that a psychological phenomenon is de facto universal is a foundational postulate of psychological research (Riemer, Shavitt, Koo & Markus, 2014). This assumption of universality is evident since generalizability across cultural contexts has been an essential consideration for the discovery of its central theories. However, these culturally universal theoretical constructs are based on limited correspondence across cultures observed in selective contexts, while the influence of cultural diversity and thus the insights from variation across groups is largely neglected (Wierzbicka, 2005). The presence of cross-cultural differences urges the field to reconsider how we can incorporate cultural considerations that also critical theoretical advancement.

The present research suggests that partial universals, that represent a unified reality based on both limited isomorphism as well as uniqueness of specific cultures, are more useful in a comprehensive understanding of culturally embedded constructs. Specifically, we explore partial universals associated with brand personality in the Indian context. This research adds to the emerging view that conducting research in specific countries goes beyond broad categorizations of cultures and provides a more nuanced understanding of phenomenon (Miller, Akiyama, & Kapadia, 2017, Savani, Morris, & Naidu, 2012). We also explore the possibility that these distinctive insights may have relevance beyond a specific culture resulting in the development of a theoretical framework that is applicable for homogenous and resembling cultures.

Theoretical Background

Partial Cultural Universals

Cultural universals are common features and phenomena that are invariant across cultures (Berry, Poortinga, Breugelmanns, Chasiotis, & Slam, 2011). However, these cultural universals don't comprehensively capture the richness of a construct since

they are based on selective corresponding relationships between cultures. More so, in culturally embedded constructs, they do not capture unique culture specific variations. Within each culture, a theoretical construct belongs to a distinct network of constructs and occupies a specific place in a distinct network of relationships. As a parallel, psycholinguistic research has pointed out that every language is an independent system. When we compare two languages, we cannot expect to find identical set of relationships since each language has its own distinct structure and unique lexicon. Yet, we can identify limited correspondence (Wierzbicka, 1991). Thus, partial universals are more valuable. Partial universals are inclusive theoretical constructs that incorporate common features that transcend cultures as well as encompass idiosyncratic considerations of a specific culture to accurately describe phenomenon in that cultural population (Wierzbicka, 1991). For example, psychological research has long considered one of the central theories of attitudes to be culturally universal. However, emerging research has pointed out cultural variations that are likely to alter the organization of the theoretical framework of attitudes (Riemer et al., 2014). We propose that in consumer research, studying partial cultural universals would lead to broadening the theoretical frameworks by incorporating culture-specific variations.

Theoretically, using partial universals helps in integrating cultural considerations and extending the existing theorizing of the construct to gain novel insights into prevailing psychological claims (Aaker, Benet-Martinez, & Garolera, 2001, Zeinoun, Daouk-Öyry, Choueiri, & van de Vijver, 2017). More importantly, conducting partial universal research in specific countries leads to discovering singular constructs that merit theoretical understanding at a broader level. In other words, the culture-specific constructs may be relevant for a cluster of countries that share similar cultural beliefs. Further research could be pursued to advance

comprehension of these theoretical constructs that could be generalizable to a group of countries.

Extant literature has used theoretical constructs such as individualism-collectivism (Triandis, 1989) and tightness-looseness (Gelfand et al., 2011) to characterize and dimensionalize differences in cultural populations. However, the variations among cultures often go beyond these extensively used constructs. For example, Miller et al. (2017) demonstrate that cultural differences in social support observed between two Asian countries of India and Japan cannot be explained by interdependence view of self, held by these two countries. However, this cultural difference was explained by encompassing cultural thinking that typifies Indians and Japanese, i.e., variations in their exchange norms. We highlight the need to focus research on specific largely unexplored countries within such broad categorizations in order to discover other critical differentiating variables.

Organization of constructs

At the broadest and highest level of abstraction of partial universal, we assume that a theoretical construct is universal. We propose that however, when we zoom in on the specific organization of the construct, partial universal incorporates considerations of specific cultures. It is necessary to expand the organization of theoretical constructs- its perceptual structure and semantic meaning of their elements- to encompass distinct thinking of specific cultures (Berry, 1969, Hui & Triandis, 1985). Perceptual structure of a theoretical construct- how the information about the construct is stored and arranged in human mind- varies with specific cultural population. For instance, past research in psycholinguistics shows that linguistic structures at all levels- phonological, morphological, and syntactic- differs for every language (Wierzbicka, 2005). In addition, decomposition of the structure

into semantic meaning of each element not only uncovers structural relations linking together different elements but also reveals configurations of specific cultural considerations encapsulated in each element (Shweder, 2008). Our research builds on these findings and examines perceptual structure and semantic meaning of the cultural embedded construct of brand personality to explore partial universals in Indian context.

Brand personality- a culturally embedded construct

An important theoretical construct that has served as a basis for understanding human relations with brands in consumer psychology is brand personality. The notion of brand personality that represents symbolic meaning associated with different brands, can be said to hold across cultural contexts. However, the organization of brand personality across cultural groups is malleable. Past research has documented that brand personality has a five-dimensional structure in US- sincerity, excitement, sophistication, ruggedness, and competence (Aaker, 1997). Subsequent research in other cultures have identified some non-overlapping brand personality dimensions for specific cultures, for example, peacefulness in Japan and ascendancy in Korea (Aaker et al., 2001, Sung & Tinkham, 2005). We build on research on brand personality and argue that partial universal of brand personality construct in India will mirror the cultural considerations of India. The following discussion highlights certain dominant beliefs that are reflected in the Indian society and economy, and which are expected to define the partial universal of brand personality.

Past research has pointed out that divinity is more valued in India compared to other collectivist cultures (James, 1902/1997, Roland, 1988, Shweder, Much, Mahapatra & Park 1997). Divinity is an integral aspect of religion that elicits a solemn response from an individual (James, 1902). India ranks in the top 6 out of 65

countries on the value given to religiosity, with other collectivist countries like Japan and China ranked 44th and 39th respectively in the list (see Gebauer et al., 2017). The centrality of divinity in Indian culture has also been pointed out by sociologists (Mukherji 1952), as well as academic researchers (Dheer, Lenartowicz & Peterson 2015; Gopalan & Riviera 1997). This cultural specificity has led to consequences ranging from one's beliefs (such as emotional residue; Savani, Kumar, Naidu, & Dweck, 2011) to decision making in various domains (such as in consumption and business context; Chan & Ananthram, 2017, Kopalle, Lehmann & Farley, 2010). Divinity is additionally seen as a dominant trend in the content of Indian advertisements (Chattopadhyay, 2007). Hence, we hypothesize that divinity will emerge in the partial universal of brand personality construct in India.

Anthropology research has shown that 150 years of colonial rule in India has accentuated a patriarchal society with a largely chauvinistic outlook and lineages strictly defined in terms of males alone (Channa, 2004). This is also reflected in media content propagated on television, films and in advertising (Mehta, 2017). Masculinity or "ruggedness" in the Indian context, particularly in warfare, has also been significant historically that was emulated by later British rulers to assert supremacy over their Indian subjects (Sramek, 2006). Hence, we hypothesize that masculinity will emerge in partial universal of brand personality construct in India.

In the following sections, we develop a Brand Personality scale in the Indian context to examine partial universal of brand personality. First, we identify the overlap between the dimensional structures of brand personality in India and the US (study 1). Next, we check robustness of the culturally distinct dimensions (study 2). We finally examine the degree of semantic overlap of the brand personality dimensions identified in India with the US and Japan (study 3).

STUDY 1: INDIAN BRAND PERSONALITY DIMENSIONAL STRUCTURE

Stimuli- Brands. Based on past research, we began with 20 product categories that varied on symbolic and utilitarian functions to enhance representativeness of the stimuli (Aaker, 1997). Five product categories were highly utilitarian (e.g. medication), five were highly symbolic (e.g. alcohol), and ten categories were relatively high on both (e.g. automobile). Next, to ensure familiarity with the stimuli, we selected brands that were well known in India. We identified these brands in a pretest among 118 graduate students from a university in India (37 females, mean age= 28.61, SD= 4.6) who participated for extra course credit. The respondents were asked, "What is the first brand that comes to your mind when you think of the product category?" The most frequently listed brands were included in the final set of 20 brands.

Stimuli - Personality attributes. The selection of brand personality attributes followed a two-step process (Aaker, 1997). First, we conducted a pretest to ensure the relevance of the traits. Eighty-four graduate students enrolled in a university in India (46% female, mean age= 26.8, SD= 2.6) participated in a "Study about brands" for extra course credit. Ten brands (three symbolic, three utilitarian and four symbolic-utilitarian) were randomly selected from the shortlisted group of 20 brands. The participants were asked to write down personality traits that came to their mind when they thought about the brand. A total of 524 traits were generated in this free association task. In the second step, the traits were reduced to a manageable number as follows. Three groups of traits were removed- ones that were redundant (*n= 30, e.g. modern;* these words were repeated by other participants), ambiguous (*n=159; e.g. Kareena Kapoor (a Bollywood celebrity), mountain boy*) and synonyms (*n=246; e.g. friendly, amiable, amicable;* synonyms were identified using the Oxford dictionary). We finalized 91 relevant and unique traits for the main study.

Participants and procedure: One hundred and fifty-one students (41 % female, mean age 27, SD= 2.7) participated in the study about brand impressions for extra credit. Participants were asked to think about brands as people and give thoughts about them. Five sets of three brands each (one functional, one hedonic and one functional-hedonic) were created with random selection within each type (see Table 1). For example, Group 1 had PayTm payment (functional), Kingfisher alcohol (hedonic) and Tata tea (functional-hedonic). Each participant was randomly presented with one of the five sets, wherein the participant rated each of these three brands on the 89 identified traits. To control for order effects, we counterbalanced the order of attributes as well as brands presented.

Insert Table 1 about Here

Analysis and results: Bartlett's test of sphericity was significant (p<.001) and Kaiser-Meyer-Olkin measure of sampling adequacy was within acceptable range (.91), suggesting that our data were suitable for factor analysis. To examine the structure of brand personality, we conducted principle component analysis followed by varimax rotation. Since we were not interested in the differences in personality of different brands, we did the factor analysis across all the brands (i.e. rating on traits of each individual on each of the brand was the unit of analysis) (Aaker et al. 2001).

The factor analysis results showed that four of the five brand personality dimensions had correspondence with American dimensions. In addition, a culturally distinct fifth dimension emerged- divinity. Dimension 1, representing Excitement and Sophistication is primarily defined by attributes like active, energetic, fashionable and upper class. Dimension 2 represents Competence, including traits like responsible, professional, diligent and disciplined. Dimension 3 represents Sincerity, defined by

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traits like helping, easygoing, friendly and approachable. As hypothesized, Ruggedness emerged as a fourth dimension, including traits like dominating, aggressive, authoritative and masculine. Finally, the new dimension, Divinity, is identified with a unique combination of traits like spiritual, giving and traditional, illustrating a culture specific outlook, as hypothesized.

Study 1 identifies a substantial overlap of brand personality in India with its counterpart in the US. The study also validated the emergence of the culturally distinct construct of divinity.

In study 1, different brands were evaluated by each of the five subgroups of participants. It is possible that these subgroups of participants varied in their perceptions of brands. To address this issue, in study 2, all the five groups rate on an additional brand that is constant across the groups. In addition, study 2 replicates the findings of study 1 with a different sample, thereby establishing the robustness of the presence of the culturally distinct dimensions.

STUDY 2: ROBUSTNESS OF THE BRAND PERSONALITY STRUCTURE
Participants and procedure: A sample of 406 MTurk participants (mean age= 30.7 years, SD=7.7, 33 % female) based in India were asked to take part in a study examining impressions about different brands. The procedure was identical to Study 1 with one exception. One popular brand (Coca Cola) was included to ensure that five subgroups of participants did not vary significantly on their agreement of brand personality associated with this brand. Thus, a participant rated a specific brand on 89 traits and then repeated the rating procedure on three (instead of two) more brands. Twelve attention check questions were included in the battery of ratings. Eighty-seven participants were excluded from the analysis as they missed 8 or more attention checks, and the analysis was confined to the remaining 319 subjects.

Analysis and results: First, to assess the variation in perceptions of a specific brand across individuals, mean ratings of the traits for Coca Cola were compared across the five groups. Out of 89 traits, 77 traits had no significant difference across groups. Thus, perceptions about specific brand are concluded to be similar across the five subgroups of participants. Next, to examine the structure of brand personality, we performed a principle component analysis with varimax rotation, as in Study 1. The Kaiser-Meyer-Olkin measure of sampling adequacy was within acceptable range (.985), and the Bartlett's test of sphericity was significant ($p<.001$). A close look at the factor structure showed that the five-factor solution is similar to Study 1 with one exception: Peacefulness, defined by traits like shy, aloof and copycat, emerged as dimension similar to indigenous Japanese dimension that replaced sincerity (see Web appendix).

Identification of facets

To make the items to a manageable number for measuring and manipulating in further research, a smaller number of items were identified. The items that loaded on each of the five dimensions were separately factor analyzed to produce an unconstrained number of factors (i.e. facets; Aaker, 1997). In total, 8 facets were identified by separate factor analysis of items within each dimension: 2 for Sophistication-Exciting, 2 for Divinity, 1 for Competence, 2 for Peacefulness and 1 for Ruggedness (see Figure 1). The internal consistency was assessed using Cronbach's alpha, that was .90 for all the 24 items.

Insert Figure 1 about Here

Consistent with our predictions, the culture specific dimension of divinity reemerged. In addition, study 2 offers convergent evidence of the robust structure of

brand personality in India with five dimensions- excitement and sophistication, divinity, competence, peacefulness and ruggedness. In study 2, peacefulness dimension replaces sincerity dimension, this may be due to a more representative sample in study 2 compared with the restrictive sample of business school graduates in study 1.

Study 3 was conducted to assess semantic meaning overlap at the dimensional level between Indian Brand Personality with that of another collectivist country- Japan and an individualist country- America.

STUDY 3: EQUIVALENCE AMONG INDIAN, AMERICAN AND JAPANESE MEANINGS OF BRAND PERSONALITY DIMENSIONS

Participants and procedure: A sample of 122 MTurk participants (Age= 31.7, SD=8.1, 33% female) completed the study for monetary compensation. 30 participants were excluded as they missed 8 or more (out of 12) attention checks. The cover story and structure of the study was similar to Study 2, except for one change. The participants rated 42 traits of American brand personality, 36 traits of Japanese brand personality and 24 traits of Indian brand personality less 11 overlapping traits. Analysis and results: To estimate the overall degree of conceptual intersection between the indigenous Indian brand personality dimensions with American and Japanese dimensions, we examined validity correlations. The convergent validity correlations were as follows: Excitement-Sophistication (India) and Excitement (US)= .85, Excitement-Sophistication (India) and Excitement (Japan)=.80, Excitement-Sophistication (India) and Sophistication (US)=.74, Excitement-Sophistication (India) and Sophistication (Japan)= .78, Competence (India) and Competence (US)= .75, Competence (India) and Competence (Japan)=.74, Peacefulness (India) and Peacefulness (Japan) = .64, and Ruggedness (India) and Ruggedness (US)=.73. The average correlations of the off-diagonal of the convergent-

discriminant matrix was .50 whereas average diagonal correlations were .75. This suggests the presence of convergent-discriminant validity.

The pattern of semantic overlap shows that brand personality has culturally endorsed meanings of isomorphic dimensions. Across cultures, excitement is represented by young, active and daring (Aaker et al., 2001). In India, it has a sophistication connotation that includes an undertone of deference (e.g. responsible and respectful; Savani et al. 2010). Sophistication, a more complex and involved appreciation for pleasure, does not emerge as a separate dimension in India (Patrick & To, 2017). The peacefulness dimension in India, has items like aloof, mischievous, copycat, shy, slow and fragile that closely overlap with peaceful dimension in Japan. The dimension additionally has submissive and reverential connotations. These findings are consistent with theorizing in cultural psychology that symbolic meanings are culturally defined (Shweder, 2008).

GENERAL DISCUSSION

In psychology, generalizability across cultural contexts is a fundamental criterion for discovery of new theoretical frameworks. In this research, we highlight the significance of partial universals in theoretical advancement. Specifically, partial universals strive to systematically link existing cultural universals with considerations of particular culture at the level of organization of the construct and subsequently lead to introduction of novel theoretical constructs. Studies 1 and 2 provided evidence that the perceptual structure of the culturally embedded construct of brand personality in India is contingent on cultural variations. Study 3 identified that universal and idiosyncratic connotations combine to create meanings for dimensions of brand personality in a specific culture.

Theoretical implications

This research demonstrates the significance of partial universals in enhancing diversity in psychological constructs (Zeinoun et al., 2017). Notably, while examining brand personality in India, divinity as a construct emerged. Majority of past research on religion is based on examining secular countries of the world where religiosity has limited social value (e.g. Cohen, Kim & Hudson, 2018). In contrast, the emerging research shows that psychological benefits of religiosity are manifested in the religious countries and not in secular countries. (Gebauer et. al., 2017). We suggest that divinity will play a role in a cluster of countries where religion plays a dominant role in people's life, for example, in other Asian countries like, Philippines or Latin American countries like Dominican Republic (Gebauer et. al., 2017). While divinity may not be accessible in all the cultures, it will be valuable to develop a theoretical framework of divinity for the cluster of countries that resemble India on their level of religiosity. We suggest that rather than only searching for theoretical constructs to encompass the entire world, it is also meaningful to generate specific constructs that are valid in a cluster of homogenous countries.

