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Research Article

THE INTERFACE OF PERSONALITY TRAITS AND CONCEPTUAL METAPHORS

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ABSTRACT
In the fields of cognitive psychology, cognitive linguistics and psycholinguistics, cognitive styles and personality traits (PTs), on one hand, and conceptual metaphors (CMs) as cognitive schemas on the other hand have undergone a growing body of research over the past few decades. Despite the fact that both form a fundamental base of personality, few if any steps have been taken to unravel the way they are related. In a three-tired, mixed-method survey analysis design, the present study aimed at investigating the probable relationship between PTs and CMs. In so doing, field dependence/independence (FDI), and extroversion/introversion (EX/IN) were examined in light of metaphoric schemas (MSs) extracted from the participant's interviews. A total of 74 participants (m = 28, f = 46) were administered Witkin et al's (1971) Group Embedded Figures Test (GEFT), Eysenck personality Questionnaire-Revised Short Scale (EPQ-R), and a Conceptual Metaphor Elicitation Prompt (CMEP) with follow-up interviews based on the principles of Grounded Theory (GT) research methodology. The results of the study indicated no significant relationship between the PTs in the GEFT and EPQ-R. However, PTs were found to correspond with certain CMs. Gender and age also showed significant relationships with the total make-up of research variables.

Key Words: *Conceptual Metaphors, Personality Traits, Field Dependence/Independence, Extroversion/Introversion, Metaphoric Categories*

INTRODUCTION
As introduced and developed by Lakoff and his colleagues all through their works, CMs are omnipresent, accessible-to-all, and powerful cognitive mechanisms which are unconsciously exploited to structure understanding of one abstract domain in terms of another concrete domain which shape our view of life as well (Lakoff, 1987; Lakoff and Turner, 1989; Lakoff, 1996; Lakoff and Nunez, 2000; Lakoff, 2001; Lakoff, 2004; Lakoff, 2005; Lakoff 2006; Lakoff, 2008). This authoritative standpoint belittled the traditionally believed idea that metaphors are only a matter of linguistic and poetic function just to increment the aesthetic efficacy of speech, but they are more a theory of cognition and reasoning (Valenzuela and Soriano, 2005; Corts and Meyers, 2002; and Corts, 2006). As indicated by Lakoff and Johnson (1980, 1999, 2003), CMs are only linguistic manifestations of what happen in our mind; therefore, for their analysis, linguistics must gain help from cognitive sciences.
The notability of CMs in the fields of cognitive psychology, cognitive linguistics, and psycholinguistics is twofold; they can affect and be affected by mental structures and models. On one hand, it is assumed that CMs can change mental modeling (Hsu, 2006; Schnotz and Preub, 1997; Lee, 2007), and develop new cognitive domains out of the very existing structures (Carroll and Thomas, 1982).
One the other hand, mental structures can be impacted or find their roots in metaphoric schemas (MSs) (Moser, 2000). In a study, McConnell *et al.,* (1993), through two experiments, indicated relationships between optimistic and pessimistic orientations and metaphoric content. Goetzmann *et al.,* (2007) also remarked interplays between PTs as mental structures and CMs. As defined by Beck *et al.,* (2004), personality is a set of cognitive, affective, motivational, and instrumental schemas which through their mutual influences formulate stable features. It is believed that stable personality schemas can play a great role in the formulation of MSs. As personality schemas can give specific directions to human behavior and feeling, they can influence metaphoric expressions as well (Borbely, 1998).

According to cognitive personality theory, information processing and behavior may be influenced by MSs (Lakoff and Johnson, 1980; Moser, 2000). It is remarked that CMs not only have representational functions, but also provide the basis for understanding and decision-making (Dutke, 1994). In congruence with cognitive personality theory, Goetzmann *et al.*, (2007) add that cognitive schemas form a fundamental base of personality and are metaphorically represented in interpersonal interactions. In their exact terms, specific MSs may be associated with specific PTs or factors. Clearly, MSs are regarded as linguistic manifestation of cognitive schemas shaping personality aspects.

Furthermore, it is remarked that personality has a great role in the formulation of social and political attitudes (Pratto *et al.*, 1994).

More specifically, each personality dimension is correlated with a particular attitudinal scale (Wiseman and Bogner, 2003). As PTs, to say, dimensions are constant factors which direct mental processes such as perceiving, remembering and problem solving (Azizi *et al.*, 2005), differentiate among learners with respect to perceiving and construing information, and replying environmental stimuli (Lourdusamy, 1994), and are more constrictive factors than the psychological and affective factors (O'Brien *et al.*, 2001), their influence on worldview building, and CM production could be great as well.

Some empirical studies have bulwarked at the remark that personality dimensions and PTs are correlated with particular worldviews. Wiseman and Bogner (2003) found that the PTs psychoticism and extraversions were correlated with anthropocentric and eco-centric views respectively. Pettus and Giles (1987) also indicated that self-controlled, well-organized and goal-oriented persons showed more favorite environmental behaviors, while persons who considered themselves as having more control over events had less tendency to follow laws and measures designed to support environmental quality.

Leslie *et al.*, (1996) reported relationships between psychoticism and attitude towards computers. In another study, Sibley and Duckkitt (2009) incorporated the Five Factor Model of Personality to the Dual Process Model of Ideology and Prejudice. In their study, disagreeable people, tended to see the world as competitive, which predicted heightened motivations for social dominance and superiority. Conversely, people with low openness to experience and high Conscientiousness expressed their own heightened security-cohesion motivations.

MATERIALS AND METHODS

2. Method

Encouraged by the assumptions that MSs are major cognitive issues which influence and are influenced by mental structures, and are associated with particular PTs, and PTs can construe worldviews and CMs, the researchers were motivated enough to pierce into the domain more. More specifically, in a three-tired survey analysis design, it was tried to investigate the probable relationship between PTs and CMs. In the first phase of the study, participants received two instruments on PTs, namely, FDI and EX/IN. In the second phase of the study which was based on the steps and principles of the GT research methodology, the participants were given a CMEP with a follow-up interview. Finally, in the last phase of the study, the participant's MSs were investigated in relation with their PTs to see their probable relationships (See Figure 1). Through phases 1, 2, and 3, the present study aimed at answering the following 3 questions respectively;

1. Are there any significant relationships between PTs namely FDI and EX/IN? And are any roles attributed to the gender and age of the participants in this regard?
2. What are the common MSs among participants on the selected target domains?
3. Are there any relationships between PTs and CMs? And are any roles attributed to the gender and age of the participants in this regard?

