Using Metaphors to Investigate the Images of Countries

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Abstract

This study researched the use of metaphor among students and teachers to determine the images they had in their minds regarding a specific set of developed countries, and in doing so, utilized a longitudinal design carried out over four stages between November 2015 and November 2018 within a large metropolitan city in Turkey. The study findings revealed that the mental images of both teachers and students contained various stereotypical views about these developed countries. The participants appeared to have the most negative mental images about France, the United Kingdom (UK) and the United States (US), while having the most positive images about Australia and Japan. It was concluded that there is a strong relationship between metaphor creation and age, and that metaphor production increases rapidly as the students get older and more knowledgeable. It was also determined that metaphor quality and production rate decreases as teachers' professional seniority increased.

Keywords: Metaphor; Country Image; Stereotypes

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INTRODUCTION

Metaphoric expressions are frequently used in a wide range of fields from economics, politics, the arts, and education. Usually formulated as 'A is B', the term "metaphor" has various definitions in the literature and has a broad range of application. For example, Saban, Kocbeker, and Saban (2007) describe metaphor as the use of two different concepts that seem irrelevant at first but in the end demonstrate similarity between the disparate concepts. According to Lakoff and Johnson (2005, pp. 27), "The essence of metaphor is understanding and experiencing one kind of thing in terms of another."

One of the controversial issues related to metaphorical thought is where to place the field of metaphors within the pantheon of pedagogy and learning. Metaphors are often associated with philosophy, literature, or art (Burbules, Schraw, & Trathen, 1989; Lynch & Fisher-Ari, 2017). Importantly, Lakoff and Johnson (2005) argue that metaphors are not purely linguistic or artistic expressions but are actually an integral part of daily lives through are thoughts and communication. According to Lakoff and Johnson, people use metaphors very often albeit unwittingly in their daily lives. For example, Stites and Özçalışkan (2013) state that as social entities, human beings constantly encounter metaphoric expressions within their daily lives from childhood on through adulthood. There is some disagreement though about whether metaphors reflect emotion or thought. According to Jablonski, van der Lans, and Hermans (1998), metaphors are emotion-based, whereas Navaneedhan and Kamalanabhan (2016) suggest that metaphors are thought-based. However, Lynch and Fisher-Ari (2017) state that metaphors are at the intersection of our language, thoughts, and actions. Similarly, in their book titled 'Metaphors We Live By', Lakoff and Johnson (2005) state that our thoughts, emotions, and behaviours are actually reflected in and influenced by the metaphors we use.

Another important issue that affects metaphors is the society in which the individuals live. Our cultural perspective often influences most of our emotions, thoughts, and behaviours. Naturally, metaphorical expressions of each society include some distinct cultural interpretation (Deignan, 2003; Gibbs, 1999, 2011; Korner & Allison, 1965; Lakoff & Johnson, 2005; Yu, 2008). Lakoff and Johnson (2005) also highlight that sometimes our own personal idiosyncratic experiences and interpretations shape the metaphorical expressions we use, while at other times they are influenced by the social experiences and interpretations occurring around us.

Metaphors in Education

There has been a growing interest in the educational use of metaphors. Lakoff and Johnson (2005) state that metaphoric thinking develops with learning. A majority of researchers agree that metaphor is an important tool for education and learning. For example, Stofflett (1996) mentions that students' cognitive levels can be determined through metaphors and they can be used to test students' prior knowledge, especially before moving on to a new subject. Metaphors can help make emotions and thoughts more exciting, entertaining, intense, and understandable (Low, 2008; Mahood, 1987) as well as can increase students' motivation to learn (Low, 2008; Lynch & Fisher-Ari, 2017). Metaphors are attention-grabbing (Jablonski, et al., 1998; Lynch & Fisher-Ari, 2017), so they can contribute to students' active participation in the learning process and metaphors can also facilitate communication (Nelson, 1993). Applied to identify any concepts or issues that were missed by students, metaphors can be used as an end-of-unit assessment tool (Lynch & Fisher-Ari, 2017). Metaphors can also be utilised to present any difficult, complex, and/or sophisticated associations necessary to learn a subject/topic (Lynch & Fisher-Ari, 2017).

Metaphors both increase awareness of familiar concepts and encourage different ways of thinking (Becker, 1997). For example, Low (2008) and Mahood (1987) point out that metaphors contribute to students' learning in the concretisation of abstract subjects. Low (2008) also mentions that the use of metaphorical expressions in education can improve students' ability to use foresight. In

addition, metaphors can contribute to the development of high-level thinking skills (Low, 2008; Mahood, 1987; Navaneedhan & Kamalanabhan, 2016; Stites & Özçalışkan, 2013).

Cunningham (1976) states that metaphoric thinking is directly related to literacy; while Lynch and Fisher-Ari (2017) state that the use of metaphors as an educational tool positively affects students' language development. Especially individuals with advanced language skills and sufficient vocabulary; they can more readily understand and explain metaphorical expressions and/or create their own metaphorical sentences (Stites & Özçalışkan, 2013). The related research literature confirms that there is a strong relationship between metaphoric thinking and creative thinking (Gardner, Kircher, Winner, & Perkins, 1975; Glicksohn, Kraemer, & Yisraeli, 1993; Stuhlfaut & Vanden Bergh, 2014). In summary, metaphors can be used both as a teaching and/or assessment tool at differing stages of the educational process. Thus, different types of learner skills such as language skills, high-level thinking, and communication skills can be supported. Also metaphors can increase the awareness of learning within the educational environment, and as a result, can positively affect students' motivation by providing a fun learning environment.

Metaphors and Cognitive Development

The Cognitive Development Theory (CDT) focuses on the change in human mental activities stemming from the interaction of innate genetic characteristics and environmental factors. In other words, this theory examines the effects of both inheritance and environmental factors on mental development (Fischer, 1980). Proponents of this theory argue that cognitive development occurs through various levels starting from birth. Piaget (1964), one of the leading advocates of the CDT, defines the successive stages of cognitive development as sensory-motor, pre-operational, concrete operational, and formal operational stages. Bruner (1964), on the other hand, describes three levels of cognitive growth as enactive, iconic, and symbolic. While Vygotsky does not divide cognitive development into levels, he emphasises the critical impact of social environment such as peers and adults on cognitive development (Van der Veer & Valsiner, 1991). Similarly, Rutter (1985) emphasises environmental factors in cognitive development. For example, even a child's siblings' order of birth, and the amount of time parents devote to care for their children affect cognitive development. According to Rutter (1985), there is a strong correlation between cognitive development and education. Rutter asserts that high-quality education is one of the most important factors supporting cognitive development.