Second, we highlight the utility of partial cultural universals in recognizing idiosyncrasies of specific cultural populations. For instance, all Asian countries have generally been classified as collectivistic cultures, with extant research primarily focusing on China or Japan (Kwon, Saluja, & Adaval, 2015; Bai, Maruskin, Chen, Gordon, Stellar, McNeil, Peng, & Keltner, 2017). When we broaden the research to understudied cultural populations within these categorizations, it is evident that recurrent similarities among cultures will manifest. However, it is also inevitable that culturally distinct nuances will emerge. In other words, while in certain contexts, India may share similarities to other collectivist countries such as China, there will also be specificity that will be critical to be examined further. We highlight that

focusing on the broad categorization of India as collectivist country may lose significant theoretical insights that will emerge in country specific research.

Finally, our research has implications for cross cultural comparison literature. In cultural psychology literature, majority of observed cultural differences are attributed to East and West differences based on individualism- collectivism. If we need to relate India in terms of this broad categorization, our findings provide converging evidence that it is more accurate to state that India occupies a "middle position" on the individualism- collectivism continuum (Hofstede, Hofstede, & Minkov, 2010). Specifically, we demonstrate that the organization of brand personality in Indian culture shares similarities with the organization of the construct in both individualistic cultures (with overlap of ruggedness dimension) and collectivist culture (with overlap of the peacefulness dimension). Thus, these findings indicate that it may not be possible to categorize all the countries into one of the two categories. More importantly, we advocate that cultural research needs to move from a static view of pre-existing categorization of world towards more dynamic categorization of the world based on specific constructs. Some emerging research shows that the ubiquitous variables of individualism-collectivism approach only about 10- 25% of the total variation to explain between-countries differences (Stankov, 2016). As a result, it will be more meaningful to dimensionalize the world into additional categories such as religious and secular cultures since religiosity explains relatively greater variation (of 40%) among countries and deserves greater attention (Saucier et al., 2015). Rather than using only one classification scheme of individualism- collectivism to explain all the cultural differences, it will be valuable to categorise cultures on alternate forms of classification that will provide more accurate understanding of cultural variations.

Managerial implications

From practical perspective, our findings offer important insights for managing global brands. Global corporations have a choice to standardize or to customize the marketing mix across different cultures depending on their global objectives. It is critical to understand what aspects of branding are culture specific and what aspects are universal to successfully implement global strategies. Our results suggest that isomorphic brand personality dimensions and universal meaning of these isomorphic dimensions should be used to homogenize a brand's personality across the globe. The results also have implications for those companies that seek to be locally sensitive and match with cultural expectations. For instance, toothpaste is a universal concept. An Indian brand Patanjali successfully integrates this universal concept with a local variation that emphasizes Indian heritage of traditional medicine from divine books like Ayurveda (Shweder, 2008).

Limitations and future directions

This research highlights the importance of partial universals for making meaningful cultural comparisons. However, partial universals may be relevant only for culturally embedded constructs that focus on the interrelationships between culture and psychological processes. In contexts, where the construct is not culturally rooted, the concept of cultural universals may be more relevant (Norenzayan & Heine, 2005).

The present research shows that partial universals of brand personality provides insights for individuals of a specific culture. However, an individual can be exposed to other cultures in many forms including acculturation, assimilation and tourism. Future work could investigate on how partial universals will be represented among people who are multicultural.

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FIGURE

Figure 1

Indian Brand Personality structure.
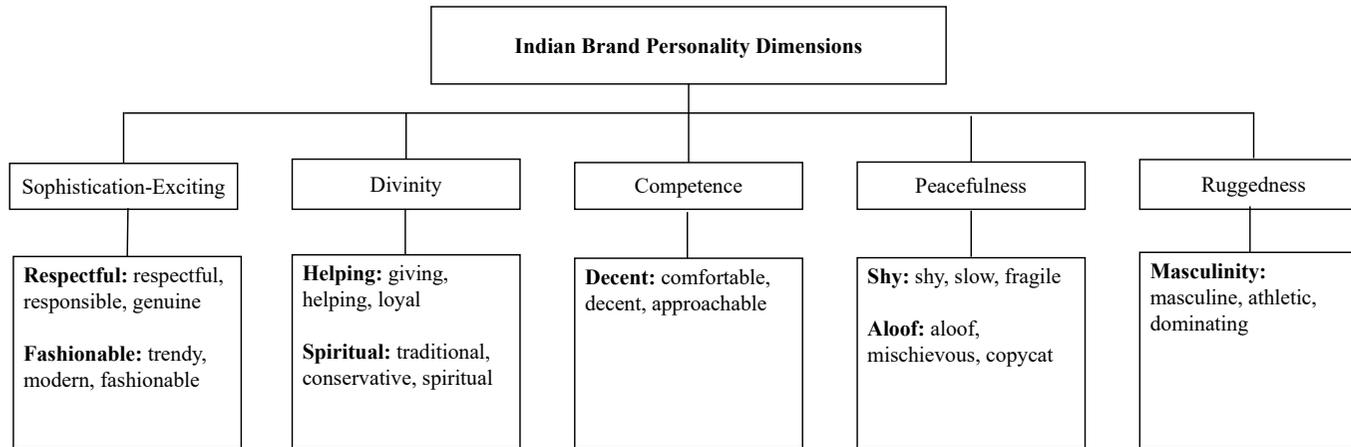
TABLE

Table 1

Five brand groups of three brands.

Group	Functional	Hedonic	Functional-Hedonic
1	Paytm payment	Kingfisher alcohol	Tata tea
2	Big bazaar grocery chain	Cadbury chocolate	Titan watch
3	Colgate toothpaste	Lakmé cosmetics	Maruti car
4	Amazon online shopping	Ferrari sports car	Dell laptop
5	Patanjali food products	Lays chips	Himalaya face wash

APPENDIX

Indian Brand Personality dimensions.

Items	Varimax-rotated principal factors				
	Sop-Ex	Di	Co	Pe	Ru
modern	70	15	12	4	15
fashionable	66	20	16	9	10
trendy	64	15	16	6	10
fancy	63	13	13	16	19
strong	62	32	23	5	10
professional	62	30	19	3	4
experienced	57	30	23	-1	13
joyful	56	34	29	4	1
energetic	56	32	25	-3	16
lovable	55	45	23	-1	-1
friendly	54	45	23	0	-2
festive	51	24	19	11	23
outgoing	51	15	29	9	13
attractive	50	20	47	2	2
dynamic	50	30	21	-1	28
stimulating	48	24	17	13	22
creative	46	31	45	1	2
hardworking	45	45	19	1	19
optimistic	44	30	21	5	13
revolutionary	43	29	20	9	29
spontaneous	43	29	21	12	33
romantic	43	36	18	16	7
frank	40	35	25	13	9
upper class	37	19	10	23	32
self-indulgent	37	22	12	32	21
traditional	12	64	14	25	-1
simple	25	61	15	19	-3
helping	37	61	24	4	12
spiritual	5	59	10	38	9
humble	25	58	25	13	15
obedient	33	57	19	15	3
responsible	44	57	22	0	-1
giving	33	57	26	9	13
patriotic	19	56	14	20	20
respectful	41	56	24	1	5
protective	34	56	17	11	14
homely	25	56	21	9	13

loyal	41	55	25	2	14
understanding	45	53	24	5	4
innocent	18	53	12	27	1
genuine	42	52	23	2	7
gentle	42	51	26	9	3
calm	10	48	36	19	10
emotional	19	48	20	28	11
disciplined	29	47	45	7	3
easy going	38	45	21	7	9
wise	34	44	26	6	11
grounded	20	43	15	27	29
methodological	31	37	23	16	28
endearing	31	34	24	18	25
confident	44	27	52	-6	4
decent	31	39	51	8	4
comfortable	44	33	50	6	-9
approachable	36	36	50	2	4
active	48	21	50	-4	8
dependable	17	39	48	4	6
affectionate	23	40	47	8	14
diligent	24	29	47	13	19
charismatic	41	13	47	10	15
dutiful	20	37	46	11	14
bold	45	14	45	7	20
conversational	23	26	44	19	25
all rounder	31	31	44	1	12
authoritarian	24	14	43	20	38
cute	38	31	42	16	-4
classic	36	34	42	15	3
conformist	17	35	40	25	27
bubbly	30	11	30	29	19
shy	-6	18	-6	73	-3
slow	-14	13	-1	72	-5
aloof	-1	0	8	69	17
copycat	-13	-4	16	66	10
mischievous	17	-6	-1	65	13
fragile	9	14	1	63	7
old school	-2	27	9	60	6
thrifty	19	11	9	60	-1
girlish	7	15	7	60	-7
orthodox	2	34	10	56	7
middle aged	12	32	1	47	21
conservative	7	42	27	44	11

foreigner	30	-4	0	43	24
artificial	18	-11	9	43	25
masculine	28	26	-7	22	50
aggressive	17	-7	20	33	47
athletic	21	30	37	10	46
dominating	21	5	39	14	42
tidy	23	24	21	20	19
sexy	34	7	18	22	9
middleclass	7	42	9	33	7

Note. N=313 Indian. Factor loadings multiplied by 100; Sop-Ex= Sophistication-Excitement;

Di= Divinity; Co= Competence; Pe= Peaceful; Ru=Ruggedness.

CHAPTER 2

PROSOCIAL BEHAVIOR: THE ROLE OF ORIENTATIONS TOWARDS

DIFFERENTIATED ENVIRONMENT

ABSTRACT

Consumer behavior research has primarily viewed the environment as a monolithic entity and its elements as functionally equivalent. I integrate psychological research on individual differences in one's orientation towards two fundamental aspects of the environment- persons and things- into consumer behavior field. In the six studies, I identify individual differences in person thing orientation as a determinant of systematic differences in prosocial behavior and provide insights for effective prosocial behavior appeals. In the first study, I examine the relationship between person thing orientation and other individual difference constructs present in consumer behavior field. In the second study, person-thing orientation predicts different types of altruistic volunteering. In the third study, person orientation increased compassion for a single victim and thing orientation moderated the impact of person orientation on compassion for multiple victims. In the fourth study, thing orientation led to greater preference for donation in terms of money rather than time. In the fifth study, person orientation predicts greater ingroup bias in the allocation of donation money compared to thing orientation. I conclude by highlighting my contribution to prosocial behavior and person-thing orientation literature and discuss areas of future research.

INTRODUCTION

Human word, thought, and action are almost always driven by a multitude of factors, both, external (environment) and internal (human traits and states). Yet, the interaction of human personality and environment has received scant attention in literature. In this regard, past research has assumed that environment is a monolithic undifferentiated mass (Haines, et al., 2016; Rahinel & Ahluwalia, 2015; Wohlwill, 1970). For example, the conceptualization of environment has either focused exclusively on social aspects or treated environmental objects as interchangeable and/or functionally equivalent (Sutin, Luchetti, Stephan, Robins, & Terracciano, 2017; Wright, Lindgren, & Zakriski, 2001). Personality measures too are rarely discussed as measuring disposition towards surroundings, though a few traits assess people's orientation separates environment from the person. In particular, introversion-extroversion and context independence- dependence use inner-outer dichotomy that differentiates non-environmental from environmental space (Eysenck, 1981; Rotter, 1966; Witkin & Goodenough, 1977).

However, not all environment elements are alike. Some environmental elements include neighbors, children, strangers, and old people whereas others include machinery, watches, and mobile phones. In a series of later studies, using types of environmental objects as the basis of personality disposition, Little (1968, 1972a, 1974) challenged the assumption of an unpartitioned environment. This differential orientation to environment extends the work of inner-outer personality dispositions by having implications on what elements in the environment extroverts extravert themselves, kind of objects field dependent people depend on, and aspects of environment internals have control over (Little, 1987).

Focus on content of environment

Little (1972a) proposed that environment is comprised of two fundamental objects: persons and things, two basic ontological elements of environment (Strawson, 1959) which have consistently re-emerged in classic and contemporary research in vocational psychology (Prediger, 1982), clinical psychology (Baron-Cohen, 2002), and neuropsychology (Mitchell, Macrae, & Banaji, 2005). Arguing that individual differences in orientations towards persons and things deserve both, analytic and psychometric attention, Little (1972a) developed the Thing-Person Scale, intended to measure environmental orientation.

Structure of Orientations

To elucidate the relationship between these two orientations, Little (1972a) postulated three possible ways in which they might be organized: bipolarity, generality, and independence.

The bipolarity hypothesis posits that person orientation (henceforth PO) and thing orientation (henceforth TO) are opposing poles of the same dimension. It postulates that there is specific amount of energy available to be utilized that could be invested in either one of the primary objects of environment - persons or things. This premise is supported in some psychological research, including classic research in vocational psychology and more contemporary research in psychopathology (Baron-Cohen, 2002; Prediger, 1982).

The generality hypothesis predicts that a person interested in other people will also be predisposed towards other objects in the surroundings. This proposal is reinforced by personality theorist that investigate all-encompassing personality distinctions involving inner and outer dispositions (e.g., Eysenck & Eysenck, 1968). Although reasonable, our conceptualization of environment emphasizes how individuals differ in their inclination towards specific objects of environment.

The independence hypothesis emphasizes that PO and TO are orthogonal dimensions. More specifically, individuals vary in the extent to which they are oriented towards persons

or things. Some are oriented towards both, some are focused on one relative to the other and others are not oriented to either of these primary objects. In other words, the independence of the two orientations leads to a clustering of people into four groups who are differentially oriented to their environments. Person specialists are high on PO and low on TO whereas thing specialists are low on PO and high on TO. In addition, it is evident that there are tow more categories- Generalists who are high on both person orientation as well as thing orientation and Non-Specialists who are low on both person orientation as well as thing orientation. The basis of this hypothesis is the recognition that correlation between the two orientations is stable and around zero.

T-P scale based research has largely supported the independence hypothesis proposing internal consistency and orthogonality of PO and TO as dimensions of individual differences (Little, 1972a). The independence of PO and TO has also been documented in more recent studies by independent groups of researchers in social psychology and vocational psychology (Tay, Su, & Rounds 2011; Woodcock et al., 2013). For instance, Woodcock et al. (2013) combined the data of more than seven thousand participants across 15 studies from different cultures including Greece and Turkey, and different age groups including elementary and high school children. They found that correlations for these studies ranged from -.08 to .25 with mean correlation of -.04, suggesting that PO and TO are independent orientations. Tay et al. (2011) conducted meta-analysis and structural analysis to examine the enduring assumption of a bipolar relationship between PO and TO. They found support for their independence rather than the restrictive bipolar view prevalent in vocational psychology. The study used previously collected data on more than one million participants and found a weak meta-analytic correlation of -.08 between PO and TO. Even after controlling for general interest and measurement error using structural analyses, corrected meta-analytic correlations also did not support the bipolarity of person and thing dimensions. A cluster analysis revealed

a sizeable number of participants who were oriented towards both, things and people. These investigations offer convergent support for the independence of PO and TO. In sum, human interest towards people and things does not appear to be singular, as the bipolarity hypothesis would predict.

In the consumer space, environment as a driver of processing and judgments related to marketing outcomes features in few studies. The majority of consumer behavior research in this area has focused on social environment. For instance, past research has shown how consumers are inclined to pay attention to social environment while making decisions regarding consumption and purchase intentions (Ordabayeva & Chandon, 2010; Shalev & Morwitz, 2011). Some emerging research has also looked at individual differences in one's inclination towards and away from environment (Rahinel & Ahluwalia, 2015). Rahinel and Ahluwalia (2015) find that paying attention and orienting to one's environment impacts judgement and decision-making regarding products. This research, however, assumes physical and social aspects of environment to be being functionally comparable.

The overarching goal of this article is to integrate PTO and consumer research. In accord, the first part article examines the primary characteristics of people with these specific orientations followed by validation of demarcation of persons and things as primary objects in vocational psychology, clinical psychology, and neuroscience. Based on this delineation of consumer characteristics stemming from PO and TO, the second part explores the implications of PTO for altruistic behavior.

Characteristics of Specialist groups

Appendix A gives a brief overview of profile of people with distinctive orientations. These dispositions have implications for attention, salience, and preference for different elements of one's environment.

Construing environment

Orientations towards environment shape the way people think about their surroundings. The predilection towards people and things impacts categorical attention to specific elements in the environment and preference for distinct objects (Little 1968; McIntyre & Graziano, 2017). In an investigation, Little (1968) found that the four specialist groups described in Appendix A have distinct ways in which they compare their environment. One of the studies featured three shopping areas that were juxtaposed and participants were asked to write one similarity between two shopping areas and one dissimilarity vis-à-vis the third one. They were asked to produce as many bipolar constructs as possible that described dissimilarities among these shopping areas. The differences among the groups were analyzed on the basis of quantity and category of constructs used for comparison. Generalists used the highest number of constructs and non-specialists used the least. With regards to the content of constructs, person specialists construed their environment in interpersonal manner, instilling spaces with features more typically attributed to individuals such as human traits, inclinations, demeanor, and motivations to compare the places. They paid attention to consumers, company heads, and citizens of these places. Some bipolar constructs generated were based on character of consumers, personalities of owners, and types of social interaction. Thing specialists were concerned more with physicalistic aspects, such as physical advantages and restraints of environment. More specifically, they focused on structural features of a place such as geometric, molecular, biological, and architectural. Their constructs included material used for roofs (wood or concrete) and spatial organization. Content analyses of constructs used by generalists showed that relative to other groups, these people used higher-order qualitative differences in terms of place and style, including personal and physical elements. These global-aesthetic constructs concentrated on elements of surroundings such as general mood, overall atmosphere, and idiosyncratic ambience. In contrast, non-specialists contrasted the shopping centers on the basis of egocentric features of the place, highlighting the impact of

the place on oneself such as how satisfied they were and how far the shopping areas were. In sum, differential orientation of the four groups determine locus in their environment and produce systematic variation in salience of particular elements of the environment.