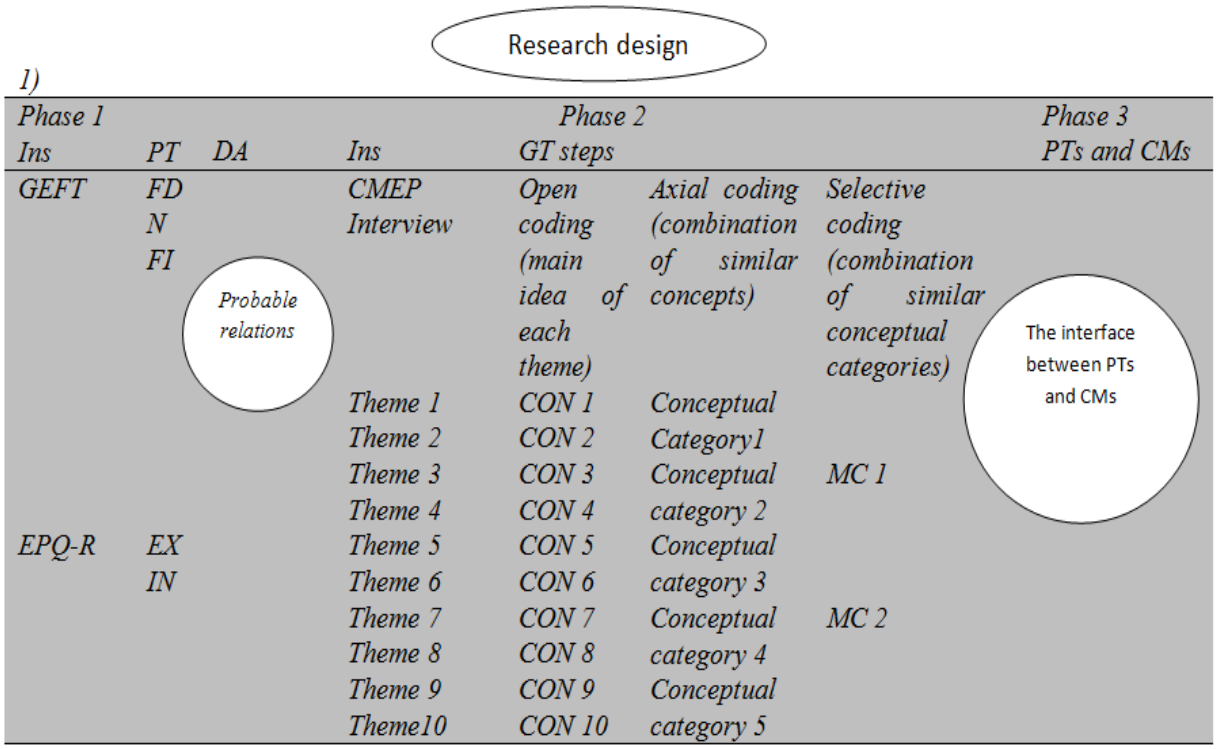

Figure 1: Research Design. Note: Ins = Instruments; DA = Data analysis; CON = Concept

2.1. Phase 1

This phase of the study, in a survey analysis design, aimed at investigating PTs among a group of participants with a focus on their ages and genders.

2.1.1. Participants

The subjects of the study were 74 (28 males and 46 females) English language and literature students of Ilam University and Azad university of Ilam. All the participants were proficient to be administered research instruments whose instructions and contents were all in English. The participant's ages ranged from 19 to 35. The same participants were subjects of the second phase of the study.

2.1.2. Instrumentation

In this phase of the study, GEFT, and EPQ-R were administered to the participants to measure their FDI and EX/IN respectively.

2.1.2.1. GEFT

GEFT (Witkin *et al.*, 1971) is a psychometric measure whose reliability and validity has been supported by a growing body of studies (Weisz *et al.*, 1975; Erwin and Hunter, 1984; Cairns *et al.*, 1985; Mumma, 1993; Kepner and Neimark, 2007; Glicksohn and Kinberg, 2009; Almeida *et al.*, 2010).The test comprised of three sections; each one consisting of simple figures embedded in larger complex figures, which had to be traced. The first section of the test included 7 items which was administered to participants as a warm-up to make them ready. The second and the third sections included a total of 18 items, 8 items for each section, which had to be traced in 12 minutes, 6 minutes for each section. These two sections were administered for scoring.

After the second section had been administered, students stopped for more instruction on the third section and then went on. The FI subjects had tendency to find the embedded figures more easily than the FD persons. The more items traced by the participants, the higher scores would be gained by them. Cureton's (1957) model was utilized to analyze the raw scores taken from the test. Based on this model, the upper 27 percent were regarded as FI, and the lower 27 percent as FD. Those students in the middle were regarded as N as well.

2.1.2.2. EPQ-R

EPQ-R has been subject to many studies and whose psychometric efficiency has been supported (Furnham *et al.,* 2001; Gillespie *et al.,* 2001; Scholte and Bruyn, 2001; Caruso and Edwards, 2001; Shevlin *et al.,* 2002; Aluja *et al.,* 2003; Chico *et al.,* 2003; Alexopoulos and Kalaitizidis, 2004; Shatz, 2004; Muniz *et al.,* Garcı´a-Cueto and Lozano, 2005; Watson *et al.,* 2008; Simillie *et al.,* 2009; Tosun and Lajunen, 2010). The questionnaire includes a total of 57 questions measuring 3 criteria. The L criterion includes 9 items which determine those subjects who want to show themselves better that they are. The N criterion comprises 24 questions measuring the degree of stability/instability. And the E criterion which measures EX/IN. in the present study, those subjects with L scores over 5 was excluded from the study. In addition, since it was attempted to measure only EX/IN, only the scores of the E criterion were included in the study.