According to the CDT, the majority of secondary school students have either reached or are about to reach adolescence. Choudhury, Blakemore, and Charman (2006, pp. 165) define adolescence as "the transition period between late childhood and the onset of adulthood." Steinberg (2005) examined the changes in the brain based on the findings of developmental neuroscience research. According to Steinberg (2005), the brain undergoes an intensive process of change in adolescence, both functionally and physically. Research shows that the development of the brain system is quite different in boys and girls, but generally intensifies around 11 years of age (Choudhury et al., 2006). In this period, children can make classifications and comparisons, reach generalisations through logical reasoning, and their symbolic and hypothetical thinking skills develop rapidly. According to the CDT, towards the end of adolescence, young people begin to have access to the thinking abilities of adults.

Özçalışkan (2007) and Vosniadou (1989) state that parallel to the CDT, metaphorical thinking develops through various stages. There are many studies in the literature that deal with the relationship between metaphorical thinking and age. These studies consistently show that the process of understanding and explaining the metaphor improves with age (Białecka-Pikul, 2010; Dent, 1987; Glicksohn & Yafe, 1998; Özçalışkan, 2007). Some of the studies describe the metaphorical processes observed in age-related development in detail, for example, Özçalışkan (2007) states that 3 to 4 year old children can liken the objects they do not know to the objects they know, and that children around 5 years of age can make comparisons between objects. In addition, Siltanen (1990) states that children

between 5 and 8 years of age are able to understand easy metaphors. Özçalışkan (2007) reports that children between 9 and 12 years old can not only understand complex metaphors but also begin to produce their own metaphors. Furthermore, Siltanen (1990) suggests that children between the ages of 12 and 14 are able to understand easy, moderately difficult, and difficult metaphors, and they are also increasingly able to elaborate on metaphorical sentences until adulthood. Winner, Rosenstiel, and Gardner (1976) also state that metaphoric understanding becomes more sophisticated from adolescence onwards. In summary, research findings show that children from an early age can gradually understand and explain metaphorical sentences more-and-more. Past research findings also indicate that the process of metaphorical thinking is in line with the stages of cognitive development.

Metaphors and Country Image

It can be crucial in international relations that nations project a positive image. Many countries conduct periodic research to determine how they are perceived by other countries and may even carry out advertising and marketing projects to improve their image (Chattalas, Kramer, & Takada, 2008). Especially with the process of globalisation, national image has become a key factor in many aspects (e.g., economic, political, cultural, etc.). Around the world, the act of making generalisations about a group (e.g., ethnic, religious, etc.) or a country based on a few known facts or rumours has been done throughout human history. It is often the case that these generalizations turn into stereotypes. Lippmann first introduced the concept of stereotypes, one of the most important subjects in social psychology, in 1922. Lippmann (1922) defines stereotypes as mental patterns that result from "*exaggerations or misunderstandings"* in human perception. Although Lippmann was the first to use the concept of stereotypes, Katz and Braly (1933) were the first researchers to collect scientific data on this subject. In 1933, Katz and Braly developed a measurement tool to reveal the perceptions of students at Princeton University towards various groups. This tool has gone on to be used by researchers to identify social group perceptions from around the world for more than 80 years.

Allport (1954), who carried out some notable studies on group behaviour, states that stereotypes contain prejudices. Katz and Braly (1933) suggest that people are often prejudiced in making a judgment about a group or nation based on very limited information. Extensive research is available in the literature that focuses on country images or stereotypes (e.g., Chandra, 1967; Child & Doob, 1943; Diab, 1962, 1963; Gilbert, 1951; Katz & Braly, 1933; Madon, et al., 2001; Mllckl & Ellemers, 1996; Sierp & Karner, 2017; Terracciano et al., 2005). According to Child and Doob (1943), stereotypes are learned under the influence of various environmental elements. Therefore, perceptions towards other countries tend to be similar in most individuals living in a particular society. In other words, it is possible to see the cultural patterns of a particular society in the perceptions of its members towards other countries and/or groups. Sherif and Sherif (1956) draw attention to the consistency of stereotypes formed in groups. Diab (1962, 1963) states that dominant judgments (e.g., stereotypes) in social groups tend to persist even years later, and that these stereotypes are very resistant to change. In short, factors such as the environment we live in, the education we receive, and our religious or political affiliations shape our perception of countries and these perceptions become consolidated and resistant to change.

In this longitudinal study, some of the participants (e.g., students) were in their late childhood or early adolescence. Importantly, the transition from late childhood to adolescence is considered as one of the most intense periods of physical, social, and cognitive development. Therefore, adolescence is considered as a critical and sensitive period (Steinberg, 2005). Focusing on metaphors, this current study attempts to reveal how various country images are perceived by students. According to the CDT, children tend to form their own vision and perception systems from adolescence. In addition, children of this period gradually move away from their families and interact more closely with their peer and school environment as part of their socialisation (Choudhury et al., 2006). This study also includes social studies teachers because these educators are both an adult figure that can impact children within this age group as well as the people responsible for laying some of the students' mental foundations, in particular to this study, the image perception of various countries.

Although many studies have been conducted on country images or stereotypes, many of these studies have been criticised for their data collection techniques (Diab, 1962, 1963). The data collection tool developed by Katz and Braly (1933), one of the first and most widely used data collection tools, has been criticised for restricting the free expression of the images in the minds of the participants. Likewise, the survey developed by Terracciano et al., (2005) is criticised for the inadequacy of the characteristics attributed to countries. In brief, the criticism of the data collection techniques utilised in these studies focuses on the following question: "Would the results be similar if the adjective lists or qualities attributed to countries were different?". Based on these criticisms, no adjective list, questionnaire, or scale items about the countries were provided to the participants. In this study, the mental images held by the participants for various countries were identified through the original metaphors that the participants created on their own. The difference of this study from other studies can be summarised as follows:

i. The previous country image studies have been conducted mostly by scale, questionnaire, checklist, document review, or interviews (e.g., Child & Doob, 1943; Diab, 1962; Katz & Braly, 1933; McCrae & Terracciano, 2005; Terracciano et al., 2005). The review of literature for the present study revealed no studies analysing country perceptions through metaphors. In this study, a new data collection tool (e.g., metaphor) was employed to reveal the mental images for countries constructed by learners and educators.

ii. The previous studies on metaphor have mostly focused on understanding and explaining some predetermined metaphors (e.g., Özçalışkan, 2007; Siltanen, 1990; Winner et al., 1976). This study, however, makes a novel contribution to the literature because the participants had to form their own metaphorical expressions.

iii. Moreover, this study differs from other studies in that it reveals the metaphorical thinking development of the participants over a period of four years.

The main purpose of this study was to reveal the mental images of secondary school students and social studies teachers in secondary schools about various countries through metaphors. For this purpose, the answers were sought for the following questions:

1. What are the images of various countries in the minds of secondary school students and secondary school social studies teachers, and how can these images be categorised?