Individual differences in orientations towards environment also impacts the accuracy of observations of one's environment. In Little's (1976) investigation, all participants overestimated the distance, however, the four groups varied substantially in their amplification. Generalists gave a closest estimate with 8% overestimation, followed by thing specialists with 15% overestimation, person specialists with 33% overestimation, and non-specialists with 45% overestimation. Further research is needed to directly test the underlying mechanism for differences in accuracy among the four groups while examining surroundings.

Construing people

Orientations also appear to be related to differential representation of other people. In one empirical study, Little (1976) asked participants to compare and contrast individuals known to them personally, by completing a standard repertory grid (Kelly, 1955). The results showed that those with high PO construed people on the basis of wants, purpose, and ambitions. Participants who were low in PO, in contrast, paid attention to role features and physicalistic benchmarks, for instance, focusing on physical and structural aspects of other people such as height and body type.

Orientations are also differentially related to preference for privacy, i.e., the degree to which other people infringe upon one's life (Little & Kane, 1974). PO was positively related to preference for intimacy i.e. higher PO is associated with greater privacy for social units greater than one person, e.g. with close friends and family. In contrast, TO was unrelated to preference for privacy.

Construing things

Due to their singular focus on persons or things, the niche specialists differ in the way

in which they focus on different facets of things and associate with things (McIntyre &
Graziano, 2017). When told to draw comparison among three poems, person specialists
contrasted them on the basis of personalistic features, such as the poet's emotional state and
sentiment conveyed in the poem (Little, 1976). In contrast, thing specialists used physicalistic
criteria for discrimination, including details and mechanics of poem such as rhyme and
rhythm.

Development of orientations

Past research shows that construing in stimulus-appropriate manner is developed with
age (Little, 1967). After a certain age, physicalistic constructs are used to construe things and
personalistic constructs are used to construe people. The empirical study done on participants
of different ages groups found a significant main effect of age for both the stimuli - things
and persons (p <.01) (Appendix B).

I will now report a thorough literature review to examine whether research upholds the
centrality of the basic division of social environment and physical environment. I report the
findings from occupational psychology, clinical psychology and neuroscience.

Occupational Psychology and Differential Career choices

The plausibility of persons and things as core elements of the environment springs up in
the field of occupational psychology that has persistently assessed interest toward people and
things. Holland (1958, 1992) introduced a theoretical framework for vocational interests
based on personality theory. The model proposed six types of interests- Conventional, Social,
Artistic, Investigative, Realistic. Enterprising. The two basic environmental orientations have
a correspondence with two of these interests- Realistic interests with thing orientation and
Social interests with person orientation. Prediger (1982) expanded the Holland model and
stated that there are two fundamental dimensions that underlie the six dimensions and
incorporate them. One of these dimensions i.e. Thing-People continuum represents

environmental orientation and states the extent to which work comprises of impersonal jobs (such as involving mechanical work, use of tools, etc.). Please note that according to this model, person and thing orientation are bipolar ends of the same scale. However, as stated earlier, subsequent research by vocational psychologists has validated the more generalizable conception of thing and people dimensions that debunks bipolarity and supports their independence (Tay et al., 2011).

Of particular importance in vocational psychology was assumption that women are more interested in other people whereas men are more interested in objects (Thorndike, 1911). Similarly, Lippa (1998) examined the gender differences in occupational interests across three studies. These studies concluded that Prediger's People-Thing scale explained the gender differences found in vocations. Su, Rounds, and Armstrong (2009) conducted a detailed meta-analysis on occupational preferences and documented that males were high on Realistic interests and females were high on Social interests. Males and females varied by approximately 1 SD on their scores on People-Thing scale. Later studies that examined gender differences across 53 countries used 10-item scale measuring people-thing dimension. The scale used to assess gender differences in vocational interests, assumed bipolarity of PO and TO. Notwithstanding the shaky underpinnings of the bipolarity assumption of PO and TO, the findings found huge gender difference across nations, with men showing preference for things and women showing greater preference for people.

PTO has also been used in vocational psychology to predict academic and career choices (Su & Rounds, 2015; Yang & Barth, 2015). TO is related to interest and retention in educational programs related to things, especially science, technology, engineering and mathematics (STEM) fields. PO, on the other hand, is positively related to non-STEM fields like biology and health majors.

Vocational psychologists have recognised the significance of People-Thing scale to account for gender variations in specific jobs. The underrepresentation of women in STEM fields has been partially explained by gender differences associated with person-thing orientation (Su & Rounds, 2015). Thing orientation, being higher in men, leads to dominance of men in STEM fields. Women, being higher on PO, tend to be over-represented in fields like social services and medical sciences.

In short, the division between two environmental orientation is crucial for occupational psychology. The majority of vocational psychology research has provided support for the contention that female are more predisposed towards persons compared to males. These orientations are differentially related to career choices people make. The underrepresentation of women in STEM fields is partly attributed to disinclination towards things.

Clinical Psychology and Maladaptive orientations

For over half a century, clinical psychology has been concerned with persons and things as the fundamental elements of our environment. Perhaps the first empirical suggestion of the relevance of this distinction is found in King's (1956) research where he challenged the existing assumption of unitary environmental withdrawal in studies on schizophrenia. He asserted that withdrawal could be classified based on environmental referents and distinguished withdrawal from people and things. His research also showed that two types of withdrawal in schizophrenic patients - interpersonal withdrawal and thing withdrawal- are independent categories.

Later work in psychopathology more clearly demonstrated the centrality of distinction between other people and objects in the environment. For example, there is overwhelming evidence in psychopathology that autism is associated with severe predisposition towards things and psychotic disorders are associated with acute interest in other people. In particular,

Baron-Cohen (Baron-Cohen, 2002, 2005; Baron-Cohen & Hammer, 1997) advanced a theoretical framework that explained autistic behavior. He differentiated between cognitive styles that are used to understand agentic and non-agentic aspects of one's environment: systemizing and empathizing. Systemizing comprises of efforts to analyze different components in a specific organized system and to comprehend the basic constructs regulating that organized system. This permits a person to regulate and predict the non-agentic organized system, and comprises of detection of laws and structure by focusing on three things in order: input-operation-output. This cognitive style has is similar to "thing-orientation". In contrast, Empathizing involves attempts to understand other people and relationships with them. To some extent, it also permits a person to envisage other's behavior. This cognitive style closely overlaps with "person-orientation". Systemizing is suitable for dealing with fixed and deterministic stimuli. In contrast, empathizing is more suitable applicable for transitory variations in human beings. Systemizing and Empathizing are two different kinds of cognitive processes for appreciating social and physical aspects of our environments. I will now discuss how extreme thing specialists are vulnerable to psychopathology of autism and extreme person specialists are vulnerable to psychosis.

Autistic Behavior and preference for objects

The diagnostic criteria for autism spectrum disorder is neurodevelopmental condition characterized by impaired social interaction alongside unusually obsessive and repetitive behavior (APA, 2000). In spite of maladaptive nature of the disorder, some autistic behaviors can be valuable and stimulate progress in specific aspects. For instance, a machine learning engineer may have limited interpersonal interactions with people around him but may concentrate his focus on working on algorithms to create robots that will help others (Giudice, Angeleri, Brizio, & Elena, 2010). Past research has documented that autism

spectrum disorder is predominantly among males with female to male ratio being 1: 10 (Baron-Cohen, 2002; Baron-Cohen & Hammer, 1997).

Substantial research evidence supports that autism involved hyper-development of skills related to men and underdevelopment of skills related to females. First, females (vs. males) score higher on empathizing abilities such as understanding and sharing other people's emotions, but autistic individuals have even more restricted abilities compared to males (Baron-Cohen, 2002). Similarly, when the scores on Empathy Quotient Scale are compared the highest score are among females, followed by males and individuals with autism spectrum disorder (Baron- Cohen & Wheelright, 2004).

Second, individuals with autistic spectrum disorders or conditions have visuospatial and other savant abilities such as visually realistic drawing abilities, rapid mathematical calculation abilities and extraordinary memory (Wheelwright et al., 2006).

Psychosis and inclination for other people

Emerging psychology research has investigated the other end of the psychopathology spectrum and stated that it is more pervasive among females. While Baron-Cohen has assumed empathizing to be worthwhile and useful, Crespi and Badcock (2008) suggested that the extreme social orientation is associated with psychotic disorder, such that autism spectrum disorder and psychotic disorders are two extremities of cognitive processes (Appendix C).

Crespi and Badcock (2008) suggested that psychosis is associated with cognitive processes representative of females. The autism is characterized by hypersensitivity to sensory stimuli, unusually narrow interests and restricted interest, and trouble in adapting to unexpected change. In contrast, psychosis is manifested in several forms such as schizophrenia, delusional disorder, catatonia, etc. These psycho-affective conditions are characterized by high levels of guilt and shame, abnormal social emotional regulation,

paranoia, and delusions of conspiracy. The cognitive profile of psychosis includes jumping to conclusions reasoning, reduced working memory and sensory-processing deficits (Brosman, Ashwin, & Gamble, 2013). Females are more predisposed to borderline personality disorder and depression, with female to male ratio of about 3:1 and 2:1 respectively (American Psychiatric Association 2013, Ferrari et al., 2013).

Hyper-empathizing involves greater accuracy of inferring mental state. A recent meta-analyses done on 'Reading the mind in the Eye' test and other empathetic abilities tests show that individuals with borderline personality disorder have enhanced empathetic skills compared to control individuals (Dinsdale, Mökkönen, & Crespi, 2016). However, hyper-empathizing also involves excessive interpretation of social stimuli. This disproportionate interpretation involves making assumptions about 'another person's mental states that go so far beyond observable data that the average observer will struggle to see how they are justified' (Sharp et al., 2013). Larson et al. (2015), in an attempt to test this theory, compared adults with autistic spectrum disorder who had experienced psychotic disorder, with control group of adults with only autistic spectrum disorder. The study found that individuals who had experienced psychotic disorder had higher empathizing and lower systemizing compared to control group adults.

To explain the differential gender skew in autism and psychoses symptoms, Crespi and Badcock (2008) hypothesize that that the development of autism and psychosis condition is explained by variations of genomic imprinting. The severity of symptoms is more acute when the individual has disorder that is more typical of opposite gender, for instance, when males have psychotic disorder and females have autistic spectrum disorder. Even though Crespi and Badcock (2008) assume the two cognitive styles to be bipolar extremes, however, the authors have used the correspondence between genetic imprinting and individual's gender to explain variations in symptoms of these disorders.

While these cognitive styles have considerable overlap with environmental disposition, however, clinical psychology has assumed that an individual can only be interested in either social or physical environment. In other words, empathizing- systemizing are two extremities of the scale (Baron-Cohen & Hammer, 1997, p. 210). This assumption would be supported by the evidence that empathizing and systemizing are negatively associated. However, the empirical evidence shows that while strong negative correlation is true for people with autism and Asperger Syndrome, the bipolar relationship is not true for the normal population. In the normal population, research has found a weak correlation of $r = -.09$ between empathizing and systemizing (Wheelwright et al., 2006). Since our focus is on the normal population, this weak correlational evidence points to the likelihood of orthogonality of PO and TO.

In sum, clinical psychology underscores the significance of the separation of the two components of environment: persons (social) and things (physical) that are related to cognitive styles of empathizing and systemizing respectively.

Neuropsychology and association with distinct brain regions

Emerging research in neuropsychology has shown that paying attention to, comprehension of and emotional responses to persons and things elicit dissociable neurological responses (De Brigard, Spreng, Mitchell, & Schacter, 2015; Mitchell, Heatherton, & Macrae, 2002; Mitchell et al., 2005).

Mitchell et al. (2002) used event-related functional magnetic resonance imaging (fMRI) to investigate whether semantic decision making regarding people and things are processed similarly. The results showed that these judgments were related to distinct neural correlates (Appendix D). Participants were asked to make judgements for noun-adjective pairs and decide whether the adjective is valid for that specific noun while fMRI imaging was being conducted simultaneously. Stimuli used for judgment regarding persons included nouns that were names of people (e.g., David) and adjectives that could describe persons and not things

(e.g., assertive, energetic). Stimuli used for judgments regarding things included nouns from categories of clothing and fruit (e.g., shirt, mango) and corresponding adjectives that could describe only things and not people (e.g., patched, seedless). Each trial consisted of target noun, target adjective, and noun-adjective pair during which neural response was recorded. For judgments regarding people, there was greater activation of medial frontal cortex, right intra-parietal sulcus, left superior temporal, and right fusiform gyrus. In contrast, for judgments regarding things, there was a greater activation in left inferior prefrontal cortex, posterior parietal cortex, and left inferotemporal.

Research by Mitchell et al. (2005) studied whether distinctive neural activation occurs when people and things are paid attention to in the environment. Participants were given photograph-statement pair and were asked to either form an impression by generating an opinion about the object or memorize by remembering what photographs were paired with specific statements. Photographs for persons were male faces and photographs for things were cars and computers. Statements that were paired with these photographs were either person-descriptive or thing-descriptive. When asked to form an impression or memorize, participants simultaneously underwent fMRI scanning. Neuroanatomically, there was greater neural activation in the region of dorsal mPFC when the task was to perceive and memorize about other people. Dorsal mPFC region has been found to be essential for social cognition. This neuroscience research revealed that different brain regions were activated while forming impression and processing information about people (versus things). Furthermore, distinct neural correlates are associated for reasoning about people and things (Fletcher et al., 1995). Positron emission tomography results showed that reasoning about how other people think was neurologically dissociable from reasoning about how things operate.

The dissociation of persons and things has also been found in more recent research regarding counterfactual thinking (De Brigard et al., 2015). Participants were asked to

imagine alternate ways in which people or things might have been in past but were not and how these objects could have been better. Comparison of counterfactual thinking of things versus persons revealed a specific pattern of neural activation associated with counterfactual thinking about things: it was only this task that produced activation in middle occipital gyrus and middle temporal gyrus. In contrast, counterfactual thinking about people compared to things engaged brain's default network that consists of ventral medial prefrontal cortex, posterior cingulate cortex, inferior parietal lobule, lateral temporal cortex, dorsal medial prefrontal cortex, and the hippocampal formation (Appendix E).

The segregation of persons and things is recognized in research on affective responses to persons and things. There is localization of brain regions during emotional reactions to different elements in environment. Norris, Chen, Zhu, Small, and Cacioppo (2004) found that brain regions engaged by stimuli with emotional significance is also be sensitive to content of stimuli. The activation of fusiform gyrus was only related to social content, providing evidence for the importance of composition of stimuli.

In sum, the neurological research points out that there is distinct pattern of neural activation while processing information regarding two primary types of environmental objects: persons and things.

Miscategorization of persons and things

Social psychology research provides further support for classification of environmental objects: persons and things. The miscategorization of people as things is referred to as objectification and/or dehumanization. Neuroanatomical research has found that processing information related to some people belonging to extreme out-groups doesn't elicit activation of mPFC region that is essential for understanding minds of other people (Harris & Fiske, 2006). Fiske (2013) asserted that thing-oriented individuals may be more likely to dehumanize than person-oriented individuals. In contrast, miscategorization of things as

people is called anthropomorphization. However, neuroscience research reveals mixed findings regarding whether different parts of brain are activated when individuals process objects vs. people. Harris and Fiske (2008) find that mPFC region of the brain doesn't get activated while people anthropomorphize. This supports the notion that even when people anthropomorphize, things in one's environment are still not processed like persons. Nevertheless, some research shows that same neural activity in mirror neuron system is observed with thinking about both, human actions and anthromorphic robotic actions (Gazzola, Rizzolatti, Wicker, & Keysers, 2007).

Recent Studies

Little (1972a) constructed a 24-item questionnaire with items that inquired people to rate how much they are attracted to participate in a variety of activities. PO was measured by 12 items and TO was measured by the other 12 items. Recent studies in social psychology have updated a thirteen-item scale of this measure (Graziano, Habashi, & Woodcock, 2011), with eight assessing PO and remaining five assessing TO.

Gender associations of TO and PO with males and females respectively were also found using T-P scale by Little (1972a). In a comprehensive meta-analysis on gender differences in T-P scale person orientation and thing orientation, Woodcock, Graziano, Branch, Ngambeki and Evangelou (2012) found support for gender differences and identified it to be greater for TO (d=.99) and lesser for PO (d=.49). This gender difference has been found to be consistent across three cultures: USA, Turkey, and Greece, and for school and college student samples (Ngambeki et al., 2012).

The short form PTO scale has also been used to predict occupational choices. For instance, Ngambeki et al. (2012) measured self-reported PO and TO using adapted scales on 3rd and 6th grade students and teacher-reported PO and TO and their interest in STEM and non-STEM careers. These findings point out that PO and TO (self-reported and teacher's

ratings) are related to interest in STEM and non-STEM careers. Similar results were found in a university sample of engineering and psychology first-year students.

McIntyre and Graziano (2017) examined how one's orientation is associated with the most important objects in one's environment. They found strong support for the premise that thing oriented people consider things in their environment as salient and important. Participants were asked to take photographs of anything, anyone or any place that they thought were most important in their lives. The autophotography data showed that thing orientation had significant positive correlation with number of these important pictures that had things as their content. However, PO did not significantly correlate with person-related content in the photographs. In the second study, they examined preferences for books related to persons (e.g., relationships) or things (e.g., robotics). As expected, TO was positively related to preference for things-focused books while PO was positively related to preference for books related to persons.