2.1.3. Procedure and Data Collection

This phase of the study was carried out on February 12, 2010, in university of Ilam and Islamic Azad University of Ilam. The two instruments were administered at the same session successively. At the beginning of the administration session, in order to encourage students to have an honest cooperation in the study, they were assured that all the data extracted from the study will be kept confidential and will be used just for research purposes. Of course, to make the participants more cooperative no personal information including first and last name was acquired, but their ages and genders; this was accomplished through codification of GEFTs and EPQ-Rs.

In order to make the procedure more manageable and easier to control, first the GEFT which needed more management was administered. Since GEFT is a time-bound and multi-sectional instrument whose sections must be administered within a particular time limitation, it needed more control to be administered; therefore, it was administered before the EPQ-R which just needed subjects to render yes/no answers to the questions.

The procedure was continued by the administration of the EPQ-R. Since the questionnaire included some psychoanalytical questions which might solicit participants not to answer honestly, they were again assured about the confidentiality of the acquired data. The administration of the EPQ-R was easier, because there was no time limitation for it.

2.2. Results

After the exclusion of the inappropriate data, the data of 60 participants were left to more consideration. The scores of the participants on the GEFT ranged from 3 to 17.The lower 27% included 16 scores ranging from 3 to 7 were regarded as FD. The upper 27% scores ranged from 13 to 17 which included 16 cases as well and were regarded as FI. Other 29 students with scores from 8 to 12 were known as N (see Table 1).

In the analysis of EPQ-Rs, 37 students had scores over 53; they were considered as EX. Other 23 participants who had scores lower 53 were regarded as IN. The number of EXs was very higher than INs (see Table 1).

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Table 1: The results of the GEFT and EPQ-R along with the data on the participant's genders and ages

S	GEFT		EPQ-R		Sex		Age	
	FD	FIN	EX	IN	Male	Female	19-24	28-35
1		*		*		*		*
2		*	*		*		*	
3	*			*		*		*
4	*		*			*		*
5		*	*			*	*	
6	*		*			*	*	
7	*		*		*			*
8		*	*		*		*	
9		*	*		*		*	
10		*	*			*	*	
11		*	*			*	*	
12		*		*		*	*	
13		*	*			*	*	
14		*	*		*			*
15		*		*	*			*
16		*		*	*			*
17	*		*		*		*	
18		*	*		*		*	
19		*		*	*			*
20	*		*		*		*	
21		*	*		*		*	
22		*	*		*			*
23	*			*	*			*
24		*	*			*	*	
25		*		*		*		*
26	*			*		*		*
27		*		*		*		*
28		*		*		*		*

29		*			*		*	*		
30		*		*			*	*		
31	*			*		*			*	
32			*	*			*	*		
33			*	*			*		*	
34			*		*		*		*	
35			*	*			*	*		
36	*				*	*		*		
37		*		*		*			*	
38	*				*	*			*	
39		*		*			*	*		
40		*		*			*	*		
41		*		*			*	*		
42		*		*			*	*		
43			*	*			*	*		
44		*			*		*	*		
45	*				*		*		*	
46		*		*			*	*		
47		*		*			*	*		
48		*		*			*	*		
49	*			*			*	*		
50		*			*		*	*		
51		*		*			*	*		
52		*			*		*		*	
53			*	*			*		*	
54	*				*		*	*		
55			*	*		*		*		
56	*				*	*		*		
57	*			*		*		*		
58		*			*	*			*	
59			*	*		*		*		
60	*				*	*			*	
	16	28	16	37	23	24	36	36	24	

*Note: S= students; * indicates the FDI, EX/IN, sex, age*

2.1.5. Data Analysis

Using SPSS version 17, a Pearson correlation coefficient was run for the probable relationships between the variables. No significant relationship was reported, but that of EX/IN and age (r =.406, p=.001) (See Table 2).

Table 2: The results of the correlational analysis of FDI, EX/IN, Gender, and Age

		FDI	EX/IN	Gender
EX/IN	r	-.220		
	Sig.	.091		
Gender	r	.216	.041	
	Sig.	.098	.758	
Age	r	-.123	.406**	-.138
	Sig.	.349	.001	.293

*Note: ** p < 0.01*

2.2. Phase 2

In this phase of the study, it was tried to determine the outstanding MSs among the participants through a series of interviews based on the steps and principles of the GT methodology (Glaser and Strauss, 1967).

2.2.1. CMEP

To obtain a rich corpus of metaphoric data, the *CMEP* with 10 themes, *Man, Future, Life, Youth, Woman, Home country, Marriage, Politics, University,* and *Death* was designed. The selection of these themes was according to two rationales. First, some of these themes such as *life* (Lakoff, 1980), *love* (Herve, Hayes and Hare, 2003; Lakoff and Johnson, 1980; Lakoff, 1986), *politics* (Schaffner, 2004), and *man* and *woman* (Pauwels, 1998; Velasco-Sacristan and Fuertes-Olivera, 2006) have been studied in previous metaphoric research. Second, they were decided on in a pilot study. More specifically, an open-ended prompt was given to a group of participants to write the main important themes in the modern Iranian society. The CMEP was used with follow-up interviews to attain participant's attitudes towards the themes.

2.2.2. Procedure

A week after the first phase of the study had been conducted; the participants were interviewed individually on the themes of the CMEP to retrieve their MSs. Each interview took 5 to 10 minutes. The participants were asked for their beliefs on the 10 themes one by one. The procedure was carried out by two interviewers who had been instructed in advance; one of them asked the participants for their beliefs on the themes and the second one audio-taped the interviews. Finally, the recorded interviews were transcribed verbatim.

2.2.3. Data Collection

The procedure of data collection and analysis was in close step with the guidelines adapted from GT method, but one mismatch. More specifically, in the GT methodology the first interview is conducted, transcribed, coded, and analyzed before the next interview runs, but due to practicality constraints of the present study, first all 60 interviews were conducted and then the data were analyzed.

Since *theoretical sensitivity* is one of the features of GT, and researchers had a theoretical framework to apply to the data, from the first stage of data analysis they were sensitive to particular pieces of data which were extracted from the transcripts. First, researchers read each entire transcript to carry out a preliminary analysis of the concepts in it. This policy was taken up to make the researchers ready for the coding of concepts. At this stage, the transcripts were not coded in detail, but to make researchers as sensitive as possible to the concepts embedded in the transcripts.