2. Do the socioeconomic level (SES) and/or age of students play a role in their metaphors?

3. Do social studies teachers' seniority and progression of time affect their metaphors?

METHOD

Participants

This study was carried out in four stages. The research implementation was carried out in November 2015, December 2016, November 2017, and November 2018. Students in secondary schools and social studies teachers teaching at secondary schools participated in the study. In light of the statistics obtained from the Turkish Statistics Institute (TUIK), 18 secondary schools representing various socio-economic levels were identified to be included in the study. The purpose of the study was explained to the school principals during interviews at these schools, and they were then asked if they were willing to participate in the study. The necessary research permissions were obtained for the participating schools (n= 13). From among the participating schools, one school for each of the SES levels including lower, middle, or upper were selected. The classes with the academic achievement level closest to each other were determined and the research was conducted with the students studying in these classes over a four-year period. All the social studies teachers teaching in the 13 secondary

schools that granted permission for the study participated in the study. Parental permission was obtained for the students.

This longitudinal study began in 2015 with 89 secondary school 5th grade students. Eight students from the lower socioeconomic level, nine students from middle SES level, and six students from upper SES level had to be excluded from the study because they could not consistently participate in the research. Thus, 66 students (e.g., 23 students from lower SES level, 21 from middle SES level, and 22 from the upper SES level) participated in the entirety of the study. Only data from students who participated in every stage of the study were included in the analysis. In 2015, the number of teachers who voluntarily agreed to participate and produce metaphors was 49. However, some of the teachers did not participate in all the stages of the study due to reasons such as being posted to another school, quitting their jobs, or being on leave. For this reason, the research was completed with the teachers (n= 38) who participated in all steps of the study and only the data elicited from these teachers were utilized in the analysis.

Of the secondary school students participating in the study, 53% were girls and 47% were boys. In 2015, the average age of the students was 10 years and 7 months. The average age of the students was 13 years 7 months in 2018, the year the study was completed. Of the 38 teachers participating in the study, 68% were female and 32% were male. The seniority of the teachers was as follows: nine teachers with 0-5 years of experience, eight teachers with 6-10 years of experience, nine teachers with 11-15 years of experience, seven teachers with 16-20 years of experience, and five teachers with 21 or more years of experience. None of the participants had learning disabilities and/or neurological disorders.

Data collection tool

First of all, a template was created in which both students and teachers could express their perceptions about the countries presented to them more easily. The countries were placed in the template in accordance with the formula 'A IS B', used by Lakoff and Johnson (2005). A metaphor booklet was created, with each of the countries placed on a separate page, for example, as "The United States of America is …….. Because ……" In the metaphor booklet, source domains were presented to the participants as countries in a pre-set way. A few lines of space were left in the metaphor booklet for participants to create target domains. This space is followed by the "Because" connector, which was provided to help participants explain the logical reasons for similarities between the source and target domains.

While the number of countries given to the participants was 12 in the pilot study, based on the expert opinions, this number was reduced to seven in the actual research implementation. To determine the countries to be included in the study, social studies curriculum and textbooks utilised in Turkey were first examined, and the developed countries that the most information was provided about in the textbooks, were selected to be included in the study. In the metaphor booklet, the same countries were presented to the students and teachers in the same order over the duration of the four-year study. The order of the countries listed in the metaphor booklet was as follows: 1. The United States, 2. Germany, 3. The United Kingdom, 4. France, 5. Canada, 6. Japan, and 7. Australia.

Before distributing the metaphor form to the participants, a preliminary study was conducted with the participants about a concept not included in the study. The purpose of doing this was to increase the familiarity of students and teachers with producing metaphors. For example, the participants developed sample metaphors about "teacher" in 2015, "student" in 2016, "book" in 2017, and "social studies" in 2018. The students completed the country metaphors activity in approximately 80 minutes, while the teachers produced their metaphors in approximately 30 minutes.

Data analysis

Analysis of the Qualitative Data: In the analysis of the metaphor data, the method used by Saban (2004, 2010) was adopted. Firstly, the metaphors produced by the participants (e.g., students and teachers) over the four-year research period, were assigned ordinal numbers. Then, it was determined whether the participants were able to produce metaphors for the countries concerned. In this stage, i) the papers that were left blank, ii) the papers that provided introductory explanations for countries instead of forming a metaphor image, and iii) the papers that could not reasonably present a metaphor image were excluded from the analysis.

Once valid metaphors were detected, the metaphor forms were re-ordered and analyzed. In this analysis, the subject of the metaphors and the relationships between the source and target domains were analyzed. For each country, the metaphors with the same basic idea were divided into individual conceptual categories. Then, the sample metaphors representing each conceptual category were identified. A different number of conceptual categories were reached for each country. The tables showing the distribution of conceptual categories by years and type of participants were created and presented with sample metaphors in the findings section.

After analyzing all the collected data, to confirm the conceptual categories, an expert opinion was obtained from a faculty member experienced in qualitative research. The opinions of the expert and the researcher were then compared. With these two analyses, the agreement percentage for the metaphors produced for each country for the total of four years was calculated (Miles & Huberman, 1994). Then, the expert and researcher met to re-evaluate the categories and metaphors on which they did not concur. As a result of these meetings, two categories were merged and one category was renamed. In addition, a category for the UK was divided into two different categories.

Analysis of the Quantitative Data: Firstly, in order to determine whether the distribution of the metaphor numbers had normal distribution, the kurtosis and skewness values of the scores were examined. Since the number of observations of the students was over 50, the Kolmogorov-Smirnov test was utilized to determine the normality assumption in the analyses of the students, and the Shapiro-Wilk test was utilized to determine the normality in the analyses conducted for the teachers because the number of teacher observations was below 50. The repeated measurement analyses (e.g., paired t-test or Friedmann test) were utilized to determine whether the metaphor numbers differed in repeated measurements. This methodology was determined by examining whether the repeated measures showed normal distribution in all categories. Since the score distribution was not normal in all categories, the Friedmann test was utilized for the analysis of repetitive measurements. For the purposes of this study, the analyses for comparison of means (e.g., ANOVA or Kruskal Wallis) were used to compare whether the metaphor numbers differed according to the independent variables. Again, this method was selected on the basis of whether the metaphor numbers showed normal distribution in all categories of the independent variable. The Kruskal Wallis test was used for the comparison of the averages because the score distribution was not normal in all categories of the independent variables (e.g., based on the normality analysis).

RESULTS

In this part of the study, mental images of students and teachers regarding the US, Germany, the UK, France, Canada, Japan, and Australia are presented in categories and through sample metaphors. Then, the conceptual categories developed by the students for various countries were compared in terms of the students' socioeconomic level and years of education. Finally, the conceptual categories developed by the social studies teachers for various countries are presented by comparing the seniority of teachers as well as the year(s) (1-4) of teaching.