Implications for marketing

Past research has extrapolated personality traits that are descriptive of human beings to brands and products (Aaker, 1997). This prevalent notion suggests the inclination to view brands as people. However, some research in consumer behavior has challenged this assumption, pointing to mixed evidence in this emerging research domain regarding whether processing of brands and persons may be alike (Yoon, Gutchess, Feinberg, & Polk, 2006; Langner, Schmidt, & Fischer, 2015).

Yoon et al. (2006) compared brain activity for semantic judgements about brands and people. The functional neuroimaging study found support for the premise that there are unique brain activity associated with brands and people. All the participants were presented two types of target cues: persons and brands. Participants responded to adjective-target cue pair by pressing on one response button if the adjective describes the target cue and another

response button if the adjective did not. The 450 adjectives used either described brands (i.e., brand personality traits used by Aaker (1997)) or described people. The person target included self (e.g., full name of participant) or well-known persons (e.g., Bill Clinton); brand target included brands that were high or low in self-relevance. Each judgment trial included adjective- target cue pair such as "cheerful-Sprite" for brand targets or "sophisticated-Bill Clinton" for person targets. Participants were asked to make judgment using the probe- "does the adjective describe target cue?". Participants' neural activity was measured using fMRI while they made these semantic judgments about people and brands. Consistent with past findings, the results showed an activation of mPFC for person judgements, suggesting that this region indexes social cognition. In contrast, a distinct pattern of neural activity was associated with brand judgments and included brain region identified in past research for judgments about things: left inferior prefrontal cortex (Appendix F).

Consumer neuroscience also examined whether a unique pattern of brain activity is observed for judgments regarding anthropomorphized products compared to people (Kühn, Brick, Müller, & Gallinat, 2014). Consistent with findings in social psychology, brain activity in mPFC, known to be associated with social cognition, did not get engaged during semantic judgments regarding anthropomorphized cars. However, fusiform face area, associated with thinking about human face features, was activated while making judgements about anthropomorphized cars.

Person Thing orientation versus other individual difference constructs

I will not conceptually compare and contrast person-thing orientation with existing individual difference variables present in the literature. I will discuss them in alphabetic order.

Desire for control. Exemplified by scale items like "I prefer a job where I have a lot of control over what I do and when I do it.", desirability for control measures the extent to which we are motivated to exercise control over the situation and produce desired results (Burger & Cooper, 1979). Person and thing orientation will be related to a desire for control because controlling the specific elements of the environment may be an incentive for their interactions with the environment. However, the two variables are not identical; those who are interested in environment may not necessarily want to control it.

Implicit theory. Captured by items such as "Everyone, no matter who they are, can significantly change their basic characteristics.", implicit theory suggests that people hold two divergent views of the world. These views, labelled as entity and incremental theories, are related to distinct beliefs about the malleability of traits and attributes of oneself and the environment. In particular, incremental theorists view features and characteristics of a person to be mutable and adaptive.

In contrast, entity theorists tend view a person as fixed and uncontrollable. The incremental theory seems to be related to person-thing orientation because both imply interaction with the social environment that is malleable. However, person orientation differs from incremental theory since person orientation is a preference of interaction with other people, but it can be independently be associated with both forms of implicit theories and assume other people as mutable or immutable.

Individual Differences in Anthropomorphism. Captured by items such as "To what extent does a car have a free will?" and "To what extent do cows have intentions?", individual differences in anthropomorphism (IDA) indicates the extent to which people attribute characteristics and mental capacities of human beings to inanimate objects and non-human beings (Waytz, Cacioppo, & Epley, 2010). Although IDA and TO scales are related to things, IDA scale may be inversely related to thing orientation because those who are high on IDA

are likely to interact with things by ascribing them with human characteristics. However, TO interact with things by trying to understand rules that govern the object.

Materialism. Materialism measures desire for acquisition and ownership of things and defining success in terms of things one's possesses (Richins & Dawson, 1992). Thing orientation may be potentially related to materialism because there is the centrality of things in both the constructs, but these two constructs are not identical. For example, materialism views things as a means to an end and ownership determine happiness whereas thing orientation views things as an end in itself; materialism focuses on the acquisition of things whereas thing orientation focuses on interaction with things.

Need for cognition. Need for cognition refers to one's disposition towards thinking (Cacioppo and Petty 1982; Epstein et al. 1996). Person thing orientation is associated to this construct since the engagement with the environment involves cognition; however, orientation is not elaborate cognitive thought but paying attention to and engaging with the specific elements of the environment.

Regulatory focus. Promotion regulatory focus is measured by items such as "Do you often do well at different things that you try?" whereas prevention regulatory focus is assessed by items such as " How often did you obey rules and regulations that were established by your parents?". Regulatory focus theory suggests that people hold two types of desired end-states that serve as self-guide. Ideal self-guide is based on individuals' representation of the self (or other's) hopes and aspirations. This is associated with promotion focused inclination focused on advancement and growth.

In contrast, ought self-guides are based on individuals' representation of someone's belief in their duties and responsibilities. This is related to prevention focused inclination involving security and safety (Higgins et al., 2001). Prevention focused will be negatively associated with thing orientation since the social environment of the person provides motivational

guidance in prevention focused, whereas thing orientation is specifically associated with interactions with the physical environment. Promotion focused is likely to be positively related to person orientation as both person orientation and promotion focused involve approaching and moving towards the social environment. However, person orientation may not necessarily involve shaping behavior in accordance with other people's hopes and aspirations.

Self-construal. Interdependent construal is exemplified by items such as "Even when I strongly disagree with group members, I avoid an argument." and Independent construal is assessed by items such as "I enjoy being unique and different from others in many respects." The independent self is associated with the self being separate from social context, and being bounded, unitary and stable (Markus and Kitayama, 1991). People with an independent self-express their distinctive, internal attributes, and their behaviors are a consequence of referring to their own cognitions and emotions. People with an interdependent self engage in behaviors that are dependent on the cognitions and emotions of other people around them. Person orientation will be associated with interdependent self-construal since both constructs involve paying attention to the social environment. At individual level, research has shown that independent and interdependent self-construal are orthogonal and may be positively correlated. Person orientation may be related to both independent and interdependent self-construal since person-oriented individual may be malleable in their interactions with the social environment and not necessarily use view themselves to be a part of a social group.

Self-monitoring. Captured by items such as "When I am uncertain how to act in a social situation, I look to the behavior of others for cues", high self-monitoring individuals use situational cues for social appropriateness. Self-monitoring is the extent to which an individual pays attention to the expression of others and subsequently controls one's presentation and expressive behavior (Snyder, 1974). Person orientation will be related to

self-monitoring because both constructs are related to the social environment. However, while person orientation is related to a person's attention towards the social environment whereas self-monitoring also involves regulating and controlling one's behavior based on the social environment.

In sum, while person thing orientation shares some similarities with extant variables in marketing research, however, it is a distinct conative individual difference variable. In the next section, I will discuss how individual differences in person thing orientation will lead to differential prosocial behavior tendencies.

Prosocial behavior

Prosocial behavior, in the form of charity donations, buying products that benefit a cause, or volunteering, is beneficial to almost all consumers and marketers (Agrawal, Menon, & Aaker, 2007). Prosocial behavior involves attempts to benefits others and is an integral part of cooperative social interactions.

Past research points out that a variety of personal and contextual factors influence prosocial behavior (Table 1). The individual difference variables like variations in temperament, motivations, emotional states, and cultural differences impact prosocial behavior (e.g., Schumann, Zaki & Dweck, 2014, Piff, Dietze, Feinberg, Stancato & Keltner, 2015, Duclos & Barasch, 2014). The situational and contextual variables like group membership of victim and identifiability of victim also influence helping behavior (e.g. Stürmer, Snyder & Omoto, 2005). I build on research in prosocial behaviour and examine how conative differences among individuals impact prosocial behavioral tendencies.

The inclinations towards efforts to improve others' welfare are aligned with the core predilection of the person-oriented individual. Although this extension of PTO is appealing, there may be situations in which this effect might not be observed. For instance, thing

orientation will be associated with the volunteering activities that provide opportunities to work on specific tasks.

In the literature on altruism, a consistent finding is that as the number of victims who are in need increases, paradoxically the amount of emotional experience felt for the victims remains constant or even decreases. While feeling emotions for 'one' victim involves attention to only the person, feeling emotions for 'many' victims also involves sensitivity to numbers and scope of tragedy (Dunn & Ashton-James, 2008). Relative to person-oriented consumers, thing-oriented people prefer more rule-based, structured and numerical information (Baron-Cohen, 2002; Little, 1976). Since 'many' victims require sensitivity to both, perspective taking and assessment of the scope, it is expected that the interaction of TO and PO will predict compassion towards many victims. In contrast, only PO will predict compassion towards a single victim. Stated formally,

H1a: Person orientation will predict compassion for single victim condition.

H1b: Thing orientation will moderate the effect of person orientation on compassion for multiple victim condition.

Charitable organizations solicit contributions in the form of time or money. People differ whether they would like to donate money or volunteer time. Time and money are two important resources but they differ in the level of ambiguity in their valuations. Research shows that the value of money is less ambiguous compared to value of time (Okada & Hoch, 2004). Money, one of the most valuable resources, allows quantification of consumption (Liu & Aaker, 2008; Vohs, Mead, & Goode, 2006). In contrast, the value of time is more flexible and adaptable in its interpretation. Applying PTO framework on donation preferences, it is expected that since people who are thing oriented are receptive to quantities and definite resources, they will prefer to donate money than volunteer time.

H2a: High thing orientation will lead to greater preference for donation in the form of money compared to low thing orientation.

H2b: Thing specialist will have a higher preference for donation in the form of money compared to person specialist.

H2c: The impact of thing orientation on preference for donating money will be mediated by cognitions regarding the definitiveness of usage of money.

H2d: The impact of person orientation on preference for donating time will be mediated by cognitions regarding other people.

Past research in altruistic behavior literature has shown that consumers prefer to donate toward in-groups (compared to out-group) (Winterich, Mittal, & Ross, 2009). I expect that individual's orientations to one's environment can produce a systematic shift in donation allocation towards in-group vs. out-group. Past research has identified that person orientation is associated with intimacy, whereas thing orientation is not associated with intimacy (Little & Kane, 1974). Based on this nascent literature, I suggest that being more attuned to close others, person orientation will have greater in-group bias compared to thing orientation.

H3a: Person orientation will lead to greater ingroup bias in the allocation of money compared to thing orientation.

H3b: The impact of person orientation on ingroup bias will be mediated by a proportion of person-related thoughts.

STUDY 1: DISCRIMINANT AND NOMOLOGICAL VALIDITY

Study 1 a

As I discussed, person and thing orientation scale are different from other individual differences constructs present in marketing literature. I empirically examined this by administrating short PTO scale (Cronbach's alpha- PO=.61, TO= .82, see Appendix G) as well as other scales including Individual Differences in Anthropomorphism (Waytz et al.,

2010) and Materialism (Richins & Dawson,1992). Fifty graduate students (30% females, mean age= 20.57, sd= .69) from college in Bangalore, India participated for course credit. Table 2 summarizes the results of these analyses. Although none of the correlations were significant, these correlations were in the predicted direction. These analyses suggested that the correlations were in the low range (.02 to .25), implying the PTO scale is assessing a distinct construct (Cohen 1988). The highest absolute correlation was between TO and Individual differences in Anthropomorphism. TO scores shared a negative correlation with Individual Differences in Anthropomorphism scores, suggesting that thing oriented are less likely to anthropomorphize. The next study studies a more comprehensive set of variables studied in marketing literature that are relevant to person thing orientation.

Study 1 b

One hundred and forty-three college students with ages ranging from 18 to 44 (38% females, mean age=21.69, sd= 3.27) from Baruch College in the USA participated for course credit. The participants completed full person-thing orientation scale of 24 items, implicit theory scale (Levy, Stroessner, and Dweck, 1998), regulatory focus scale (Higgins et al 2001), need for cognition scale (Cacioppo, Petty & Kao, 1984), desire for control scale (Burger & Cooper, 1979), self-monitoring scale (Snyder, 1974) and self-construal scale (Singelis, 1994) (see Table 3). Table 4 summarizes the results of these analyses. As the table shows, the majority of the correlation coefficients are lesser than |0.2|. I will discuss the correlations that are greater than |0.2|.

- The PO subscale had a positive correlation with interdependent self-construal scores, indicating that person orientated individuals engage in behaviors contingent on others in their social environment. The PO subscale also had a positive correlation with independent self-construal scores, indicating that person orientated individuals express themselves based on their internal thoughts and feelings. Past research shows

that interdependent self and independent self are viewed as situation specific, and therefore, may vary across situations (Markus & Kitayama, 1991). More importantly, person oriented individuals may not always view themselves to be a part of a social group.

- The PO subscale had a positive correlation with desire for control scores, implying that person orientated are motivated to exercise control over the situation.

- The PO subscale had a positive correlation with the need for cognition scores, indicating that person orientated are more likely to engage in and enjoy elaborative thinking.

- The PO subscale had a positive correlation with promotion focused scores, indicating that person orientated are more likely to use other's hopes and aspirations as self-guides.

- The TO subscale had a positive correlation with independent and interdependent self-construal scores, implying that thing orientated engage in behaviors contingent on others in their social environment as well as based on their internal thoughts and feelings.

- The TO subscale had a negative correlation with prevention focused scores, suggesting that thing orientated are less likely to use duties, obligations, and responsibilities as self-guides.

These analyses suggested that the PTO scale shares correlation with some of the variables. Hence, it is not an isolated concept. However, except the correlation between PO and interdependent construal, none of the correlation is more than $|.30|$, suggesting PTO measures a distinct underlying construct. In the following set of studies, I will examine the role of person thing orientation to explain differences in prosocial behavior. The next study examines how PTO is differentially related to specific types of altruistic volunteering.

Participants and Method

Data were collected using "MyPersonality" application on Facebook. This application

permits its users to take several psychological tests (e.g., a measure of Empathy Quotient).

When Facebook users start to operate the "MyPersonality" application, they are requested for

their approval to use their answers in the surveys for research purposes. The sample

comprises of 1061 respondents (37% female). The mean age was 23.87 years (SD= 7.51

years). Apart from PTO, Altruistic Volunteering Scale (AVS) was used. AVS is a 20 item

scale adapted from the Volunteering Personality scale (Little & Phillips, 2003).

Results

To assess the relationship of PTO with altruistic volunteering, I ran five separate regressions

on the five subscales of altruistic volunteering: Versatility Potential (alpha= .80), Intrinsic

Value (alpha= .81), Social Engagement (alpha=.84), Task Force (alpha=.84) and Agentic Self

Development (alpha=.88). The results are summarized in Table 5. The regression analysis

yielded a significant effect of Person orientation on subscales of AVS except Agentic Self-

development. In contrast, TO significantly predicted Task Force and Agentic Self-

development subscales of AVS.

These results demonstrate that person orientation differentially predicts five sub-

components of altruistic volunteering. In the next study, I study the role of PTO in predicting

compassion in the specific context of single and multiple victims. PO is expected to predict

compassion for single victim whereas TO will moderate the impact of PO on compassion for

multiple victims (Hypotheses 1a- 1b)

STUDY 3: ONE VS. MANY VICTIMS

Study 3 a
Pretest

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One hundred and fifty-one students (25% females, mean age=27.38, sd= 2.9) participated in the pretest to rate a set of 31 behaviors on dimension of morality and cultural acceptability on a seven-point scale. Putting parents in an old age home for convenience was considered most morally and culturally unacceptable. This morally and culturally unacceptable behavior was chosen for Studies 3a and 3b.

Participants and Method

Forty-six college students (35% females, mean age=19.59, sd= .81) from MSRIT college in India participated for course credit. The study was conducted in two parts. In the first part, participants were informed that they are taking part in perceptions study and that experimenters were "conducting research on people's perceptions". The participants received a description of either one or multiple victims (which were randomly distributed) and had rated their compassion towards the victims. Participants in the one victim condition read about an old lady who worked as a teacher but she became destitute when her husband died and other family members refused to support her (Sudhir, Roy and Cherian 2016). Participants also read that Senior Welfare Society has helped her meet her basic needs, and by donating 1800 rupees a year helps the old lady and other people like her to live a life of dignity. In the multiple victims condition, they were told that there are a hundred old ladies who share a common story. Respondents then completed nine-item scale measuring compassion-related feelings towards the victim or victims (Cameron and Payne 2011). They then completed 5-min filler task. In the second part, presented as "Orientations Study", participants were asked to complete PTO Scale.

Results

Did compassion reduce with an increase in the number of victims?

The nine items measuring compassion were averaged together (Cronbach's α= .83). An independent t-test was conducted to examine the effect of the number of victims on

compassion. The amount of compassion was numerically greater in many victims condition (M= 5.89, SD= .60) compared to one victim condition (M=5.54, SD=.82), t (44)=1.64, p=.108), replicating earlier research on the collapse of compassion.

Does TO predict compassion in many victims condition?

To examine the role of two orientations on many victims condition, a stepwise regression analysis was conducted on compassion. The two main effects were added first and the interaction effect was added later. Findings suggest that for multiple victims' condition, there was main effect of both person orientation (t= 2.55, p<.05, β = .352) and thing orientation (t= 2.57, p<.05, β = .378) (Table 6).