Following the preliminary analysis of the data, through *open coding*, the key concept of each transcript was extracted and labeled. Then through *axial coding*, the extracted concepts were classified into conceptual categories based on their conceptual properties. With the analysis of new transcripts, new concepts emerged, some accommodating the existing conceptual categories and some creating new categories of concepts.

All the concepts, and categories were constantly compared, whether within or between transcripts. Through *constant comparisons*, the bounds of concepts, and categories were identified. Along with constant comparisons, *memo techniques* were exploited to take notes of the interpretations which emerged through comparisons. The outcome interpretations declared some connections between concepts, and categories.

Finally, through *selective coding*, conceptual categories which shared common properties were accommodated into MCs with a conceptual category selected as the *core category*. Finally, all the extracted concepts, and categories across 60 interviews were reviewed to assure the credibility of the study.

2.2.4. Results

2.2.4.1. Open Coding

The transcripts of the interviews ranged in length; from one word to a paragraph of several sentences long. The open coding of short transcripts was easy; the single word or one of the words was selected as the key concept of the transcript (see Table 3).

Table 3: Selected examples of brief transcripts along with their extracted concepts

Themes	Examples	Extracted concepts	Examples	Extracted concepts
Man	Man is scrambling	*Scramble*	Men always win the games	*Victory*
Future	Future is ambiguity	*Ambiguity*	A minute, no, a second later	*Proximity*
Life	Life is progress	*Progress*	like a court to defend yourself	*Trial*
Youth	Youth is joy	*Joy*	It is a grandeur to me	*Grandeur*
Woman	Woman is love	*Love*	They are bound	*Limitation*
Home country	It is Iran	*Iran*	I worship my country	*Patriotism*
Marriage	A start point	*Start*	An issue within your control	*Will*
Politics	It's a prison	*Prison*	All tell lies	*All tell lies*
University	Destructive	*Destruction*	Getting better and better	*A change for the better*
Death	Like a desert	*Desert*	It will come one day	*Reality*

But the open coding of longer transcripts was somehow challenging and demanded more concentration. It was in such cases that researcher's *theoretical sensitivity* came into real work. The transcripts were read over and over for their conceptual gists (see Table 4).

Table 4: Selected examples of lengthy transcripts along with their extracted concepts

Themes	Selected examples of lengthy transcripts	Extracted Concepts
Man	God created man powerful to face real-life challenges studiously; hence it is not a too sentimental creature against happenings and tries to solve problems either with physical power or the power of mind.	*Attempt*
Future	All human efforts in the present life are due to building a better future. If there was no future life, our present life would be boring and without any love. Future is the reason for our current activities. Future gives a direction and make purposeful our present life	*Reason*
Life	After the birth of a child, a labyrinth way is experienced. With each breath, a chance for living is awarded to the child, but how to live. The way that we live is as important as our destiny and endpoint for us. Man must follow the way to salvation	*Etiquette*
Youth	Youth is a phase of life full of energy and capacities. A person, who has been taught all the necessities of a valuable life, now is well-prepared to show his/her values. The valuable properties must be exploited in valuable ways.	*Value*
Woman	Woman, as grows, becomes an affectionate and sympathetic mother with whose mercy and sacrifice teaches humanism to human beings. In short, woman is the source of affection and pity.	*Affection*
Home country	Home country is a classroom where we were taught how to battle with injustice and cruelty to gain freedom and independence. It is as great as pride and as high as freedom. There is no captivity and tyranny….free forever.	*Freedom*
Marriage	In the sky of youth, in order to achieve the summit of success, I must fly, but I need two wings; I myself am one of those needs and the other one is my need. Our permanent success is due to appropriate satisfaction of my need.	*Need*
Politics	Many use it as a technique to gain dominance over others. Many others exploit it to weaken people. All politics is established on, is telling lies, to show the events other way. Are all the wars in support of human rights and humanistic purposes? If not, where and what is the reality?	*Lie*
University	First we believed university is a chance for a great change, to refrain from all current life boring issues, but it was not accomplished. On contrary, we lost all the beauties that our same-ages who didn't enter university had and have. University excludes us from the real context of life into dreams which never come through. I wish I had not studied.	*Exclusion*
Death	Death is like a black but rainless cloud which throws a shadow over the scene of life which blinds every creature. A sort of permanent darkness that never let the sun rise again.	*Darkness*

Regardless of the lengths of the transcripts, from a total of 600 transcripts, 600 concepts were extracted through *open coding* (See Table 5).

Table 5: All the concepts and conceptual categories extracted from transcripts on the 10 themes

	Man		
1) Effort, 7, 13, 16, 35, 40, 44, 48, 60 **	6) Rage, 47, 42, 58	11) Griper, 14	16) Cowardice, 18
2) Endeavor, 3, 12, 17, 22, 23, 26, 28, 34, 43, 50, 51, 55, 56 *	7) Calmness, 41	12) Creature, 46	17) Grandeur, 10
3) Quest, 2, 11, 27, 29, 36, 38, 49 *	8) Freedom, 33	13) Injustice, 4	18) Pride, 21, 57
4) Scramble, 19, 25 *	9) Victory, 53	14) Diversity, 24	19) Fear, 54
5) Attempt, 1, 5, 6, 8, 20, 30, 32, 37, 39, 45, 52 *	10) Chivalry, 59, 15, 31	15) Wisdom, 9	
	Future		
1) Ambiguity, 5, 16, 23, 30, 34, 52 **	6) Effort, 2, 25	11) Building, 11	16) Destiny, 24
2) Obscurity, 7, 10, 43, 46, 50, 53, 58 *	7) Work, 29, 9, 31	12) Retardation, 55	17) Beauty, 39
3) Confusion., 1, 17, 28, 37, 38, 42, 45, 47, 51, 60 *	8) Reason, 15	13) Expected, 6, 57	18) Anxiety, 4, 54
4) Uncertainty, 3, 8, 19, 33, 44, 48, 56, 35, 41 *	9) Hope, 22, 27, 36, 18, 40, 12	14) Darkness, 32	
5) Proximity, 49, 59	10) Shining, 14, 20, 21, 26	15) Image, 13	
	Life		
1) Progress, 12, 22 **	7) Promotion, 26 *	13) Family, 32	19) Nature, 13
2) Advance, 4, 17, 23, 24, 29, 31 *	8) Transience, 51, 52	14) Etiquette, 39	20) Love, 10, 11
3) Movement, 2, 6, 14, 27, 30, 33, 38 *	9) Beauty, 8, 36, 40, 3, 5	15) Advance, 2	21) Rainbow, 1
4) Motion, 7, 43, 53, 55, 56 *	10) Beneficence, 25, 60	16) Sacrifice, 21	22) Road, 15
5) Growth, 34, 41, 54, 57 *	11) Grief, 47, 35, 44, 50, 45, 48, 18	17) Trial, 19	23) Road, 15
6) Development, 16 *	12) Existence, 37, 58, 46, 49, 42	18) Solace, 20	24) Delight, 9, 59
	Youth		
1) Joy, 10, 13, 14, 24, 26, 33, 35, 54, 57 *	6) Life, 5, 22, 16, 42, 36	11) Blossom, 39	16) Fancy, 52
2) Excitement, 2, 11, 20, 25, 30, 34 *	7) Value, 29, 48	12) Grandeur, 59	17) Sigh, 53, 56