Table 1. Distribution of the conceptual categories of student and teacher metaphors for the United States (US)

	Student					Teacher				
The United States Of America (USA)	2015	2016	2017	2018	Σ	2015	2016	2017	2018	Σ
1.The US as a harmful country	2	6	13	17	38	7	8	9	12	36
2.The US as a ruling country	1	4	6	9	20	6	8	8	6	28
3.The US as a powerful country	0	1	6	9	16	5	2	2	5	14
4.The US as a country that supports science	0	1	5	5	11	0	0	0	0	0
5.The US as a multicultural country	0	0	2	7	9	1	0	1	2	4
6.The US as a desirable country	0	0	3	5	8	1	2	2	2	7
7.The US as a country that stands out with its geographical features	0	0	2	2	4	0	2	2	3	7
8.The US as a country with changing decisions	0	0	3	2	5	0	0	2	1	3
Total	3	12	40	56	111	20	22	26	31	99

A total of 210 valid metaphors were produced for the US over four years, of those 111 were by the students and 99 were by the teachers. It was determined that the most common image in the minds of both students and social studies teachers for the US was "the US as a harmful country" category (*n*= 74). In the "the US as a harmful country" category, both teachers and students' perceptions emphasised that the US is harming people of other countries for its own interests. For example, in this category, the metaphor developed by a student in 2018 suggests that the US is harming people in many countries. "The US is the wolf in The Little Red Riding Hood fairy tale. Because the wolf tells all kinds of lies to eat her. The purpose is to eat the girl. Just like that, the US tells all kinds of lies to eat (exploit) other countries. Its purpose is only to eat (exploit) those countries."

In "the US as a ruling country" category, a teacher developed the following metaphor in 2018: "The US is a film director. Because the director decides who gets on the stage, who gets off the stage, and who plays the role. He even decides who should say what on stage. The US of America decides on who should take the stage and who should get off the stage in politics, economics, and science. He gives everyone a role, controls the film like a director. In short, the US rules the whole world."

In "the US as a country with changing decisions" " category, a teacher expressed her metaphor on the same category in 2017 as follows: "The US is a teenage girl. Because she has ups and downs. Sometimes she is calm, but sometimes she throws fits. Sometimes she is kind-hearted. Like adolescent girls, the US changes its decisions very quickly, contradicts itself from day-to-day."

Table 2. Distribution of the conceptual categories of student and teacher metaphors for Germany

	Student					Teacher				
Germany	2015	2016	2017	2018	Σ	2015	2016	2017	2018	Σ
1.Germany as a hardworking country	2	3	10	15	30	5	8	6	8	27
2.Germany as a disciplined country	1	3	3	5	12	4	6	5	7	22
3.Germany as a powerful country	0	3	4	1	8	5	5	5	4	19
4.Germany as a hypocrite country	1	3	1	0	5	2	2	7	6	17
5.Germany as a rich country	0	1	2	3	6	3	2	3	2	10
6.Germany as a knowledge-producing country	0	0	1	4	5	1	3	4	2	10
7.Germany as a beloved country	0	0	2	3	5	1	2	0	2	5
Total	4	13	23	31	71	21	28	30	31	110

The participants developed a total of 181 metaphors reflecting their mental image of Germany as a country. It was found that the image of "Germany as a hardworking country" category (*n*= 57) was the most popular image for Germany in the minds of both the students and social studies teachers. In 2015, a student created the following metaphor, which can be given here to represent this category: "Germany is an army of ants. Because ants work non-stop. The Germans work hard too. That's why they are like ants."

Regarding the "Germany as a hypocrite country" category, the students formed five metaphors and the teachers formed 17 metaphors. In these metaphors, it is emphasised that Germany's attitudes and behaviours change drastically according to its interests. For example, a metaphor formed in 2017 by a student is: "Germany is a chameleon. Because the chameleons change their colours according to where they are, never reveal themselves. The Germans can pull all sorts of tricks for their interests without revealing their true selves and thoughts..."

For the category "Germany as a rich country", the students formed six metaphors, and the teachers formed ten metaphors, yielding a total of 16 valid metaphors. Representing the "Germany as a rich country" category, the following metaphor created by a teacher in 2017 was provided: "Germany is the rich ruler Croesus in history. Because it is economically a very rich country."

Table 3. Distribution of the conceptual categories of student and teacher metaphors for the UK

	Student					Teacher				
The UK	2015	2016	2017	2018	∑	2015	2016	2017	2018	∑
1.The UK as a harmful country	2	6	9	17	34	6	7	10	9	32
2.The UK as a ruling country	1	2	6	7	16	5	5	4	6	20
3.The UK as a powerful country	0	2	3	6	11	4	6	5	6	21
4.The UK as a selfish country	0	2	5	4	11	3	3	3	4	13
5.The UK as a wise country	0	1	3	2	6	2	1	3	2	8
6.The UK as a country with a long history	0	0	2	1	3	0	0	1	1	2
Total	3	13	28	37	81	20	22	26	28	96

For the UK, the secondary school students and social studies teachers produced 177 valid metaphors over the four-year study period. The analysis of the data revealed that the highest number of metaphors (*n*= 66) formed by the secondary school students and social studies teachers in regards to the UK was "The UK as a harmful country". In the metaphors produced in this category, as for the US, the main idea that the UK harms other countries for its own interests was highlighted. For this category, a student created the following metaphor in 2018: "The UK is the step-mother in the Cinderella Story. Because it torments the weak and vulnerable states in order to take advantage of the aboveground and underground resources. Like the stepmother in the story."

The students formed 16, and the teachers formed 20 metaphors for the category of "The UK as a ruling country". In this category, it was emphasised that the UK dominates other countries, especially underdeveloped countries. For this category, a student created the following metaphor in 2018: "The UK is the queen bee. Because the queen bee rules all the other bees and the UK rules other countries."

The analysis of the metaphor booklets revealed that for "The UK as a selfish country" category, the students formed 11 metaphors and the teachers formed 13 metaphors. For example, a metaphor one of the students created in 2018 is: "The UK is a woman with red nail polish. Because these women value their nail polish very much, and they do not want to spoil their nail polish. But these women (The UK) make the dirty and hard work they need done by the poor country people. They only care about their nail polish. Because their nail polish is worth more than the lives of other people."