The results indicate that thing orientation has a differential role to play in multiple victim condition. However, one concern in the design of experiment 4a involves the manipulation of a number of victims. That is this may be confounded by the effectiveness of one's donation. I do a pretest to check for this explanation. I also have an additional condition of 1000 victims that may more specifically demonstrate the impact of thing orientation in multiple victim condition.

Study 3 b
Participants and Method.

One hundred and thirty-seven college students (46% females, mean age=21.7 years, SD= 1.33) from Hyderabad college in India participated for course credit. A pretest was done to on 62 students (52% females, mean age 21, SD= 1) done to check whether there is variation in the effectiveness of donated money when the money is given for one victim, ten victims or thousand victims. The participants answered the question- you would be effective (/ make a difference) in helping the women on a seven-point scale (1=not at all, 7= extremely). The results found that there was no significant difference between three levels of number of victims (effective: M_1= 5.37, M_{10} = 4.85, M_{1000}= 5.82, make a difference:M_1= 5.11, M_{10} =

4.50, M_{1000}= 5.18, ps >.06). The procedure remained the same as Study 4a except for one difference- there were three conditions- one victim, ten victims, and a thousand victims.

Results

Did compassion reduce with an increase in the number of victims?

An independent t-test was conducted to examine the effect of the number of victims on compassion. The amount of compassion was not significantly different in three conditions (M_1= 5.74, M_{10} = 5.73, M_{1000}= 5.78, p= .95), replicating earlier research on collapse of compassion.

Does TO influence compassion in many victims condition?

To examine the role of two orientations on three conditions, three separate regression analysis was conducted on compassion (Table 7). The results show that for single victim condition predicted that person orientation had significant effect (β = 1.66, t= 2.52, p<.05) but thing orientation and interaction of PO and TO did not significantly influence compassion (TO: β = 1.06, t= 1.75; interaction:β = -.28, t= -1.6). For 10 victims' condition, person orientation and thing orientation as well as their interaction did not significantly influence compassion (PO: β = .80, t= 1.03, TO: β = -.01, t= -.01, interaction: β = -.04, t= -.21). However, for 1000 victim condition, both PO and TO have a significant negative effect (PO: β = -2.54, t= -2.30, p< .05; TO: β = -2.63, t= -2.80, p<.01) but their interaction positively influenced compassion towards the women (β = .72, t= 2.58, p<.05).

Studies 3a and 3b offer evidence that PO and TO differentially predict the compassion in single and multiple victim condition, and that PO predicts compassion towards single victim whereas the interaction of person orientation and thing orientation predicts the compassion towards multiple victim condition of 1000 victims.

Study 4 examined the differential role of PO and TO on preference in the form of helping behavior. I expect that high thing orientation will lead to greater donation in the form of money (versus time) compared to low thing orientation (Hypothesis 2a).

STUDY 4: DONATING TIME VS. MONEY

Study 4a

Participants and Method

Fifty-six college students with ages ranging from 18 to 23 (46% females, mean age=19.61, sd= .86) from MSRIT College in India participated for course credit. The study was conducted in two parts. In the first part, participants were informed that they are taking part in social behaviors study and that experimenters were "conducting research on how people perceive different situations". The participants received a description of the situation that they had surplus time and money. The participants then imagined that one day during the semester, they were asked to give to India Welfare Fund that promotes public awareness, policy-making and medical research towards preventing tuberculosis and malaria (Reed, Kay, Finnel, Aquino and Levy 2016). The participants then indicated what they would be interested in (1=Volunteer time; 10=Donate money). The participants were randomly assigned one of the scale orders (1=Volunteer time; 10=Donate money; or 1=Donate money; 10=Volunteer time). The attitudinal scale was used to see their preference for giving time or money. The explicit question requiring the value equivalence of money and time was not used since this would lead to decreasing the value of time by equating it to money. Then, participants filled up questions regarding the scarcity of time and money in the present situation. They then completed a 5-min filler task. In the second part, presented as "Orientations Study", participants were asked to complete PTO Scale.

Results

The participants did not vary on the scarcity of time and money, ("In this situation, how scarce is money to you?" and "In this situation, how scarce is time to you?" where 1= not at all to 7 = Very much) (M_{money}= 3.62, M_{time}= 4.07; t (55)= 1.81, ns).

Did the scale order have different results?

The order of scale with a higher valuation of time (High-time) and money (High-money) did not give more preference money versus time (M $_{High-time}$=4.97, M $_{High-money}$= 4.44; t (47)= .662).

Does High TO (compared to Low TO) have a greater preference for giving money?

To examine the role of TO in preference for money, a median split was done of TO. As predicted, High TO participants preferred to donate more money than time (M $_{Low\ TO}$= 4.02, M $_{High\ TO}$= 5.48, t (47)= 1.84, p= .07). This preference for donating money versus volunteering time was not found in Low and High PO (M $_{Low\ PO}$= 4.46, M $_{High\ PO}$= 4.96, t (47)= .61, ns) (Table 8).

This study provided support for the role of thing orientation in predicting preference for donating money over volunteering time: high TO participants were more likely to donate money over time. In the next study, I collected data on a larger sample that helped us to do spotlight analysis and also check the preferences of four specialists' groups on their preferred form of helping behavior. My expectation is that thing specialist will lead to greater preference to donate in the form of money compared to person specialist (Hypothesis 2b).

Study 4b
Participants and Method

One hundred and thirty-five graduate students with ages ranging from 20 to 27 (46% females, mean age=21.7, SD= 1.33) from Hyderabad college in India participated for course credit. The study was similar to Study 4a.

Results

The participants varied on the scarcity of time and money, ("In this situation, how scarce is money to you?" and "In this situation, how scarce is time to you?" where 1= not at all to 7 = Very much) (M_{money}= 3.92, M_{time}= 4.3; t (135)= 2.38, p<.05). This is consistent the finding of the previous research regarding people's aversion of giving time (Reed et al., 2016).

Did the scale order have different results?

The order of scale with a higher valuation of time (High-time) and money (High-money) gave more preference money versus time (M $_{High-time}$=4.19, M $_{High-money}$= 5.46 t (133)= 2.7, p< .01).

Does High TO (compared to Low TO) have a greater preference for giving money?

To examine the role of TO in preference for money, a median split was done for TO. As predicted, preference for volunteering time versus donating money was found in High PO (M $_{Low PO}$= 5.3, M $_{High PO}$= 4.3, t (133)= 2.17, p<.05) (Table 9a). High TO participants had a numerically higher preference for donating money rather than time (M $_{Low TO}$= 4.71, M $_{High TO}$= 5.15, t (133)= .922, ns). To further examine the role of TO in preference for money, a spotlight analysis was done (mean+/-1 SD). As expected, high TO (-1 SD) participants significantly preferred to donate more money than volunteer time compared to low TO (+1 SD) participants (M $_{-1 SD TO}$=5.08, M $_{+1 SD TO}$= 6.92, t (48)= 2.24, p<.05) (Table 9b).

Do different specialist groups their preference for giving money versus time?

The four specialist groups created by median split varied on their preferences in the form of helping behavior: Person specialists were most likely to volunteer time and Thing specialists were most likely to donate money (person specialist: M= 3.8, thing specialist: M= 5.56). The generalists and non-specialists were in the indifferent towards donating money or volunteering time (generalists: M= 4.75, non-specialists: M= 5.21) (Figure 1).

Studies 4a and 4b provide evidence that higher thing orientation is more related to preference for donating money over volunteering time compared to lower thing orientation.

These studies further indicate four specialist groups have predictive power over different forms of helping behaviors.

Study 4 c examines the underlying process for the impact of thing orientation and person orientation on their form of helping behavior. It is expected that thoughts regarding the definiteness of usage will mediate the impact of thing orientation on preference for donating in the form of money and thoughts about other people will mediate the impact of person orientation on preference for donating in the form of time (Hypothesis 2c- 2d). In addition, to explore the causal relationship between person thing orientation and their preferences, I will manipulate and prime these orientations rather than measure them. The manipulation will rely on the premise that person orientated and thing-oriented individuals focus on different aspects of their immediate environment (Little, 1976, Rahinel & Ahluwalia, 2015).

Study 4 c

Participants and Method

Eighty-one college students with ages ranging from 19 to 45 (51% females, mean age=23.09, sd= 4.74) from Baruch College in the USA participated for course credit. The study was conducted in two parts.

Person-thing orientation manipulation. In the first part, participants were informed that they are taking part in an experience study. They were asked to read a scenario and imagine themselves to be the main character in the story. The participants received a description of the situation that they are taking a walk in the park (Rahinel & Ahluwalia, 2015). In the scenario, the main character either noticed and attended to physical aspects of the environment (thing orientation) or social aspects of the environment (person orientation).

Manipulation check. Then, they were asked to what extent things (and people) were present in the scenario on a seven-point scale. The participants also completed the state TPO scale

(rather than trait TPO scale) by pointing out the extent of enjoyment they will get from the activities described in the scale "right now."

Dependent variable. In the second part, the participants then indicated to what extent they would be interested in donating money over time (1=Volunteer time; 10=Donate money). The participants were randomly assigned one of the scale orders (1=Volunteer time; 10=Donate money; or 1=Donate money; 10=Volunteer time). The attitudinal scale was used to see their preference for giving time or money. Then, participants filled up questions regarding the scarcity of time and money in the present situation.

Results

Manipulation checks. The participants in thing orientation condition had imagined more things than people (M_{Things_TOcon}= 4.93, SD= 1.6, M_{People_TOcon} =3.4, SD=1.9, t (39)= 4.01, p< .001) (see Table 10). However, in this condition, thing orientation was lesser than person orientation (M_{TO_TOcon} =2.89, SD= .9, M_{PO_TOcon} =3.2, SD=.68, t (39)= 1.86, p=.07). The participants in person orientation condition did not imagined more people than things (M_{Things_POcon} = 5.07, SD= 1.43, M_{People_POcon} =5.27, SD=1.5, t (39)= 4.01, p= .50) and their thing orientation was lesser than person orientation (M_{TO_POcon} =3.07, SD= .9, M_{PO_POcon} =3.38, SD=.63, t (39)= 1.86, p<.05). In other words, the manipulation checks for the two conditions did not work.

In addition, participants did not vary on the scarcity of time and money, ("In this situation, how scarce is money to you?" and "In this situation, how scarce is time to you?" where 1= not at all to 7 = Very much) (M_{money_POcon} = 3.51, M_{time_TOcon} = 3.71; t (40)= .59, ns, M_{money_POcon} = 3.45, M_{time_POcon} = 3.51; t (79)= .87, ns).

Did the scale order have different results?

The order of scale with a higher valuation of time (High-time) and money (High-money) did not vary in their preference money versus time (M High-time=4.35, M High-money= 4.41; t (79)= .09, p=.926).

Does TO condition (compared to PO condition) have a greater preference for giving money? To examine the role of TO in preference for money, an independent t-test was done on two conditions. However, preference for donating money did not vary as a consequence of the two conditions, (M POcon=4.54, M TOcon= 4.23; t (79)= .44, p=.65).

Does High TO (compared to Low TO) have a greater preference for giving money? Consistent with earlier studies, to examine the role of TO in preference for money, a median split was done of TO. As predicted, High TO participants preferred to donate more money than time (M Low TO= 3.53, M High TO= 5.14, t (79)= 2.40, p= .019). This difference in preference for donating money versus volunteering time was not found in Low and High PO (M Low PO= 5.22, M High PO= 3.84, t (79)= .05, ns) (see Table 11).

Process. The bootstrap mediation method illustrates the differences in definiteness of money drive the impact of thing orientation on preference for donation in the form of money rather than time and differences in thoughts about others mediate the impact of person orientation on preference for donation in the form of time. The thoughts were coded on the four attributes: thoughts focused on self, other people, learning experience, and definiteness in the use of money. After that, I conducted a mediation analysis using the Process code (Model 4; Hayes, 2013). The analysis revealed that thing orientation leads to a preference for money with significant mediating effect of thoughts regarding definiteness in use of money for TO individuals (effect= .32), with a 95% confidence interval not including zero (CI: .002 to .962) (Figure 2a). In addition, the analysis revealed that person orientation leads to a preference for donating time with a significant mediating effect of thoughts regarding other people (effect = -.50), with a 95% confidence interval not including zero (CI: -1.070 to -.087) (Figure 2b).

This study provided convergent support for the role of thing orientation in predicting preference for donating money over volunteering time: high TO participants were more likely to donate money over time compared to low TO participants. I also found support for the hypothesized process that the influence of thing orientation was mediated by definiteness in the use of money, whereas the impact of person orientation was mediated by thoughts about other individuals.

However, the manipulation of PO and TO did not work. In the next study, I collected data on a different manipulation that used recall method where the participants described an experience where they were interested in other people around or things around them.

Study 4 d

Participants and Method

Seventy-six college students with ages ranging from 18 to 35 (56% females, mean age=22.04, sd= 3.96) from Baruch College in the USA participated for course credit. The study was conducted in two parts.

Person-thing orientation manipulation. In the first part, participants were informed that they are taking part in experience study and that they have to recall a situation when they were interested in operation and functioning of things, or they were interested in behavior of other people.

Manipulation check. Then, they were asked to what extent in the scenario that they had imagined had things (and people) on a seven-point scale. The participants also completed the TPO scale by pointing out the extent of enjoyment they will get from the activities described in the scale "right now" .

Dependent variable. In the second part, the participants then indicated to what extent they would be interested in donating money over time (1=Volunteer time; 10=Donate money). The participants were randomly assigned one of the scale orders (1=Volunteer time;

10=Donate money; or 1=Donate money; 10=Volunteer time). The attitudinal scale was used to see their preference for giving time or money. Then, participants filled up questions regarding the scarcity of time and money in the present situation. They then completed a 5-min filler task.

Results

Manipulation checks. The participants in thing orientation condition had imagined more things than people (M_{T_TOcon}= 6.37, SD= 1.02, M_{P_TOcon} =3.45, SD=2.35, t (37)= 6.80, p< .001) (Table 12). The participants in person orientation condition imagined more people than things (M_{T_POcon} = 3.08, SD= 2.4, M_{P_POcon} =6.42, SD=1.2, t (37)=7.9, p< .001). However, the state (or situational orientation) didn't vary significantly in the two conditions. The state TO score was more in thing orientation condition compared to person orientation condition (M_{TO_TOcon} =2.71, SD=.9, M_{TO_POcon} =2.67, SD= 1.06, t (74)= .13, p=.89). The state PO score was more in person orientation condition compared to thing orientation condition (M_{PO_POcon} = 3.06, SD= .76, M_{PO_TOcon} =3.03, SD=.71, t (74)= .16, p=.87). In other words, the manipulation checks for the two conditions only worked for direct measures but it did not work for situational or state orientation scale.

The participants did not vary on the scarcity of time and money, ("In this situation, how scarce is money to you?" and "In this situation, how scarce is time to you?" where 1= not at all to 7 = Very much) (M_{money_TOcon} = 3.89, M_{time_TOcon} = 4.21; t (37)= .78, ns, M_{money_POcon} = 3.58, M_{time_POcon} = 3.79; t (37)= .72, ns).

Did the scale order have different results?

The order of scale with a higher valuation of time (High-time) and money (High-money) did not give more preference money versus time (M $_{High-time}$=4.44, M $_{High-money}$= 4.47; t (79)= .03, p=.97).

Does TO condition (compared to PO condition) have a greater preference for giving money?

To examine the role of TO in preference for money, independent t-test was done on two conditions. However, preference for donating money did not vary as a consequence of the two conditions, (M $_{POcon}$=4.31, M $_{TOcon}$= 4.60; t (74)=.34, p=.70).

In Studies 4a- 4d, person thing orientation leads to a differential preference for the form of helping behavior and the underlying thought processes related to the definiteness of usage and other people leads mediates the impact of orientations on helping behavior.

In this next study, I will examine the differences in in-group bias among person orientated, and thing orientated individuals. I expect that person orientation will have higher ingroup bias while allocating money compared to thing-oriented individuals (Hypothesis 3a).

STUDY 5: INGROUP VERSUS OUTGROUP DONATIONS

Study 5 a

Participants and Method

Seventy-six college students with ages ranging from 19 to 32 (55% females, mean age=21.17, sd= 2.81) from Baruch College in the USA participated for course credit. The study was conducted in two parts.

Person-thing orientation manipulation. In the first part, participants were informed that they are taking part in experience study and that they have to recall a situation when they were interested in operation and functioning of things, or they were interested in behavior of other people (see Table 13).

Manipulation check. Then, the participants were asked to what extent in the scenario that they had imagined had things (and people) on a seven-point scale. The participants also completed TPO scale by pointing out the extent of enjoyment they will get from the activities described in the scale "right now".

Dependent variable. In the second part, the participants then are asked to read about a fundraising appeal about the Red Cross. The appeal informs them about a domestic and an

international fund that are established by the Red Cross for rebuilding homes and lives after

disasters. After reading the appeal, the participants are asked to allocate 50 dollars between

domestic and international fund.

Results

Manipulation checks. The participants in thing orientation condition had imagined more

things than people (M_{Things_TOcon}= 6.24, SD= 1.26, M_{People_TOcon} =3.0, SD=2.13, t (36)= 7.69,

p< .001) (Table 13). However, in this condition, thing orientation was lesser than person

orientation (M_{TO_TOcon} =2.78, SD= .93, M_{PO_TOcon} =3.24, SD=.80, t (36)= 2.92, p<.01). The

participants in person orientation condition did not imagined more people than things

(M_{Things_POcon} =2.97, SD= 2.02, M_{People_POcon} =6.56, SD=1.19, t (38)= 10.61, p<.001) and their

thing orientation was lesser than person orientation (M_{TO_POcon} =3.29, SD= .82, M_{PO_POcon}

=2.79, SD=1.05, t (38)= 2.87, p<.01). In other words, the manipulation checks for the two

conditions did not work.