3) Emotion, 1, 23, 31, 40, 47, 49, 50 *
4) Happiness, 3, 4, 7, 15, 21, 44, 45, 46 **
5) Transience, 38, 32, 18, 9, 58, 28, 43
8) Pride, 41, 8, 12
9) Wish, 27, 55, 19
10) Ambiguity, 51
13) Unique, 60
14) Tableau, 37
15) Vacuum, 6, 17

Woman

1) Nicety, 14, 35, 36 *
2) Calmness, 1, 19, 43 *
3) Elegance, 2, 23, 27 *
4) Bliss, 6, 17, 31, 49 *
5) Love, 18, 22, 32, 45, 52, 54, 55 *
6) Pleasure, 5, 24, 28, 40, 58 **
7) Affection, 11, 12, 46 *
8) Beauty, 4, 20, 34, 42, 56 *
9) Fox, 26, 37, 39
10) Stupidity, 9, 57
11) Limitation, 8, 59
12) Life, 3, 21, 33, 60
13) Ignorance, 38
14) Superficiality, 53
15) Marriage, 1
16) Kid, 15
17) Completion, 50
18) Slave, 16
19) Partner, 30, 48
20) Disaster, 7, 44
21) Surprise, 13, 47
22) Hypocrisy, 51
23) Lie, 25, 29, 41

Home country

1) Love, 4, 18, 22, 23, 31, 38, 43, 44, 53, 56, 59 **
2) Interest, 5, 24, 32, 45, 57, 60 *
3) Patriotism, 7, 15, 17, 25, 33, 52 *
4) Like, 6, 14, 19, 30, 35 *
5) Friendship, 2, 11, 20, 26 *
6) Adour, 1, 21, 46, 47 *
7) Blood in vein, 12, 28, 34 *
8) Prejudice, 9, 37, 54
9) Persian Gulf, 10
10) Destruction, 3, 29, 55
11) Expedient, 16, 50
12) Iran, 42, 49, 51
13) Freedom, 40, 41
14) No, 13
15) Bread, 48
16) Meadow, 8
17) Silence, 7, 27, 39, 36

Marriage

1) Love, 2, 14, 15, 19, 46, 47, 55, 56, 60 *
2) Passion, 5, 6, 17, 20, 36, 57 **
3) Joy, 4, 11, 18, 26, 32, 54, 58 *
4) Beauty, 21, 23, 31, 33, 38 *
5) Completion, 12, 50
6) Patience, 3, 49
7) Ignorance, 28
8) Start, 13, 37, 51
9) Limitation, 39
10) Misery, 34, 53
11) Inconvenience, 10
12) Hardship, 25
13) Destiny, 16, 52
14) Rope, 27
15) Betrayal, 45
16) Wife, 30
17) Future, 9, 59
18) Necessity, 35
19) Step, 42, 44, 43
20) Fact, 29, 41
21) Reality, 40
22) Will, 1, 23
23) Money, 8
24) Water, 7, 48
25) Success, 22

Politics

1) Lie, 1, 2, 9, 14, 19, 20, 21, 26, 33, 43, 45, 53, 54, 60 **	5) Hypocrisy, 6, 35, 44, 50 *	9) Poverty, 22, 37	13) Knife, 18, 40, 48
2) Dirt, 5, 16, 17, 25, 32, 52, 57 *	6) Bitterness, 4, 12, 41, 42, 51 *	10) Complicacy, 23	14) Start, 13, 28, 58
3) Impurity, 10, 15, 31, 49, 55 *	7) Prison, 8, 30, 38, 59	11) Intelligence, 29	
4) Darkness, 11, 27, 34, 56 *	8) Peace, 3, 24, 36	12) Gun, 7, 39, 46, 47	

University

1) A change for the better, 4, 5, 32, 42, 55, 56 *	7) Experience,1, 36, 50 *	13) Dirt, 16, 34	19) Waste, 9
2) Progress, 6, 26, 31, 43, 54 *	8) Motion, 19, 2, 37, 58 *	14) Laziness, 23	20) School, 21, 41
3) Success, 17, 24, 28, 60 **	9) Science, 22, 44, 47, 51	15) Garrison, 52	21) Professor, 8
4) Step, 11, 25, 27, 39, 57 *	10) Destruction, 30, 48	16) Solicitation, 35	22) Student, 18
5) Bridge, 15, 33, 38, 59 *	11) Period, 3, 29, 45.	17) Exclusion, 10	23) Annoyance, 12
6) Genius, 14, 20, 49 *	12) Beauty, 7, 40, 46	18) Vanity, 13, 53	