Table 4. Distribution of the conceptual categories of student and teacher metaphors for France

	Student					Teacher				
France	2015	2016	2017	2018	∑	2015	2016	2017	2018	∑
1.France as a harmful country	0	2	4	7	13	2	4	3	4	13
2.France as a conceited country	0	1	4	5	10	1	1	3	4	9
3.France as a hypocrite country	0	1	2	3	6	4	2	3	0	9
4.France as a country that evokes nice feelings	0	1	2	2	5	2	2	1	2	7
5.France as a country in disorder	0	0	0	5	5	0	0	0	5	5
6.France as a country influenced by powerful countries	0	0	2	2	4	1	0	2	1	4
7.France as a country with inconsistent behaviours	0	0	1	4	5	1	0	1	0	2
8.France as a country with a strong culinary culture	0	0	1	1	2	0	0	0	0	0
Total	0	5	16	29	50	11	9	13	16	49

In this study, the participants formed a total of 99 metaphors for France. When these metaphors were examined according to common characteristics, the most repetitive metaphors were determined to be in the category of "France as a harmful country". In this category, the students and teachers produced the same number of metaphors. A teacher produced the following metaphor in 2015: "France is a powerful hurricane. Because it destroys everywhere it goes through. It destroys all the beauties on its path."

For the "France as a hypocrite country" category, 15 valid metaphors (e.g., six by students and nine by teachers) were created. The metaphors representing the category in general bear the idea that France has changed its thinking and behaviour in line with its interests. In 2017, one of the teachers said, "France is a crocodile. Because crocodiles shed fake tears after eating their offspring. After doing all the evils, France pretends to be sad…"

For the "France as a country with inconsistent behaviours" category, the participants provided seven metaphors. The students developed five of these metaphors and the teachers developed two of them. For example, in 2017, the following metaphor was provided by a teacher: "France is a woman with inconsistent behaviour. Because you cannot predict what such a woman will do and when she will do it. France is as an incomprehensible country as (such) women."

Table 5. Distribution of the conceptual categories of student and teacher metaphors for Canada

	Student					Teacher				
Canada	2015	2016	2017	2018	∑	2015	2016	2017	2018	∑
1.Canada as a country with cold climate	0	2	6	8	16	3	4	4	5	16
2.Canada as a neutral country	0	1	1	4	6	2	1	2	3	8
3.Canada as a country evoking nice feelings	0	0	2	3	5	1	1	2	3	7
4.Canada as a knowledgeable country	0	0	1	5	6	2	1	1	1	5
5.Canada as a desired country	0	0	1	3	4	1	1	2	3	7
6.Canada as a powerful country	0	0	1	2	3	2	3	1	1	7
7.Canada as a charismatic country	0	0	2	1	3	0	1	2	2	5
8.Canada as a trust-inspiring country	0	0	0	0	0	2	1	2	2	7
9.Canada as a lesser-known country	0	0	1	1	2	2	2	0	1	5
10.Canada as a multicultural country	0	0	0	0	0	1	1	2	2	6
11.Canada as a copycat country	0	0	1	2	3	0	0	0	0	0
Total	0	3	16	29	48	16	16	18	23	73

Participants developed 121 metaphors reflecting their mental image of Canada. For the category of "Canada as a neutral country", students created six metaphors and the teachers created eight metaphors. In the metaphors representing this category, participants highlighted the idea that Canada stays out of world political issues. One metaphor a student produced in 2016 is as follows:

"Canada is an artificial plant. Because it does neither harm nor benefit. It does not interfere with any country's business."

Over the four years, the students produced two and the teachers produced five valid metaphors for the "Canada as a lesser-known country" category. Another metaphor produced by a teacher is as follows (in 2018): "Canada is a mysterious woman. Because people know very little about it..."

All the participants who explained their mental image of Canada in the category of "Canada as a multicultural country" were teachers (n= 6). The teachers emphasised that Canada is a mixture of French and British cultures. In 2016, one of the teachers expressed her mental image of Canada as follows: "Canada is a mixed-race child. Because some of its genes come from French relatives and some from British relatives."

Table 6. Distribution of the conceptual categories of student and teacher metaphors for Japan

	Student					Teacher				
Japan	2015	2016	2017	2018	∑	2015	2016	2017	2018	∑
1. Japan as a hardworking country	3	3	5	6	17	11	11	16	14	52
2. Japan as a country with intelligent people	0	3	2	2	7	2	2	2	4	10
3. Japan as a country producing science and technology	0	0	2	4	6	3	1	2	2	8
4. Japan as a powerful country	0	0	0	0	0	0	4	1	2	7
5. Japan as a country of similar people	0	0	2	2	4	0	0	0	0	0
Total	3	6	11	14	34	16	18	21	22	77

For Japan, a total of 111 valid metaphors were produced, 34 created by the students and 77 created by the teachers. The "Japan as a hardworking country" category (n = 69) was the most popular image of Japan in the minds of both students and teachers. For example, one student in 2016 created the following metaphor: "Japan is a robot. Because it works tirelessly like robots."

The second highest-ranking category in the participants' minds was "Japan as a country with intelligent people". In this category, students produced seven and teachers produced ten metaphors. For example, in 2018, the image of Japan on a student's mind was: "Japan is Jerry in Tom And Jerry. Because the Japanese are smart. Every move of them is clever. That's why they look like Jerry."

The category "Japan as a country of similar people" received the least number of metaphors over the four-year period of the study. All of the metaphors produced for this category were from the secondary school students (n= 4). For example, in 2017, a student explained his mental image of Japan with this metaphor: "Japan is a community of cloned people. Because the Japanese are very similar. They seem to be cloned, and they are very difficult to tell apart."

Table 7. Distribution of the conceptual categories of student and teacher metaphors for Australia

	Student					Teacher				
Australia	2015	2016	2017	2018	∑	2015	2016	2017	2018	∑
1.Australia as a neutral country	0	1	0	2	3	2	3	3	5	13
2.Australia as a country evoking nice feelings	0	0	2	2	4	0	3	3	3	9
3.Australia as a lonely country	0	0	1	2	3	1	2	2	3	8
4.Australia as a less-known country	0	0	0	2	2	2	1	2	2	7
5.Australia as a country whose name is confused	0	0	0	0	0	2	1	3	2	8
6.Australia as an incorrectly known country	0	0	2	2	4	0	0	0	0	0
7.Australia as a country that stands out with its geographical features	0	0	0	2	2	0	0	1	1	2
Total	0	1	5	12	18	7	10	14	16	47

For Australia, the students and social studies teachers in secondary schools formed 65 valid metaphors. When these metaphors were examined according to their common characteristics, it was found that the most repetitive metaphors were in the "Australia as a neutral country" category, regarding which participants emphasised Australia's avoidance of world politics in general. In this category, the students produced three metaphors, and the teachers produced 13 metaphors. One of the students produced the following metaphor in 2018: "Australia is a turtle. Because the turtle lives in its shell, and Australia lives like a turtle in its shell, without interfering with anything."