Does PO condition (compared to TO condition) have a greater preference for donating more

money to domestic fund?

To examine the role of TO in preference for donation for domestic versus international fund,

paired sample t-test was done on two conditions, however, allocating money to domestic

versus international fund did not vary as a consequence of the person orientation condition,

($M_{DomesPOcon}$=24.08, $M_{InterPOcon}$= 25.92; t (38)=.55, p=.58) as well as thing orientation

condition ($M_{DomesTOcon}$=25.11, $M_{InterTOcon}$= 24.89; t (36)=.05, p=.95).

These results might have since there is a presence of only 46% participants who are

Americans. In the next study, I will use a more relevant ingroup of their college.

More importantly, the manipulation task that required participants to pay attention to

things and objects (other people) in their environment or recalling their interesting interaction

with things (or people) did not lead to thing orientation (person orientation). It is likely that

person thing orientation is more than mere paying attention to the operation of other people or things. It also involves positively valanced affect that has enjoyable undertones that accompany the interactions with environmental elements. Thing specialist enjoys the interaction with particularly the physical environment whereas person specialist enjoys the interaction with specifically the social environment. Hence, I expect that manipulation of person thing orientation using recall of an enjoyable experience with a thing (another person) in the environment will lead to priming to be a thing specialist (person specialist).

Study 5 b

Participants and Method

One hundred and forty-three college students with ages ranging from 18 to 44 (38% females, mean age=21.69, sd= 3.27) from Baruch College in the USA participated for course credit. Twenty-one students were excluded because they failed to pass attention check questions during the study or finished the study in less than six minutes. The study was conducted in two parts.

Person-thing orientation manipulation. In the first part, participants were informed that the study is about understanding the enjoyment people get from know about things (other people) around them. They were asked to think about a recent time when they were interested and curious about understanding how a specific thing works or operates (person behaves). They were asked to reexperience the enjoyable experience as vividly as they can and describe what they were interested in (who you were interested in) and what they learnt about the working and operation of the thing or object (thoughts and feelings of the specific person). In addition, 58 participants were part of control group.

Manipulation check. The manipulations checks were similar to earlier studies. However, the original TPO scale was used. In addition, the participants rated the experience on three cognitive dimensions (simple-complex, easy to understand- hard to understand, unfamiliar-

familiar) and answered about how much attention and effort was required in the experience

Then, participants rated their affective response experienced during the recalled experience

for twenty eight emotions (active, admiration, afraid, ashamed, attentive, awe, challenge,

compassion, confusion, determined, disgust, distressed, empathy, enthusiastic, excited,

frustrated, guilty, hostile, inspired, interested irritable, pride, scared, strong, upset, surprise,

and boring).

Dependent variable. The second part was the study was similar to Study 6 a expect the

participants were asked to allocate fifty dollars between CUNY and Global Students Relief

Fund.

Results

Manipulation checks. The direct manipulation checks for the two conditions were as expected

(Table 16). The participants in thing orientation condition imagined more things than people

(MThings_$_{TOcon}$ = 5.38, SD= 1.99, MPeople_$_{TOcon}$ =3.59, SD=2.35, t (36)= 3.11, p< .01).

However, in this condition, thing orientation was lesser than person orientation (MTO_$_{TOcon}$

=3.31, SD= .57, MPO_$_{TOcon}$ =3.30, SD=.73, t (36)= 2.86, p<.01). In contrast, the participants

in person orientation condition imagined more people than things (MThings_$_{POcon}$ =3.19,

SD= .74, MPeople_$_{POcon}$ =6.5, SD=1.14, t (38)= 10.61, p<.001) and their thing orientation

was lesser than person orientation (MTO_$_{POcon}$ =3.28, SD= .65, MPO_$_{POcon}$ =3.19, SD=.73, t

(38)= 2.87, p<.01). The short scale PO and TO yielded similar results.

The understanding of people as well as things were rated to be equally enjoyable

(M$_{POcon}$ =5.5, SD= 1.5, M$_{TOcon}$ =5.81, SD=1.47, t (67)= .87) and pleasant orientation (M$_{POcon}$

=5.22 SD= 1.64, M$_{TOcon}$ =5.57, SD=1.59, t (67)= .90).

Cognitive responses. The participants in thing orientation condition considered things to be

requiring same effort (M$_{POcon}$ =4.47 , SD= 1.7 , M$_{TOcon}$ = 4.76, SD=1.86), equally familiar

(M$_{POcon}$ =4.97 , SD= 1.73 , M$_{TOcon}$ =4.57, SD=1.98), and equally hard to understand (M$_{POcon}$

= 2.84 , SD= 1.78 , M_{TOcon} =3.95, SD=1.79) (Table 17). However, recalled event by participants in thing orientation condition required them to pay greater attention (M_{POcon} = 5.06, SD= 1.45 , M_{TOcon} =5.78, SD=1.51, t (67)= 2.12, p<.05) and was considered more complex compared to recalled event in person orientation condition (M_{POcon} = 3.19 , SD= 1.75 , M_{TOcon} =4.92, SD=1.98, t (67)= 3.82, p<.001). This experience was equally easy to recall (M_{POcon} = 5.69 , SD= 1.45 , M_{TOcon} =5.81, SD=1.43).

Affective responses. With regards to positive emotions, the participants in thing orientation condition considered their experience to understand things to elicit emotions of determined (M_{POcon} = 4.19 , SD= 1.66 , M_{TOcon} =5.32, SD=1.72, t (67)= 2.79, p<.01), attentiveness (M_{POcon} = 4.41, SD= 1.81 , M_{TOcon} =5.46, SD=1.46, t (67)= 2.67, p<.05) and enthusiasm (M_{POcon} = 4.28, SD= 1.99, M_{TOcon} =5.32, SD=1.83, t (67)= 2.27, p<.05). In contrast, person orientation condition elicited more admiration (M_{POcon} = 5.31, SD= 1.62 , M_{TOcon} =4.24, SD=1.98, t (67)= 2.43, p<.001), compassion (M_{POcon} = 5.19 , SD= 1.84 , M_{TOcon} =3.41, SD=1.92, t (67)= 3.91, p<.001) and empathy (M_{POcon} = 4.03 , SD= 2.22 , M_{TOcon} =2.41, SD=1.46, t (67)= 3.49, p<.001).

With regards to negatively valanced emotions, thing orientation lead to greater emotion of confusion (M_{POcon} = 2.53, SD= 1.93 , M_{TOcon} =4.03, SD=1.97, t (67)= 3.17, p<.001), frustration (M_{POcon} = 1.88 , SD= 1.58 , M_{TOcon} =3.08, SD=1.95, t (67)= 2.80, p<.01), challenge (M_{POcon} = 3.28 , SD= 2.17 , M_{TOcon} =4.51, SD=2, t (67)= 2.46, p<.05) and afraid (M_{POcon} =1.47, SD= 1.16 , M_{TOcon} =2.43, SD=2.05, t (67)= 2.35, p<.05) compared to person orientation condition.

Does PO condition (compared TO condition) have greater ingroup bias while allocation the donation money?

To examine the role of person thing orientation in allocation money to ingroup versus out-group, t-test was done on ingroup bias. Ingroup bias was calculated by subtracting outgroup

donation from ingroup donation. The person orientated condition lead to greater ingroup bias compared to thing oriented condition (M_{POcon} =5.18, SD= 24.26 , M_{TOcon} =-7.11, SD=20.70, t (66)= 2.26, p<.05).

When one way ANOVA was conducted on four specialist groups based on a median split of PO and TO subscales, ingroup bias was in a similar direction as the primed condition (Table 18, Figure 3). However, it was not significantly different from each other (M_{PS} =4.00, SD= 23.03 , M_{TS}=-3.18, SD=23.37, M_{NS} =-0.21, SD= 26.42 , M_G=0.55, SD=15.40, F (110)= .363, p=.78).

Mediation analysis

H 3b predicts that the proportion of thoughts regarding the victim mediates the effect pf person orientation condition on ingroup bias. To test this hypothesis, I used mediation analysis in which I treated the condition as an independent variable (1 if the condition is thing orientation and 2 otherwise). As predicted, the results indicate that proportion of thoughts related to people mediated the impact of person orientation on ingroup bias, as the 95% bias-corrected and bootstrap confidence interval did not contain zero (95% CI= 2.88, 14.02) (Figure 4).

The study shows that person thing orientation is manipulated using the recall of enjoyable interaction with a specific element of the environment. While the interactions with both the elements of the environment are equally enjoyable, however, there are different cognitive and affective features associated with them. The manipulated conditions of person orientation and thing orientation have similar results like the measured specialist groups of person specialists and thing specialists, respectively. In addition, there is a presence of greater ingroup bias in the person orientation condition compared to thing orientation condition.

GENERAL DISCUSSION

In this research, I point out the significance of person thing orientation, provide discriminant and nomological validity and predictive validity in altruistic behavior. I also demonstrate the differential ability of PO and TO in predicting when and in what form are individuals more likely to engage in helping behaviors. In the remainder of the article, I discuss the implications and directions for further research.

Theoretical contribution

This investigation has implication for prosocial behavior literature by identifying a moderating variable that explains the compassion for multiple victims and moderates "time aversion" and "ingroup bias" effect. Altruism literature has repeatedly observed the preference for ingroup for donating money and avoidance of volunteering time. However, this investigation is in line with inquiries that have recognized conditions when time aversion can be reversed, and ingroup bias can be moderated (e.g., Reed II et al., 2016, Duclos & Barasch, 2014).

Second, this research contributes to the marketing literature by introducing a new individual difference variable. In this research, I find that similar to other individual difference variables like mindsets (Jain, Mathur & Maheswaran, 2009) and need for cognition (Cacioppo & Petty, 1982), person thing orientation is not only personality variable but can also be manipulated. More importantly, person-thing orientation literature in social psychology has identified the consequences of different orientations. Similarly, consumers that vary on their orientations may have consequences in other consumption domains. Further research can examine the impact of these beliefs on downstream variables, such as cognitions, emotions, and cultural differences.

Managerial contributions

The understanding the orientations of consumers will help marketing managers generate marketing messages that are in line with the preferences of the consumer. For example,

altruistic messaging that highlight helping out a larger number of people, requesting for monetary resources and outgroups may be more effectively aimed toward consumers who are expected to be oriented towards the physical environment (thing oriented). Similarly, prosocial messaging that is targeted to elicit compassion for a single victim, a greater willingness to volunteer time and greater preference their ingroup, such messages may be more effective for person orientated individual.

On a broader scale, marketers could use the conative differences in people as a marketing segmentation variable. In many consumer settings, non-profit organization is often looking for relevant TV shows, magazines, and websites to advertise about the donation appeals. However, these mediums may vary on their focus on content of the environment. For example, content of the television programs may exemplify either social or physical environment such as Planet Earth, Friends, etc. The orientations held before viewing these programs may be altered temporarily, resulting in processes that could lead to differential persuasiveness of the non-profit organization advertising embedded within them. More importantly, people engaged in science, technology, engineering, and mathematics careers could be used as a proxy for thing orientation and could be used as a psychographic segmentation variable. Overall, my results inform the extant altruistic literature and practicing managers of the nuances involved in using the person-thing orientation as a segmentation variable for non-profit organization donation appeals.

Future directions

I will now discuss the potential implications of person-thing orientation in consumer behavior. If it is true that TO and PO differ in terms of interests and motivational concerns, then it makes little sense to treat them homogeneously when developing and executing marketing strategies. Hence, there are remarkable opportunities for market segmentation.

Persuasion

Consumers' predisposition to persons or things may also play out in persuasion related settings. Based on the earlier discussion of the core features of person and thing orientation, I predict that effective advertising themes for person-oriented individuals will involve injunctive appeals (highlighting what others think we should do), descriptive social norm appeals (highlighting what others are doing) and conspicuous consumption. More generally, I expect a greater emphasis on the promotion of social and affiliative needs and realization of shared reality. In contrast, advertising themes for thing-oriented individuals will emphasize practicality, utilitarianism, stability and uniformity, more usage content, and advice of experts. More generally, I expect a greater emphasis on tangible product attributes.

Given that person-oriented individuals and thing-oriented individuals vary in various ways concerning their motivational concerns, I expect promising ways to tailor messaging campaigns for altruistic behavior on the basis of orientation. For instance, while asking for volunteering time for orphans, for person orientated individuals, it likely that they will be happy to spend time that will help them enjoy social connection such as making kids happy and having good time with them. In contrast, for thing-oriented person, volunteering time could be advertised as where they could utilize their skills such as by creating new toys and remodeling the place.

Cultural differences and Person thing orientation

The individual differences studied in the two essays are concerned with the environment. Culture differences are a social constructed constellation of elements that leads to a specific interpretation of an individual's social and physical environment. In contrast, Person-thing orientation is inclinations that individuals have towards these aspects of the environment. A richer understanding of the orientations would be obtained by investigating these orientations in other cultures. The individualism-collectivism framework, the most broadly used dimensions of cultural variability for cross-cultural research, may provide a useful starting

point for exploring cultural differences in person-thing orientation (Hofstede, Hofstede, & Minkov, 2010; Triandis, 1989). In individualistic cultures, people tend to hold an independent view of self and pay less attention to and attribute less on the context. In contrast, in collectivist cultures, people tend to prefer the interdependent view of self and focus more on context and environment (Hofstede et al., 2010). Based on this framework, it is likely that preferences for both things and persons in one's environment in a collectivist country (e.g., China and India) will be more than those in an individualist country (e.g., United States).

Conclusion

In general, people who are people-oriented are more likely to oriented towards the social environment, and people who are thing oriented are more likely to be oriented towards the physical environment. However, implications for consumer behavior are only propositions and require future research to examine these propositions. While the PTO scale includes only 13 items and requires very little time to complete, but it uncovers yet overlooked individual difference: person thing orientation. The person-thing orientation research has the potential to offer nuanced insights about a wide swath of phenomenon, opening exciting new directions for research.

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Table 1: Individual and situational differences in prosocial behavior

Differences	Dependent variables	Key Findings	Prior Literature
Individual differences			
Temperament			
Attachment security	Compassion, Altruistic behavior	Attachment security leads to greater compassion and altruistic behavior	Mikulincer, Shaver, Gillath & Nitzberg (2005)
Moral identity	Preference for donating time vs. money	Moral identity reduces aversion to giving time	Reed II, Kay, Finnel, Aquino & Levy (2016), Aquino, Freeman, Reed II, Lim & Felps (2009)
Personality	Prosocial behavior	Honesty-humility dimension and Agreeableness predicted prosocial behavior	Hilbig, Glöckner & Zettler (2014), Graziano, Habashi, Sheese & Tobin (2007)
Motivational			
Agency and Communion	Moral personality	There is an integration of agency and communion in moral personality	Frimer, Walker, Dunlop, Lee & Riches (2011)
Implicit theories	willingness to help	The malleable theory of empathy leads to interest in improving one's empathy and consequently leads to higher prosocial behavior.	Schumann, Zaki & Dweck (2014)

Power	prosocial orientation, empathetic accuracy, money spent	Social power has a positive association with prosocial orientation, and empathic accuracy and high-power people spend more money on themselves than others	Côté et al (2011), Rucker, Dubois & Galinsky (2012)
Comparison with others	Willingness to help	The downward comparison will lead to greater willingness to help	Schlosser & Levy (2016)
Affective	-	-	-
Emotional regulation	Compassion	Emotional regulation leads to a reduction of compassion for mass suffering	Cameron & Payne (2011)
Positive valanced			
Empathy	Allocation of resources	Empathy leads to a greater allocation of resources to others	Batson, Batson, Todd, Brummett, Shaw & Aldeguer (1995)
Love, Hope, Pride, Compassion	Prosocial behavior	Love leads to prosocial behavior towards distant others whereas hope, pride, compassion, and love leads to prosocial behavior towards close entities	Cavanaugh, Bettman, & Luce, (2015).
Awe	Generosity, Prosocial values, Prosocial helping behavior	Awe leads to a diminishment of the self and consequently enhances prosocial behavior	Piff, Dietze, Feinberg, Stancato & Keltner (2015)
Negatively valanced			

Guilt	Prosocial behavior	Guilt leads to greater prosocial behavior	de Hooge, Nelissen, Breugelmans & Zeelenberg (2011)
Embarrasibiliy	Prosociality	Greater embarrassability lead to greater prosociality	Feinberg, Willer & Keltner (2012)
<u>Cultural</u>			
Self-construal	Prosocial behavior	In-group/out-group distinctions do not seem to operate among independents whereas there is an ingroup bias among interdependents	Duclos & Barasch (2014), Swaminathan, Page, and Gu¨rhan-Canli (2007), Winterich & Barone (2011)
<u>Demographic</u>			
Social class	generosity, Helpfulness	Lower class people have a greater commitment to egalitarian values and feelings of compassion and consequently leads to higher prosocial behavior	Piff, Kraus, Côté, Cheng, Keltner (2010)

Situational differences

Group membership	Helping, Prosocial behavior	Ingroup member elicits greater empathy and leads higher helping behavior. Love leads to prosocial behavior towards distant others whereas Hope, pride, compassion, and love leads to prosocial behavior towards close entities, In-group/out-group distinctions do not seem to operate among independents whereas there is an ingroup bias among interdependents	Stürmer, Snyder & Omoto (2005), Cavanaugh, Bettman & Luce (2015)
Type of resource donated	Preference for donating time vs. money	Moral identity reduces aversion to giving time	Reed II, Kay, Finnel, Aquino & Levy (2016)
Timing of Behavior	Virtuous Behavior	low self-control individuals are more likely to commit to distant-future behaviors; high self-control individuals are more likely to commit to near-future behaviors	Ein-Gar (2015)
Identifiability of victims	Willingness to donate	Greater social distance leads to a higher willingness to donate to unidentifiable and abstract victims	Stephan, Liberman & Trope (2010)

Conative:
Present research

Person-thing orientation	Preference for donating time vs. money, Allocation to ingroup vs. outgroup, Compassion towards one vs. many victims	PO is associated with donating towards a single victim, ingroup members, and in the form of time whereas TO is associated with donating towards many victims, outgroup members and in the form of money.