Death

1) Freedom, 6, 19, 45, 54, 55, 57 *	6) Darkness, 27, 42, 30	11) What?, 16	16) Start, 10, 51
2) Going, 5, 11, 26, 33, 56 *	7) Necessity, 23, 49, 53	12) Right, 22, 39	17) Sigh, 9, 28, 44
3) Crossing, 4, 12, 31, 17 *	8) Fear, 24, 35, 48, 40	13) End, 1, 34, 36, 41	18) Desert, 25, 43, 18
4) Valediction, 2, 20, 38 *	9) Reality, 3, 8, 47, 58	14) Beauty, 21, 59, 60	
5) Migration, 7, 14, 32, 37 **	10) Accident, 15, 50, 29	15) Solace, 13, 46, 52	

*Note: the numbers in front of each concept show the subjects from whose interviews that concept has been extracted. * Shows the conceptual categories accommodated through selective coding; ** shows the concept selected as the core category.*

Table 6: Percentages and descriptive statistics of FD, N, FI, EX, IN, males, females, 19-24-year-olds, and 28-35-year-olds that produced the10 MCs

PF	1	2	3	4	5	6	7	8	9	10	M	SD	Max	Min	Range
FD	75.00	43.75	75.00	62.50	62.50	87.50	87.50	93.75	93.75	87.50	76.87	16.41	93.75	43.75	50.00
N	64.28	60.71	17.85	42.85	32.14	45.83	21.42	50.00	21.42	7.14	36.36	19.29	64.29	7.14	57.14
FI	68.75	50.00	56.25	50.00	87.50	87.50	43.75	56.25	81.25	37.50	61.87	18.26	87.50	37.50	50.00
EX	62.16	45.94	43.24	51.35	54.05	64.86	45.94	64.86	59.45	37.83	52.97	9.63	64.86	37.84	27.03
IN	78.26	65.21	43.47	47.82	56.52	65.21	43.47	65.21	52.17	34.78	55.21	13.29	78.26	34.78	43.48
M	62.50	41.66	54.16	37.50	54.16	75.00	75.00	66.66	66.66	50.00	58.33	13.02	75.00	37.50	37.50
F	72.22	61.11	36.11	58.33	55.55	58.33	25.00	63.88	50.00	27.77	50.83	15.93	72.22	25.00	47.22
Age 1	72.22	44.44	33.33	47.22	55.55	52.77	41.66	58.33	55.55	27.77	48.88	12.91	72.22	27.78	44.44
Age 2	62.50	66.66	58.33	54.16	54.16	83.33	50.00	75.00	58.33	50.00	61.24	10.94	83.33	50.00	33.33

Note: 1 = EFFORT; 2= AMBIGUITY; 3= PROGRESS; 4= HAPPINESS;5= PLEASURE;6=LOVE;7= JOY;8=LIE;9= SUCCESS;10= MIGRATION

2.2.4.2. Axial coding

Through *axial coding*, those clearly similar concepts were classified into conceptual categories. For instance, 8 participants clearly had mentioned their beliefs about the theme *man* as effort, which were classified into the conceptual category *effort*. Many instances of such similar concepts were extracted from the transcripts (see Table 5).

2.2.4.3. Selective Coding

Finally, the merging of conceptual categories for the 10 themes *man*, *future*, *life*, *youth*, *woman*, *home country*, *marriage*, *politics*, *university*, and *death* produced the respective MCs *EFFORT*, *AMBIGUITY*, *PROGRESS*, *HAPPINESS*, *PLEASURE*, *LOVE*, *JOY*, *LIE*, *SUCCESS*, and *MIGRATION*.

RESULTS AND DISCUSSION

2.3. Phase 3

In this phase of the study, the data collected in the first and second phase of the study were investigated for their probable relationships.

2.3.1. Data analysis

In order to investigate the relationships of PTs, gender, and age with MCs, the percentages of FD, N, FI, EX, IN, males, females, 19-24-year-olds, and 28-35-year-olds that produced 10 MCs were computed. Bar graphs were applied to clarify the distribution of MCs among the participants.

2.3.2. Results

Table 6 includes the percentages and descriptive statistics of FD, N, FI, EX, IN, males, females, 19-24-year-olds, and 28-35-year-olds that produced the 10 MCs. As shown, the highest and the lowest percentages belonged to FD (93.75) and N (7.14) respectively. The highest and the lowest means were also for FD (76.87) and N (36.36) (See Table 6).

A closer look at the distribution of MCs among FD, N, and FI displayed that from among the 10 MCs, in the 7 MCs *EFFORT*, *PROGRESS*, *HAPPINESS*, *JOY*, *LIE*, *SUCCESS*, and *MIGRATION*, FD owned the highest percentages. In the same 7 MCs, FI exhibited percentages lower than FD and higher than N. it was found that, except the MC *AMBIGUITY*, in all other MCs N had the lowest percentages. It was only in the MC *AMBIGUITY* that N had a percentage higher than FD and FI. The mean percentages indicated FD, FI, and N as the highest, middle, and lowest in the production of the 10 MCs (see Figure 1).