For "Australia as a lesser-known country" category, students produced two metaphors and teachers produced seven metaphors. For example, in 2015, a teacher described her metaphor as follows: "Australia is a book that very few people have read. Because very few people know about it…"

For the "Australia as a country whose name is confused" category, students did not produce any metaphors while the teachers produced eight metaphors. In all of these metaphors, teachers emphasised the confusion between Austria in the Northern Hemisphere and Australia in the Southern Hemisphere. For example, in 2017, a teacher described her metaphor as follows: "Australia is a student whose name is always remembered incorrectly. Because Australia and Austria are always confused…"

The students' socioeconomic level (SES), teachers' seniority, and teachers' experience were also analysed to determine whether these factors impacted in the production of metaphors. Results of the Friedman test, which was applied to determine whether the number of metaphors produced by students about developed countries varied by year are presented in Table 8.

Table 8. Results of the Friedman test for the number of metaphors produced by students about developed countries by year.

Country	Test	N	Mean rank	SD	χ^2	p	Sig.
The USA	1	66	1.75	3	112.46	0.00*	4>3, 4>2, 4>1, 3>2, 3>1, 2>1
	2	66	2.02				
	3	66	2.87				
	4	66	3.36				
The UK	1	66	1.98	3	69.66	0.00*	4>3, 4>2, 4>1, 3>2, 3>1, 2>1
	2	66	2.28				
	3	66	2.73				
	4	66	3.01				
Germany	1	66	2.08	3	54.69	0.00*	4>3, 4>2, 4>1, 3>2, 3>1, 2>1
	2	66	2.36				
	3	66	2.66				
	4	66	2.90				
Canada	1	66	2.14	3	62.35	0.00*	4>3, 4>2, 4>1, 3>2, 3>1
	2	66	2.23				
	3	66	2.62				
	4	66	3.02				
France	1	66	2.12	3	56.26	0.00*	4>3, 4>2, 4>1, 3>2, 3>1, 2>1
	2	66	2.27				
	3	66	2.61				
	4	66	3.00				
Australia	1	66	2.36	3	22.25	0.00*	4>2, 4>1, 3>2, 3>1
	2	66	2.39				
	3	66	2.59				
	4	66	2.73				
Japan	1	66	2.33	3	16.85	0.00*	4>2, 4>1, 3>2, 3>1
	2	66	2.42				
	3	66	2.58				
	4	66	2.67				
Total	1	66	1.58	3	145.54	0.00*	4>3, 4>2, 4>1, 3>2, 3>1, 2>1
	2	66	1.94				
	3	66	2.79				
	4	66	3.70				

As can be seen in Table 8, it was determined that the number of metaphors produced by students for each developed country and the overall total showed a statistically significant difference by year.

$$(\chi^2_{The\ US} = 112.46,\ \chi^2_{The\ UK} = 69.66, \chi^2_{Germ.} = 54.69,\ \chi^2_{Cand.} = 62.35, \chi^2_{Frn.} = 56.26,\ \chi^2_{Avst.} = 22.25,\ \chi^2_{Jap.} = 16.85, \chi^2_{Total} = 145.54; p < 0.05).$$

Based on the paired comparisons made to determine the source of the difference, it was concluded that there was a gradual increase in the total number of metaphors produced each year for the US, the UK, Germany, and France. Likewise, the number of metaphors regarding Canada, Australia, and Japan increased year-by-year, but there was no significant increase between the first and second years for Canada, and between the first and second, and between the third and fourth years for Japan and Australia. The findings revealed that the number of metaphors produced by the students increased regularly as the years progressed.

Results of the Friedman test applied to determine whether the number of metaphors produced by teachers about developed countries differ by year are presented in Table 9.

Table 9. The results of Friedman test for the number of metaphors produced by teachers about the developed countries by year.

Country	Test	N	Mean rank	SD	χ^2	*p*	Sig.
The USA	1	38	2.25	3	12.67	0.01*	4>1, 4>2
	2	38	2.36				
	3	38	2.57				
	4	38	2.83				
The UK	1	38	2.29	3	6.49	0.10	
	2	38	2.39				
	3	38	2.61				
	4	38	2.71				
Germany	1	38	2.16	3	14.08	0.00*	3>1, 4>1
	2	38	2.53				
	3	38	2.63				
	4	38	2.68				
Canada	1	38	2.38	3	5.38	0.15	
	2	38	2.38				
	3	38	2.49				
	4	38	2.75				
France	1	38	2.43	3	4.28	0.23	
	2	38	2.33				
	3	38	2.54				
	4	38	2.70				
Australia	1	38	2.25	3	11.47	0.01*	3>1, 4>1
	2	38	2.41				
	3	38	2.62				
	4	38	2.72				
Japan	1	38	2.33	3	5.81	0.12	
	2	38	2.43				
	3	38	2.59				
	4	38	2.64				
Total	1	38	1.91	3	25.03	0.00*	4>3, 4>2, 4>1, 3>1, 3>2
	2	38	2.30				
	3	38	2.72				
	4	38	3.07				

As can be seen in Table 9, the number of metaphors produced by teachers for the USA, Germany, and Australia as well as the overall total showed a statistically significant difference on an annual basis.

$$(\chi^2_{The\ US} = 12.67, p_{The\ US} = 0.01;\ \chi^2_{Germ.} = 54.69,\ p_{Germ.} = 0.00;\ \chi^2_{Avst.} = 11.47, p_{Avst.} = 0.01;\ \chi^2_{Total} = 25.03,\ p_{Total} = 0.01;\ p < 0.05).$$

On the basis of the paired comparisons to determine the source of the difference, the number of metaphors produced in the fourth year for the US was significantly higher than the number of metaphors produced in the first two years, and for Germany and Australia, the number of metaphors produced in the third and fourth years increased significantly. Considering the total number of metaphors, the number of metaphors increased from the previous year, except for the first and second years. However, the number of metaphors produced by teachers for the UK, Canada, France, and Japan did not show a statistically significant difference over the years.

The results of the Kruskal Wallis test applied to find out whether the quantity of metaphor production by the students differed according to their socioeconomic level are presented in Table 10.

Table 10. Results of the Kruskal Wallis test applied to find out whether the number of metaphors produced by students differ by socioeconomic level.

Test	Group	N	Mean rank	SD	Chi-square	*p*	Differences
1.	Lower	23	31.78				
	Middle	21	35.31	2	1.05	0.59	-
	Upper	22	33.57				
2.	Lower	23	29.26				
	Middle	21	37.05	2	2.58	0.28	-
	Upper	22	34.55				
3.	Lower	23	27.91				
	Middle	21	40.64	2	5.30	0.08	-
	Upper	22	32.52				
4.	Lower	23	29.61				
	Middle	21	40.19	2	3.96	0.14	-
	Upper	22	31.18				

When the results of the Kruskal Wallis test in Table 10 are examined, it can be seen that the total number of metaphors produced by the students in the first, second, third, and fourth years did not show statistically significant differences according to socioeconomic level (p> 0.05). In other words, it can be said that the SES level had no effect on the number of metaphors produced by students. The results of the Kruskal Wallis test applied to see whether the number of metaphors produced by the teachers varied by professional seniority are provided in Table 11.