Table 2: Correlations between TPO scores and scores on other scales and reliability estimates

Measures	Cronbach's alpha	PO	TO
Materialism-Success	.63	-.02	-.05
Materialism-Centrality	.67	.21	-.05
Materialism-Happiness	.48	.06	.24
Anthropomorphism	.78	.10	-.25

Table 3: Means and SD of individual difference variables for four specialist groups

	Range	Non-specialist	Thing specialist	Person specialist	Generalist
SHORT PO	1-5	2.84 (0.44) a	2.98 (0.41) b	3.85 (0.58) a	3.98 (0.42) b
SHORT TO	1-5	2.28 (0.96) a	3.51 (0.83) b	2.44 (0.72) a	3.64 (0.75) b
PO	1-5	2.65 (0.46) a	2.76 (0.28) b	3.79 (0.49) a	3.78 (0.44) b
TO	1-5	2.55 (0.61) a	3.76 (0.29) b	2.8 (0.35) a	3.86 (0.34) b
IMPLICIT	1-6	3.59 (0.97)	3.65 (1.09)	3.83 (0.79)	4.12 (0.81)
SM	1-2	1.51 (0.14)	1.53 (0.14)	1.55 (0.17)	1.53 (0.15)
PROMO	1-5	3.39 (0.49)	3.41 (0.6)	3.67 (0.72)	3.55 (0.47)
PREVEN	1-5	2.86 (0.8)	2.95 (0.58)	3.13 (0.88)	2.76 (0.78)
INDEP	1-7	5.12 (0.74)	5.14 (0.86)	5.29 (0.73)	5.53 (0.77)
INTERDEP	1-7	4.49 (0.79) a	4.89 (0.83)	5.03 (0.83)	5.08 (0.6) b
DFC	1-7	4.94 (0.79)	5.04 (0.73)	5.38 (0.66)	5.19 (0.61)
NFC	1-5	3.23 (0.42)	3.17 (0.33)	3.61 (0.64)	3.43 (0.57)

Table 4: Correlations between TPO scores and scores on other scales and reliability estimates

	IMPLI	SM	INDEP	INTER	DFC	NFC	PROMO	PREVEN	TO	PO	SH TO	SH PO
IMPLI	(.87)											
SM	0.16	(.58)										
INDEP	0.07	-0.1	(.81)									
INTER	0.1	0.07	.33**	(.81)								
DFC	0.13	0.06	.59**	0.14	(.82)							
NFC	0.12	0.1	.31**	0.02	.45**	(.79)						
PROMO	0.16	0.02	.40**	-0.05	.43**	.37**	(.61)					
PREVEN	0.04	0	-0.15	-0.03	0.01	-0.02	0.09	(.61)				
TO	0.09	0.05	.20*	.32**	-0.01	-0.03	-0.03	-0.28*	(.79)			
PO	0.14	0.06	.32**	.38**	.26**	.30**	.20*	-0.09	.42**	(.81)		
SH TO	0.11	-0.1	0.07	.25**	-0.08	0.02	-0.08	-0.30**	.79**	29**	(.82)	
SH PO	0.13	0.03	.37**	.35**	.30**	.31**	.25**	-0.14	.40**	.93**	.26**	(.74)

IMPLI- Implicit theory, SM- Self monitoring, INDEP-Independent self-construal, INTER-Interdependent self-construal, DFC- Desire for control, NFC- Need for Cognition, PROMO-Promotion-focused, PREVEN-Prevention-focused, RF-Regulatory focus, TO-Thing orientation, PO- Person orientation, SH TO-Short Thing orientation and SH PO- Short Person orientation.
.

*$p < .05$
**$p < .01$

Table 5: Person Orientation and Thing Orientation as predictors of different subscales of

Altruistic Volunteering.

Independent Variable	Versatility Potential	Intrinsic Value	Social Engagement	Task Focus	Agentic Self Development
PO	.14** (0.03)	.48***(0.05)	.30*** (0.04)	.19** (0.05)	.09 (0.03)
TO	-.00 (0.02)	.00 (0.03)	-.00 (0.03)	.18*** (0.04)	.42*** (0.05)
R^2	.16	.40	.31	.26	.40
Adjusted R^2	.02	.16	.09	.06	.16
F-value	6.64	45.97	25.20	16.23	43.26

** $p<.01$
*** $p<.001$

Table 6: Person Orientation and Thing Orientation as predictors of one and multiple victim

Independent Variable	Condition			
	One victim		Many victims	
	Step 1	Step 2	Step 1	Step 2
Person Orientation	.162 (1.19)	.225+ (1.69)	.352*(2.55)	.491** (2.35)
Thing Orientation	.183 (1.41)	.118 (.93)	.378* (2.57)	.300+(2.03)
Interaction		.277+(1.85)		-.379 (-1.68)
R^2	.16	.30	.39	.47
Adjusted R^2	.08	.18	.33	.38
F-value	1.84	2.53+	6.48**	5.65**

+p<.10

*p<.05

**p<.01

Table 7: Person Orientation and Thing Orientation as predictors of one and multiple victim

Independent Variable	Condition		
	One victim	Ten victims	Thousand victims
Person Orientation	1.66* (.66)	.80 (.77)	-2.54* (1.11)
Thing Orientation	1.06 (.61)	-.01 (.74)	-2.63 ** (.94)
Interaction	-0.29	-.04 (.20)	.72* (.27)
R^2	.48	.40	.44
Adjusted R^2	.19	.16	.20
F-value	.28	.12	.15

*$p < .05$
**$p < .01$

Table 8: Preference for money over time for individuals high on Person Orientation and

Thing Orientation (median split)

(Note: Higher value represents preference for money over time)

	Person orientation	Thing orientation
Low	4.46[a] (2.81)	4.02[a] (2.78)
High	4.96[a] (2.89)	5.48[b] (2.74)

Table 9 a: Preference for money over time for individuals high on Person Orientation and Thing Orientation (median split)

(Note: Higher value represents preference for money over time)

	Person orientation	Thing orientation
Low	5.3[a] (2.4)	4.71[a] (2.5)
High	4.3[b] (3.1)	5.15[a] (2.9)

Table 9 b: Preference for money over time for +1/-1 SD PO and TO

	Person orientation	Thing orientation
Low	6.2[a] (2.7)	5.08[a] (2.6)
High	7.08[a] (3.1)	6.92[b] (3.1)

Table 10: Means and SD for manipulation checks, covariates, preference with money over time

Measures	PO condition	TO condition
Imagine people	5.27 (1.55)	3.43 (1.91)
Imagine things	5.07 (1.44)	4.93 (1.61)
State PO	3.38 (0.64)	3.22 (0.69)
State TO	3.07 (0.95)	2.89 (0.98)
Scarce money	3.51 (1.73)	3.45 (1.87)
Scarce time	3.71 (1.76)	3.38 (2.06)
Value time	6.1 (1.26)	6.55 (0.96)
Value money	5.56 (1.45)	5.5 (1.2)
Prefer money over time	4.54 (3.07)	4.23 (3.17)

Table 11: Showing mean and SD of preference for money over time for median splits

Measures	Low	High
Thing orientation	3.53 (2.75)	5.14 (3.23)
Person orientation	5.22 (3.16)	3.84 (2.98)

Table 12: Means and SD for manipulation checks, covariates, preference with money over time

Measures	PO condition	TO condition
Imagine people	6.42 (1.2)	3.45 (2.36)
Imagine things	3.08 (2.41)	6.37 (1.03)
State PO	3.06 (0.76)	3.03 (0.71)
State TO	2.67 (1.06)	2.71 (0.99)
Scarce money	3.58 (1.64)	3.89 (1.84)
Scarce time	3.79 (1.74)	4.21 (2.15)
Value time	6.34 (1.02)	6.42 (0.76)
Value money	5.45 (1.5)	5.71 (1.41)
Prefer money over time	4.32 (3.27)	4.61 (3.29)

Table 13: Mean and SD of measured variables on two manipulated conditions

Measures	PO condition	TO condition
Average PO	3.24 (0.8)	3.29 (0.82)
Average TO	2.78 (0.93)	2.79 (1.05)
People	3 (2.13)	6.56 (1.19)
Things	6.24 (1.26)	2.97 (2.02)
Easy	5 (1.9)	5.72 (1.45)
Domestic	25.11 (12.04)	24.08 (10.37)
International	24.89 (12.04)	25.92 (10.37)

Table 14: Mean and SD of ingroup bias for four specialist groups

	Low TO	High TO
Low PO	5.43 (23.80)	21 (19.91)
High PO	-7.5 (23.14)	-10 (15.49)

Table 16: Showing mean and SD of manipulation variables and dependent variables measures in person orientation, thing orientation and control manipulated conditions

Measures	PO condition	TO condition	Control
Manipulation checks			
People	6.5(1.14)***	3.59(2.35)***	
Things	3.19(2.29)***	5.38(1.99)***	
Short Person orientation	3.44(0.74)	3.44(0.69)	3.3(0.6)
Short Thing orientation	2.98(1.08)	2.96(0.97)	2.88(1.02)
Person orientation	3.19(0.73)	3.3(0.73)	3.17(0.59)
Thing orientation	3.28(0.65)	3.31(0.57)	3.08(0.82)
Dependent variables			
Victim related thoughts (Proportion in %)	77.4(57.26)**	38.51(44.5)**	54.09(44.24)
Disaster related thoughts (Proportion in %)	27.29(40.82)*	53.38(45.87)*	35.67(41.96)
Total number of thoughts	2.03(1.15)	2.34(1.39)	1.82(0.88)
Allocation to CUNY	27.59(12.13)*	21.44(10.35)*	25.79(11.17)
Allocation to Global	22.41(12.13)*	28.56(10.35)*	24.21(11.17)
Ingroup bias	5.19(24.26)	-7.11(20.7)	1.58(22.34)
N	32	36	57

$*\, p < .05$
$**\, p < .01$
$***\, p < .001$

Table 17: Mean and SD of cognitive and affective variables

Measures	PO condition	TO condition
Cognitive		
Hard to understand	2.84(1.78)	3.95(1.79)
Complex	3.19(1.75)***	4.92(1.98)***
Effort	4.47(1.7)	4.76(1.86)
Familiar	4.97(1.73)	4.57(1.98)
Attention	5.06(1.27)*	5.78(1.51)*
Easy to recall	5.69(1.45)	5.81(1.43)
Enjoyment		
Enjoy	5.5(1.5)	5.81(1.47)
Pleasing	5.22(1.64)	5.57(1.59)
Emotion		
Positive valanced		
Pride	2.97(2.06)	3.76(2.25)
Strong	3.41(1.95)	3.57(2.1)
Surprise	3.53(2.17)	3.62(2.24)
Awe	3.59(2.03)	3.97(2.24)
Empathy	4.03(2.22)***	2.41(1.64)***
Determined	4.19(1.66)**	5.32(1.72)**
Excited	4.19(2.22)*	5.41(1.83)*
Enthusiastic	4.28(1.99)*	5.32(1.83)*
Attentive	4.41(1.81)**	5.46(1.46)**
Active	4.44(1.7)	4.59(2.02)
Inspired	5.09(1.82)	4.81(2.04)
Compassion	5.19(1.84)***	3.41(1.92)***
Admire	5.31(1.62)*	4.24(1.98)*
Interested	5.44(1.72)	5.76(1.77)
Negative valanced		
Hostile	1.22(0.66)	1.49(1.1)
Scared	1.22(0.91)	1.78(1.44)
Disgust	1.41(1.21)	1.65(1.38)
Afraid	1.47(1.16)*	2.43(2.05)*
Guilty	1.5(1.32)	1.46(1.1)
Irritable	1.56(1.19)	2.05(1.67)
Ashamed	1.78(1.43)	1.97(1.83)
Frustrated	1.88(1.58)**	3.08(1.95)**
Distressed	1.94(1.66)	1.86(1.51)
Boring	2.34(1.84)	2(1.35)
Confusion	2.53(1.93)***	4.03(1.97)***
Upset	2(1.69)	2.24(1.85)
Challenge	3.28(2.17)*	4.51(2)*
N	32	36

Table 18: Showing mean and SD of dependent variables measures for four specialist groups using measured TPO scale

	Non-specialist	Thing specialist	Person specialist	Generalist
Victim related thoughts (Proportion in %)	52.18 (44.75)	45.45 (48.57)	58.33 (40.65)	65.15 (61.99)
Disaster related thoughts (Proportion in %)	44.4 (45.1)	36.36 (46.76)	41.67 (40.65)	34.85 (44.36)
Total number of thoughts	1.97 (1.2)	2.05 (1.25)	2.05 (0.95)	2 (1.11)
Allocation to CUNY	24.9 (13.21)	23.41 (11.69)	27 (11.52)	25.27 (7.7)
Allocation to Global	25.1 (13.21)	26.59 (11.69)	23 (11.52)	24.73 (7.7)
Ingroup bias	-0.21 (26.42)	-3.18 (23.38)	4 (23.03)	0.55 (15.41)
N	38	22	20	33

Figure 1: preference for money over time for 4 specialist groups (median split)

(Note: Higher value represents preference for money over time)