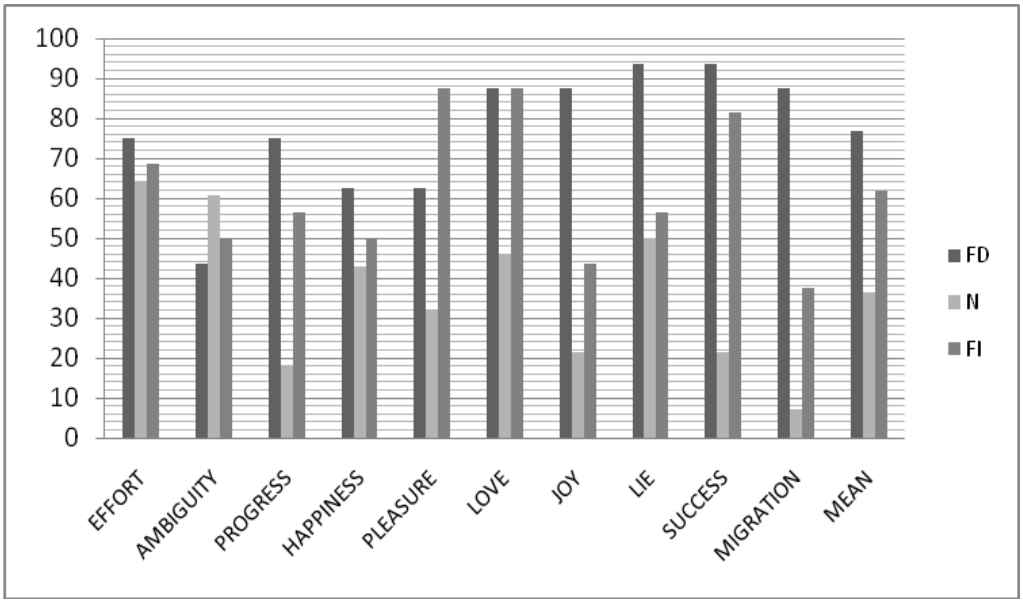

Figure 1: Percentages of FD, N, and FI who produced the 10 MCs

The investigation of the 10 MCs among EX, and IN indicated that in the 3 MCs *EFFORT*, *AMBIGUITY*, and *PLEASURE*, IN exposed a higher percentage. Conversely, EX displayed higher percentages in the MCs *HAPPINESS*, *JOY*, *SUCCESS*, and *MIGRATION*. The percentages of EX and IN for the MCs *PROGRESS*, *LOVE*, and *LIE* were nearly the same. The highest differences between EX and IN were in the MCs *EFFORT* and *AMBIGUITY*. The mean indicated a higher percentage for IN (see Figure 2).

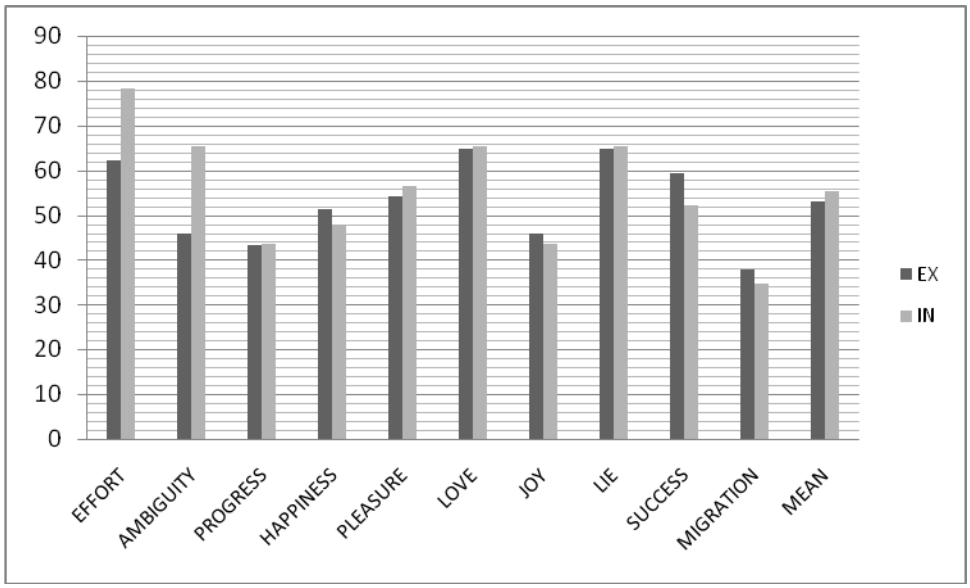

Figure 2: Percentages of EX, and IN who produced the 10 MCs

Regarding the genders of the participants, the results were of rich variety. In the 6 MCs *PROGRESS*, *LOVE*, *JOY*, *LIE*, *SUCCESS*, and *MIGRATION*, males owned the higher percentages. Conversely, in the MCs *EFFORT*, *AMBIGUITY*, *HAPPINESS*, and *PLEASURE*, higher percentages were reported for females. The biggest difference was to be in the MC *JOY*, I.e. male's percentage was nearly triple that of females. The mean also indicated a higher percentage for males (See Figure 3).

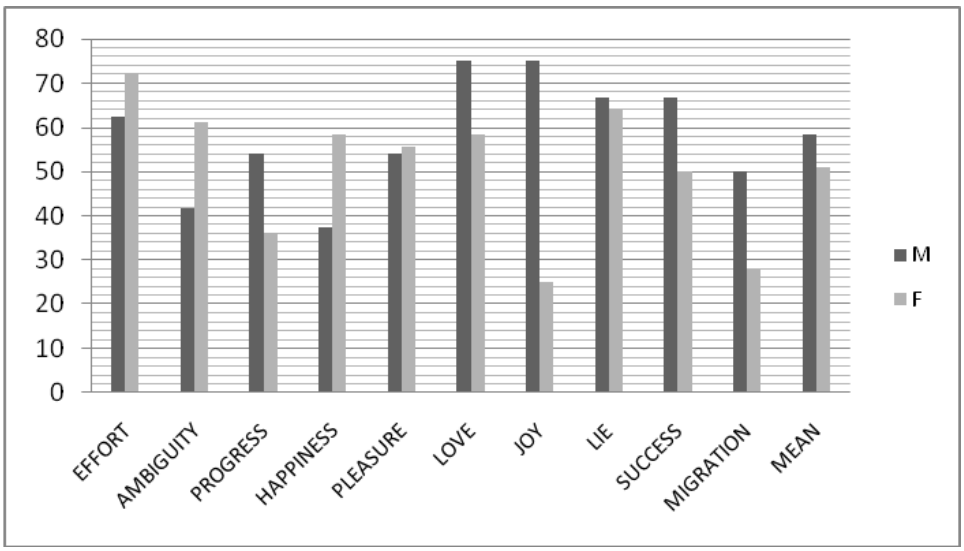

Figure 3: Percentages of males and females who produced the 10 MCs

As for the age of the participants, the results showed rich varieties as well. The subjects who had higher ages exhibited higher percentages in all the MCs, but that of *EFFORT* and *PLEASURE* which showed the higher percentages for the younger subjects. *LOVE*, *AMBIGUITY*, *PROGRESS*, and *MIGRATION* were the MCs with greater differences in the percentages (See Figure 4).