Table 11. The Kruskal Wallis test results indicating whether the number of metaphors produced by teachers differ by professional seniority.

Test	Group	N	Mean rank	SD	Chi-square	*p*	Differences
1.	0-5 years	9	29.72				
	6-10 years	8	20.50				21+years <6-10 years, 21+years<0-5 years,
	11-15 years	9	19.28	4	15.52	0.00*	16-20 years <0-5 years,
	16-20 years	7	13.71				11-15 years <0-5 years
	21+ years	5	8.00				
2.	0-5 years	9	27.56				
	6-10 years	8	22.00				
	11-15 years	9	16.78	4	9.47	0.04*	21+ years <0-5 years,
	16-20 years	7	15.36				
	21+ years	5	11.70				

3.	0-5 years	9	28.89	4	11,82	0.02*	21+ years <0-5 years, 11-15 years <0-5 years, 16-20 years <0-5 years,
	6-10 years	8	20.00				
	11-15 years	9	17.11				
	16-20 years	7	17.29				
	21+ years	5	9.20				
4.	0-5 years	9	25.78	4	6.95	0.14	-
	6-10 years	8	20.69				
	11-15 years	9	18.56				
	16-20 years	7	17.86				
	21+ years	5	10.30				

When the results of Kruskal Wallis test in Table 11 are examined, it can be seen that the number of metaphors produced by teachers according to their professional seniority show statistically significant differences in the first, second, and third years.

$$(X_1^2(sd = 4, n = 38) = 15.52, p_1=0.00;\ X_2^2(sd = 4, n = 38) = 9.47, p_2=0.04;$$
$$X_3^2(sd = 4, n = 38) = 11.82, p_3=0.02; p<0.05).$$

The nonparametric-paired comparisons made to determine the source of the difference showed that the number of metaphors produced by the teachers with professional seniority between 0-5 years in the first year was higher than the number of metaphors produced by teachers with 11-15 years, 16-20 years, and 21 years or more of seniority. Based on another paired comparison for the first year, it was concluded that the number of metaphors produced by teachers with seniority between 6-10 years was higher than the number of metaphors produced by teachers with seniority of 21 years and over. The paired comparisons of the total number of metaphors produced in the second year indicate that the number of metaphors produced by teachers with professional seniority between 0-5 years is higher than the number of metaphors produced by teachers with 21 years or more of seniority. The paired comparisons made for the third year to determine the source of the difference reveal that the number of metaphors produced by teachers with professional seniority between 0-5 years is higher than the number of metaphors produced by teachers with professional seniority of 11-15 years, 16-20 years, and 21 years or higher. However, when the results of Kruskal Wallis test in Table 11 are examined, it is clear that the number of metaphors produced by teachers does not differ in a statistically significant way by professional seniority for the fourth year ($p > 0.05$). In other words, there were a similar number of metaphors produced by teachers in the fourth year.

DISCUSSION

By way of metaphor, the current study analyzed the images of developed countries that were on the minds of secondary school students and social studies teachers who were followed through a longitudinal study located in a metropolitan city within Turkey. The findings offer important insights into both the participants' images of specific developed countries as well as the process of metaphor production in general. The countries that the students and teachers held the most negative images of were France, the United Kingdom, and the United States. On the other-hand, metaphors produced by participants for Canada, Australia, and Japan were very positive.

As part of this study, one student from each socioeconomic level SES group (e.g., lower, middle, upper) along with the metaphors produced by each students' social studies teacher were compared individually. As a result, it was determined that there were similarities in the perceptions of the teachers and their students towards specific countries (e.g., the US, the UK, and France). For example, the teacher for the students in the middle SES group described the US as a harmful country in each of the four metaphor production installments over the four years of the study. This particular teacher appeared to associate the United States with the ideas of insatiable adolescent, spoiled child, tsunami, and hungry wolf, while this teachers' students associated the US with the concept of the wolf in the Little Red Riding Hood fairy tale, a tick, virus, parasite, big shark, bad boy, or stepmother.

Similarly, the students of the teacher who described the UK as a ruling country created similar images about the UK. For the four years of the study activity instalments, the teacher produced his metaphor for the UK using the concepts of screenplay writer, brain, male lion, or chairman of a company. All concepts that created the idea of the UK as being controlling or in-charge/bossy. The students of this teacher produced metaphors about the UK using the ideas of writer, school principal, mother, father, coach, queen bee, and sculptor. Undoubtedly, many variables such as culture, political-social relations, family, political-religious groups, media, educational policy, and so forth can play a role in shaping someone's mental image of a country. Piaget and Weil (1951) state that perceptions of different countries or social groups are formed between the ages of 7 to 11. Augoustinos and Rosewarne (2001) assert that from age eight, students begin to create their own value judgments and their own thinking systems. In addition, according to the CDT, at some point students begin to move away from their families and ultimately form their own social networks especially within their school or peer groups (Choudhury et al., 2006). Pike and Barrows (1979) state that teacher attitudes and perceptions affect students very easily and are one of the most influential factors in shaping students' perceptions regarding countries. Therefore, teacher perception is an important factor that can have an impact on their students. However, further comprehensive research is needed in order to make a more concrete assertion regarding the effect of teacher perceptions on students.

As a result of the metaphors provided by the participants in this study, it can be concluded that the US, the UK, and France are generally imagined as powerful, knowledgeable, executive, and harmful to the people of other countries'. A deeper analysis of the metaphors produced by participants revealed that the political, economic, and military tensions experienced throughout history are particularly influential in forming the basis of negative perceptions regarding France and the UK. It can be said that the war between France and the UK in World War I, and other tensions with Muslim countries may be a contributing factor to the formation of negative images by Turkish students and teachers. Previous research findings have clearly established that political tensions and wars are very quickly reflected in-group perception (Chandra, 1967; Child & Doob, 1943; Diab, 1962, 1963; Dudycha, 1942; Gilbert, 1951; Karakuş & Aşçı, 2018; Meenes, 1943; Sinha & Upadhyay, 1960; Yılmaz & Yiğit, 2010). Also, Child and Doob (1943) state that people's perceptions of countries that are allied with their own country are generally positive, and perceptions of those fighting on the opposite side are generally negative. The perceptions of France and the UK in the current study can be considered as such. For example, in 2018 when the history of World War I was taught in the social studies courses, the students' negative perceptions towards France and Britain increased coincidentally. There may be a variety of reasons that underlie Germany's somewhat more positive image than those of other European countries. The presence of more than 3 million Turkish people living in Germany, having better trade relations with Germany than other European countries as well as the fact that Turkey and Germany sided together during World War I, may play a role in the more favourable view of Germany.