Figure 1: Preference for donating money for four specialist groups
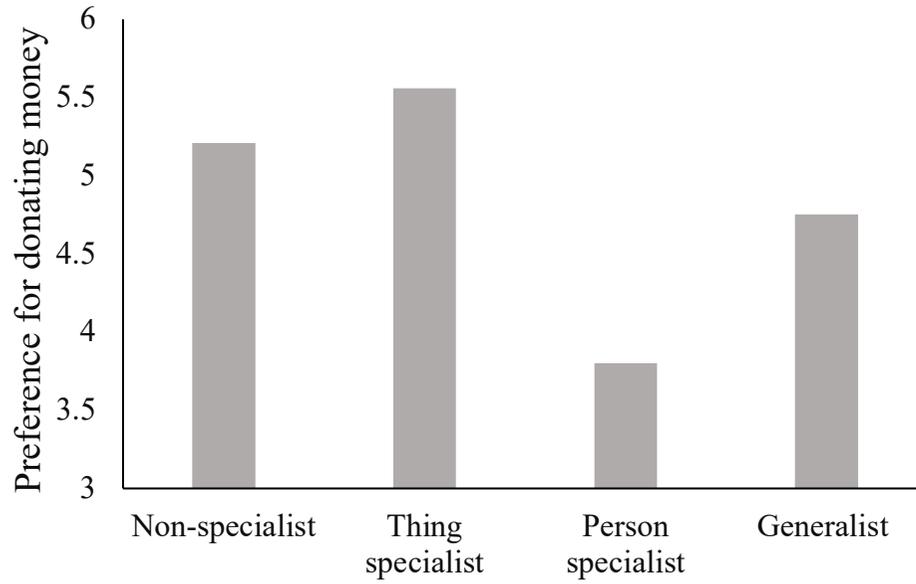
Figure 2 a. Mediation analysis of the impact of thing orientation on donation preferences
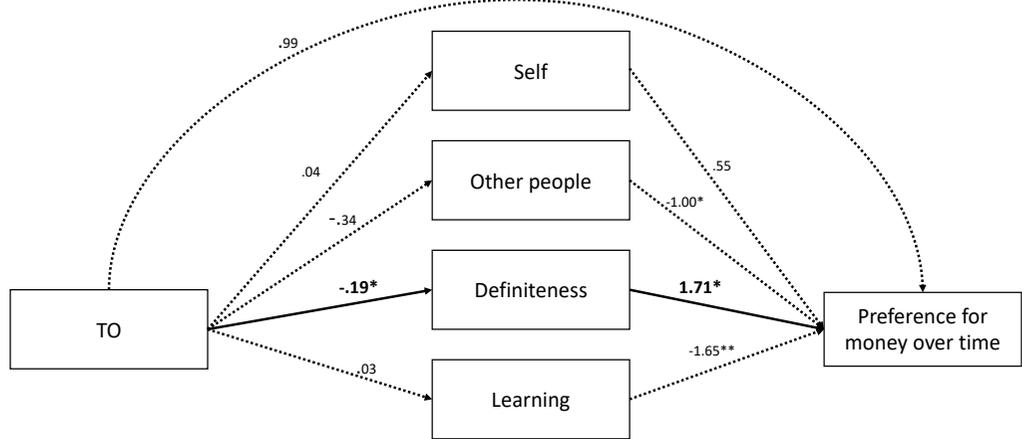
Figure 2b. Mediation analysis of the impact of person orientation on donation preferences
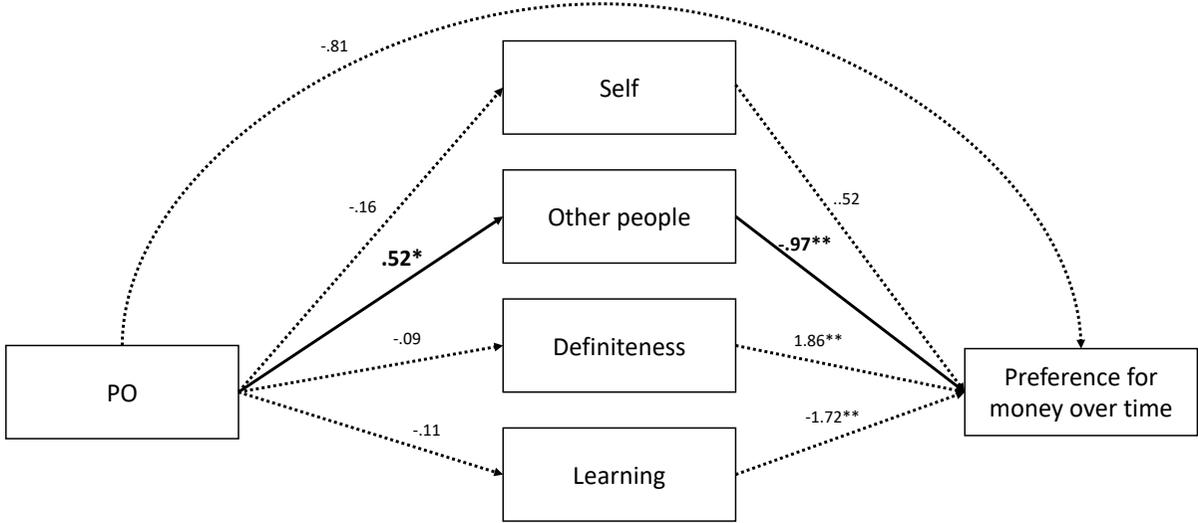
Figure 2: Ingroup bias in manipulated and measured thing specialist and person specialist groups (compared to control group and generalist/non-specialist group)
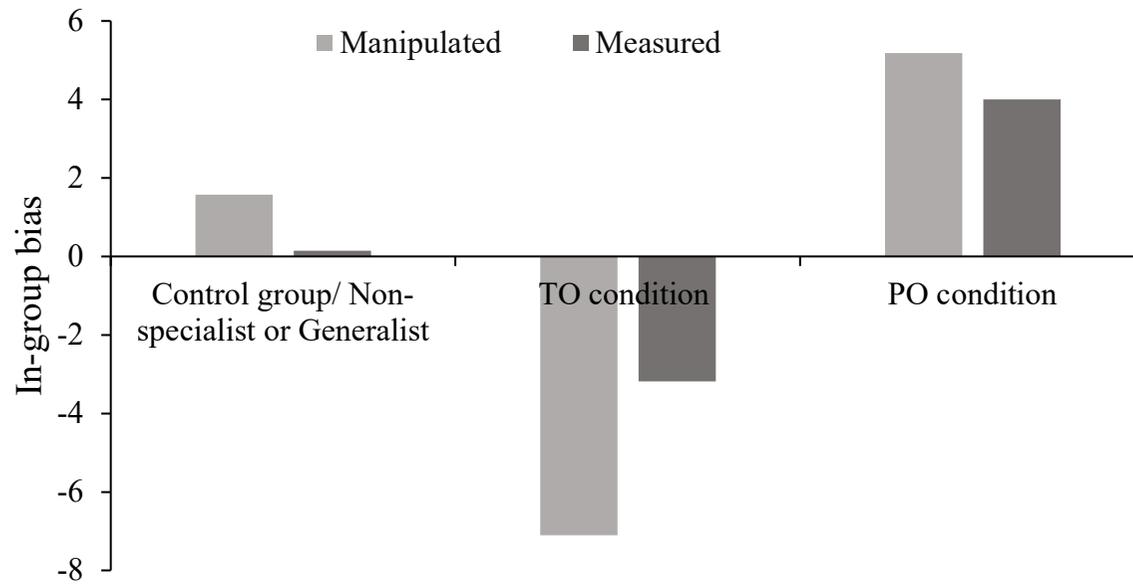
Figure 4. Mediation analysis of the impact of person orientation on ingroup bias
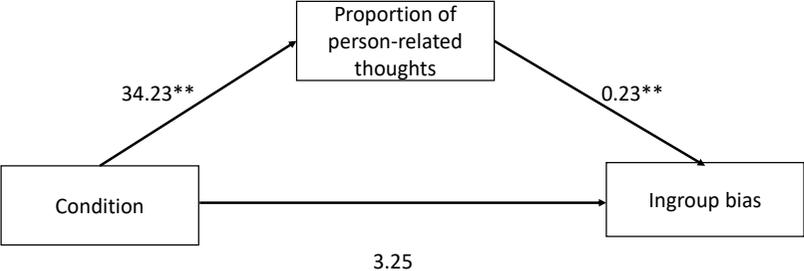
APPENDICES

APPENDIX A

Characteristics of four groups of specialists (from Little, 1976)

NONSPECIALIST

By definition, expresses comparatively little interest in either the world of things or people. Appears negativistic, rather unexpressive, and with a high general-activity threshold. Lacking specialized interest in either primary domain, tends to construe in a stimulus-inappropriate manner, seeing things personalistically, and persons physicalistically. Empirical studies confirm the hypothesis that nonspecialists tend to use a large number of self-constructs when comparing and contrasting objects in their environment. They tend to overestimate distances, and seem to avoid situations calling for either initiative or succorance. Tend to score higher than the other groups on measures of anxiety. The studies suggest that nonspecialists may be too concerned with predicting their *own* behavior to be able to attend to the world of environmental objects. They are perhaps better regarded as self-specialists.

PERSON-SPECIALIST

Expresses marked interest in a variety of encounters with people and little interest in the world of physical objects. Low threshold for activities involving affiliative, empathic, and nurturant tendencies. Has a highly developed person-construct system, thus tending to construe both persons and things in a personalistic way. Tends to focus upon emotional aspects of other people and often go too far beyond the information given during person-perception tasks. In nonverbal communication makes great use of what Mehrabian calls "immediacy cues"—standing closer during social interaction, smiling more, using first names more frequently, and being less likely to send form letters at Christmas time! Characterized by high scores on psychological femininity, their academic pursuits are most often in literary and social-service fields where they place a high value on the relevance of studies to humankind.

THING-SPECIALIST

Expresses interest in a wide range of encounters with physical objects, machines, artifacts, things. Low threshold for activities involving mechanical, manipulative, and analytic tendencies. Has a highly developed thing-construct system, thus tending to construe both persons and things in a physicalistic manner. Has strong preference for order, clarity, and pride in his practicality. In impression-formation tasks tends to "stick to the data," thus engaging in little inferential activity. Scores high on measures of psychological masculinity and tends to pursue fields such as the physical sciences or practical fields, where a stress is placed upon rigor.

GENERALIST

Expresses marked interest in a variety of encounters with both people and things. Has low general-activity threshold, with subsequent tendency to information overload. Being specialized in both domains, can construe in a stimulus-appropriate manner in both person and thing contexts. Can utilize both personalistic and physicalistic modes of experiencing the environment when the situation calls for it, and is thus the most versatile of the primary specialist types. While able to make inferential leaps in person-perception study, is able to check inferences against more solid data. Characterized by openness to both masculine and feminine aspects of self and found relatively frequently in synoptic disciplines such as town-planning or anthropology. Places a high value on achieving a balance between rigor and relevance.

Panel A. Number of psychological constructs used by three age groups of children when comparing and contrasting personally known individuals on a repertory grid. Panel B. Number of physicalistic constructs used by three age groups of children when comparing and contrasting everyday physical objects on a repertory grid (from Little, 1976).
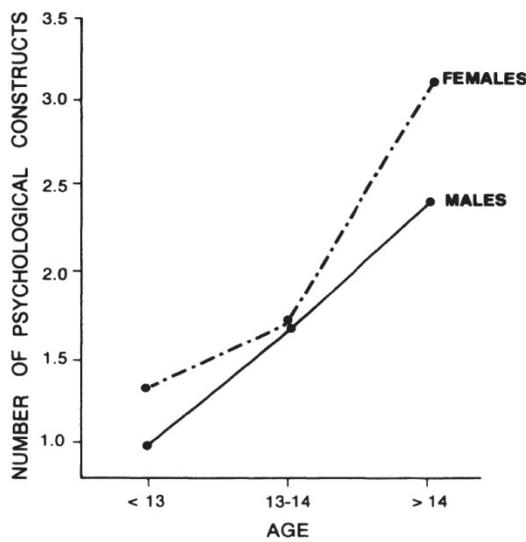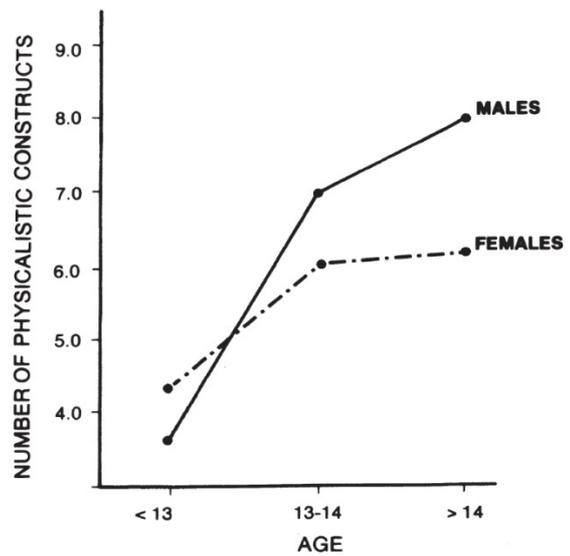
Panel A   Panel B

APPENDIX C

Psychological opposite psychopathology conditions (from Dinsdale, Mökkönen, & Crespi, 2016)
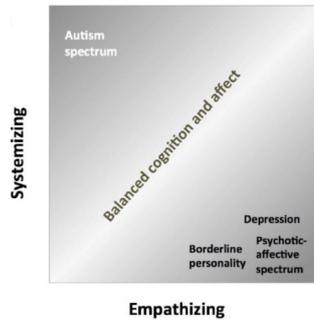
APPENDIX D

Peak location during semantic judgements for things and persons (from Mitchell, Heatherton, & Macrae, 2002)

Table 1. Significant peak locations in *Object > Person*

Anatomic label	x	y	z	t value Object	t value Person
R. insula	36	23	-6	5.70†	3.20*
L. insula	-33	24	-6	6.42†	4.40†
L. inf. frontal gyrus	-53	30	12	3.67*	1.34
	-50	19	27	4.80†	3.22*
	-50	41	-2	3.65*	1.40
	-50	7	22	5.26†	3.15*
	-50	24	4	4.34†	1.64
	-48	8	36	4.11*	2.56
	-59	8	38	4.29*	3.41*
	-45	-1	33	4.48†	3.04
L. inf. temporal	-53	-59	-5	2.98	0.31
	-50	-53	-10	4.53†	2.18
L. post. parietal	-30	-67	50	5.00†	3.21*
L. sup. frontal gyrus	-9	17	43	3.96*	2.88

Coordinates are from the Talairach and Tournoux atlas (49). Object and Person columns display the *t* value associated with the area's peak hemodynamic response relative to passive baseline for Object and Person trials, respectively; *, $P < 0.01$; †, $P < 0.001$; R, right; L, left; inf, inferior; post, posterior; sup, superior.

Table 2. Significant peak locations in *Person > Object*

Anatomic label	x	y	z	t value Object	t value Person
Dorsal MPFC	0	54	21	-5.40†	-1.36
Ventral MPFC	3	39	0	-5.55†	-3.41*
	12	36	0	-4.39†	-2.81
R. fusiform	30	-51	-3	-2.08	-0.92
R. intraparietal sulcus	63	-33	33	-3.19*	-0.89
	60	-33	21	-3.67*	-0.46
R. occipital	48	-63	12	-3.70*	-1.64
L. sup. temporal	-60	-6	-3	-0.65	1.61
	-60	-12	-12	-0.45	1.37
L. med. temporal	-66	-24	-12	-1.55	0.25
	-66	-18	-15	-0.78	0.39
L. motor	-45	-27	63	-1.57	-2.22
	-30	-39	60	-0.41	-1.49
	-33	-36	69	-1.12	-1.71
	-30	-27	69	-1.46	-2.29
L. occipital	-51	-75	21	-3.07*	-0.80
	-15	-99	21	-2.10	-0.96

Coordinates are from the Talairach and Tournoux atlas (49). Object and Person columns display the *t* value associated with the area's peak hemodynamic response relative to a passive baseline for Object and Person trials, respectively. Negative *t* values represent deactivations relative to baseline; *, $P < 0.01$; †, $P < 0.001$; L, left; R, right; MPFC, medial prefrontal cortex; sup, superior; Ed, medial.

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Regions engaged by person-based counterfactuals (in blue) and thing-based counterfactuals (in red). (from De Brigard, Spreng, Mitchell, & Schacter, 2015)
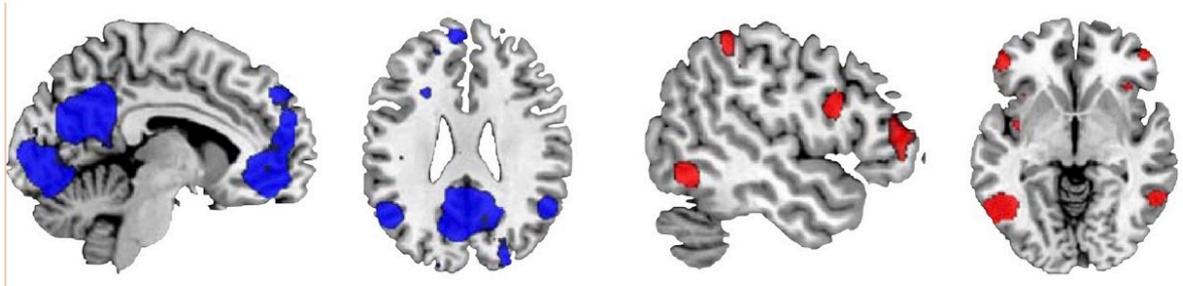
Neural activation during Brand and Person judgments (from Yoon, Gutchess, Feinberg, &

Polk, 2006)

A: The contrast of Person vs. Brand comparison in medial prefrontal cortex
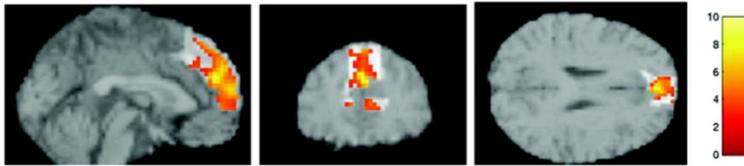
B: The contrast of Brand vs. Person comparison in left inferior prefrontal cortex
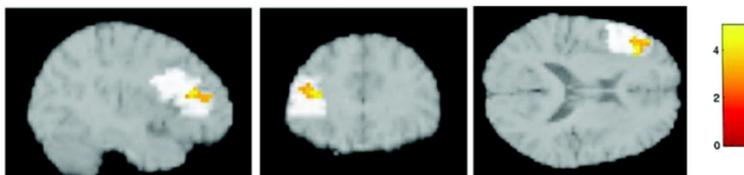
C: The contrast for the interaction of Person/Brand x Self/Nonself in medial prefrontal cortex
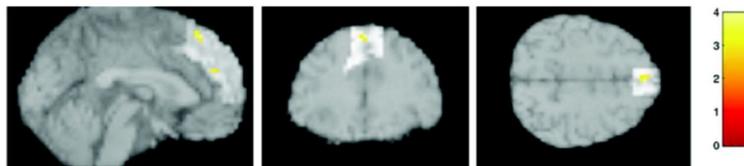
APPENDIX G

Thing-Person Scale

Please rate how much you enjoy being in the situations listed below.

Rate each one even if you have never done it on a 5-point scale. Please circle the number that

best represents your answer: where 1 = "not at all enjoyable", 2 = "slightly enjoyable", 3 =

"moderately enjoyable", 4 = "quite a lot enjoyable", and 5 = "extremely enjoyable."

(Asterik * items are included in short scale)

1. Join in and help out a disorganized children's game at a public park. (P)

2. Redesign and install a home theatre system yourself. * (T)

3. Interview people for employment in a large hospital. (P)

4. Explore the ocean floor in a one-man sub. (T)

5. Take apart and try to reassemble a desktop. *(T)

6. Breeds rare forms of tropical fish. (T)

7. Climb a mountain on your own. (T)

8. Stop to watch a machine working on the street. * (T)

9. Listen in on a conversation between two people in a crowd.* (P)

10. Become proficient in the art of glass-blowing. (T)

11. Interview people for a newspaper column. (P)

12. Remove the back of a mechanical toy to see how it works.* (T)

13. Strike up a conversation with a homeless person on a street. *(P)

14. Try to fix your own watch, toaster, etc.* (T)

15. Observe the path of a comet through a telescope. (T)

16. Listen with caring interest to an old person who sits next to you on a bus.* (P)

17. Notice the habits and quirks of people around you. *(P)

18. Make the first attempt to meet a new neighbor. *(P)

19. Attend a speech given by a person you admire without knowing the topic on the speech.* (P)

20. Attempt to comfort a total stranger who has had a disaster happen.* (P)

21. Do sky-diving. (T)

22. Gain a reputation for giving good advice for personal problems.* (P)

23. Make a hobby of photographing nature scenes and developing and printing the pictures yourself. (T)

24. Help a group of children plan a Halloween party. (P)