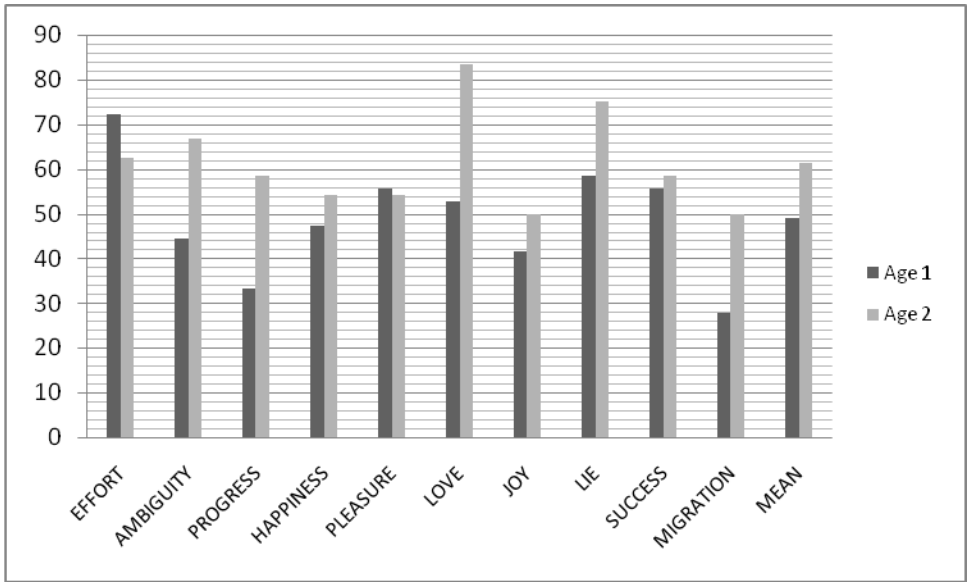

Figure 4: The percentages of 19-24-year-olds and 28-35-year-olds that produced the 10 MCs

3. General Discussion

3.1. The Relationships between PTs, age, and Gender

In order to study the probable interaction of PTs and CMs, in a survey analysis, GEFT, EPQ-R, and the CMEP were administered to a group of Iranian EFL learners to gather data on their FDI, EX/IN, and CMs. The results of correlational analyses indicated no significant relationship between FDI and EX/IN. PTs are mainly regarded as dichotomies, with persons falling on continuums with tendencies towards one side; being IN means someone is not EX. But does a person with a specific trait in a dichotomy necessarily or more probably own a particular trait in another dichotomy of PTs?. The answer of the present study to this question is 'no'. Although there may be similarities between two traits from two different dichotomies, for example, FD, and EX with tendencies towards group activities, the existence of a trait does not necessitate another one.

The relationship between EX/IN and the age of the participants was found to be significant. Our every day experiences control and direct our mental processing and perceiving of information and our behavior. A continuous exposure to some events can create a layer of cognitive determinism in one's personality. As the event types can highly influence cognitive processes, the length of exposure to particular events can increment the formation and fixation of a particular cognitive process as well. What was reported in the present study is that as participants grow up, they get more EX. Therefore, a role can be attributed to age in this regard. Those subjects who are older had been longer subject to events; hence they have been more influenced. It can be asserted that not only the quality of events, but the length of events exposures really affects cognitive processes and accordingly the CMs subjects share.

PTs were found not to be correlated with gender. This finding is in congruence with that of Panek (1985) who indicated no sex differences between FD and FI. As PTs are inborn and genetic gifts which reshape in exposure to worldly experiences, no role can be attributed to gender in this regard. More specifically, the exposure of males and females to the same events does not influence their cognition differently. To be

more clear, in perceiving the worldly information, gender as an inborn owning cannot influence the cognitive processes.

3.2. The 10 MCs

The analysis of the participant's MCs on the 10 themes indicated that some of these MCs have common features as well. To say, the MCs *HAPPINESS*, *PLEASURE*, *LOVE*, and *JOY* which have been raised by the respective themes *youth*, *woman*, *home country* and *marriage* have common elements. The MCs *PROGRESS* and *SUCCESS* raised by the themes *life* and *university* share common features as well. Therefore, it can be claimed that there are some interactions between the conceptual expressions of various themes in human mind. Two themes may raise similar MSs.

3.3. The Interface of the PTs, age, and Gender with the 10 MCs

Investigating the PTs in relation with MCs indicated that participants with more tendencies towards one side of the continuum of FDI had more CMs in common than subjects regarded as N. it was found that FD and FI participants had more metaphorically in common than the N. as FD and FI are regarded as extremes, it can be claimed that the extremes or fixed mental structures direct or interplay the metaphorical schemas more. Therefore, it can be stated that those who have more mental commonalities structurally, share more metaphorically.

As for the PTs EX/IN, it was found that a higher percentage of EX had produced the MCs than IN. on contrary with FD and FI who had N in the middle, there was no neutrally oriented group between EX and IN, but they were regarded as two extremes. However, from these two extremes, EX were found to be more similar metaphorically. Therefore, it can be claimed that cognitive schemas and MSs go together. As persons own a common mental structure, they perceive or process particular information similarly.

MCs were found to be gender-driven as well. Although the relationships between PTs and gender were not significant, in the production of the MCs, a great role was attributed to gender; a higher percentage of females had common metaphoric concepts. Although the effect of gender on metaphor rising is not supported by itself, since females are exposed to somehow similar experiences, there conscious and unconscious thinking are influenced similarly. It is logical to conclude that gender by itself cannot be a directive factor raising CMs.

It was also indicated that the participants with higher age were more similar metaphorically. The Acceptance of the influence of experiences on thinking and PTs, the length of exposure to events can be influential in raising particular metaphors as well. The more an idea is imposed into one's mind, the more fixation will form. A superficial and temporary experience of an event cannot be influential enough in the formulation of a particular idea or concept. Along with similar experiences, the length of exposure to the same worldly events can help those ideas and concepts to stitch to MSs for a long time, maybe forever.

Conclusion

The investigation of PTs by themselves and in relation with MSs indicated that there is no particular relationship between traits of various dichotomies of personality traits. The existence of a particular trait as a mental structure does not necessitate the existence of another one even if they have much in common. As age could enhance the length of exposure to events, a role can be attributed to it in formulating mental schemas and accordingly MSs. Although gender as an inborn gift cannot influence MSs directly, through exposing persons to specific experiences, it can influence the production of CMs. Different themes can lead to the production of metaphorically similar concepts and there are some interactions between PTs as cognitive schemas and CMs as MSs.

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