Many characteristics attributed to various countries that were determined in previous studies have also been identified in this present study. For example, among the characteristics identified were: the UK and France are believed to have harmed and exploited other countries (Diab, 1962, 1963; Karakuş & Aşçı, 2018; Yılmaz & Yiğit, 2010); Germany has been seen as powerful, disciplined, and knowledgeable; the US viewed as powerful; and the UK as selfish and powerful. In addition, the image of the French being conceited and hypocritical has also been identified in other studies (Diab, 1962, 1963).

The data analysis also revealed that the metaphors produced by students increased regularly for each country. For example, for the US, only 4.5% of students produced valid metaphors in 2015, while in 2018, during the final instalment of the study, 85% of students produced valid metaphors about the US. In 2015, only 4.5% of all the participating students were able to produce valid metaphors for the UK, but this rate increased to 20% in the following year. In 2017, 42% of the students, and in 2018 (the final year of secondary school), 56% of the students were able to produce valid metaphors regarding the UK. Based on this finding, it can be said that there is a strong

relationship between metaphor production and age. It was also observed that the metaphors produced by the students became more sophisticated and advanced over the years. Siltanen (1990) and Özçalışkan (2007) state that adolescents explain metaphoric sentences in more detail, and that they can apply different perspectives regarding any similarities between target and source domains. Previous research findings (Białecka-Pikul, 2010; Dent, 1987; Glicksohn & Yafe, 1998; Noveck, Bianco, & Castry, 2001; Özçalışkan, 2007; Siltanen, 1990; Winner et al., 1976) suggest that metaphorical thinking develops with age. However, these studies usually focus on the process of understanding and explaining some predetermined metaphorical sentences. Evidently, the production aspect of the metaphoric thinking has largely remained neglected in the metaphor research literature. In this sense, it can be argued that the longitudinal analysis presented here showing the change between the participants' metaphor production process and time offers some crucial and new insights into the process of metaphor production.

When the ratio of metaphors produced by all the teachers was examined, a gradual increase in the number of metaphors produced was evident (except France). However, this increase was not as high as that of the students. The teachers produced the most valid metaphors for the US, Germany, and the UK. While 53% of the teachers produced valid metaphors for the US in 2015, this ratio increased to 81.5% in 2018. The case for France is slightly different. In 2015, 29% of the teachers were able to produce valid metaphors for France, while in 2016 this ratio decreased down to 24%. Also, there was a gradual increase for the other countries. The longitudinal increase in student metaphors can be explained by an increase in the students' cognitive growth as well as an increase in their overall knowledge about other countries. The data analysis also revealed that the teachers produced more metaphors for each country at the beginning of the study than the students did. This can be explained by the fact that teachers had completed their cognitive development, were knowledgeable about the developed countries in question (because these teachers are the primary people to teach these students), and were likely to be more familiar with the process of metaphor production.

Another interesting finding of the study was obtained by examining the metaphors produced by the teachers in terms of professional seniority. In a way, teacher professional seniority can provide a clue about the possible age of the teacher. For example, a teacher in the early years of the profession may be considered younger, while those in their 20th year in the profession may be considered older. The findings showed that teachers produce better metaphors in terms of quantity and quality at a younger age. In addition, teachers with high professional seniority mostly create one-way metaphorical relationships between the source and target domain. Three of the teachers with 21 years or more seniority could not produce any valid metaphors over the four years of research visits. Interestingly, it has been reported that there is a significant decrease in metaphoric thinking with age. Mashal, Gavrieli, and Kavé (2011) argue that this may be explained by a decrease in the brain function of older adults.

The analyses revealed no significant relationship between the students' socioeconomic status and their level of metaphor production. Although SES may not be a factor in students' metaphor production, it may still affect the quality of metaphors produced. Some differences between upper SES group and the lower and middle SES groups were identified by the analyses. Some students in the upper SES group formed their metaphors based on individual experiences especially for countries they had visited. For example, a student in the upper SES, presenting the US in the multicultural category, made metaphorical statements about the different religions and races he saw in New York. Another student in the upper SES produced his metaphor considering the experiences he had in Paris. Thus, the SES level seems to play a key role in terms of enabling personal experiences in producing metaphors. Lakoff and Johnson (2005) underscore the importance of *"direct physical experience"* in metaphorical thinking as well. Similar findings were obtained in a recent study that examined the affective perspectives of 8th grade students regarding various countries (Karakuş & Aşçı, 2018). In this present study, whereas the students in the upper SES group responded more individually, social emotions predominated the country perceptions of the students in the lower SES group. It can be argued that the students in the lower and middle SES groups form their mental images according to cultural norms

and these images can tend to be more negative than those gained from personal experiences. In addition, many stereotypes were identified in the analysis of images of these specific countries. Previous research also supported the finding that various stereotypes form at an early age (e.g., students) and continue to be formed into adulthood (e.g., teachers) (Diab, 1962, 1963; Gilbert, 1951; Sherif & Sherif, 1956).

When examining the analysis results it may be important to consider that the order of the countries in the metaphor booklet utilised in the data collection may have affected the metaphor production of the participants. The number of metaphors for countries on the first page, such as the US (students: *n*= 111; teachers: *n*= 99), Germany (students: *n*= 71; teachers: *n*= 110), and the UK (students: *n*= 81; teachers: *n*= 96) was found to be higher. On the other hand, the number of metaphors for Japan (students: *n*= 34; teachers: *n*= 77) and Australia (students: *n*= 18; teachers: *n*= 47) was significantly lower. The fact that the participants may have been bored with the activity on the later pages, and as a result, strayed from the pattern of metaphorical thinking pattern could have contributed to there being fewer metaphors being provided for the countries listed on the latter pages. Actually, this may have occurred even more with the teachers than the students. It would be incorrect to state that the placement of Australia later in the metaphor booklet a decisive reason for fewer student responses because many students reported not knowing much about Australia in general. As a result, the lack of student metaphors regarding Australia may be related to limited knowledge by students, especially considering the young age of the students (Child & Doob, 1943). Previous studies also indicate that metaphoric thinking is related to children's familiarity and knowledge of a subject (Keil, 1986; Mashal et al., 2011; Siltanen, 1990). Haas and Clary (1985) compared 4th and 8th grade students' knowledge of various countries and determined the level of knowledge of 8th grade students was higher than the 4th graders. It can be said that the findings of Haas and Clary (1985) are consistent with the findings of this current study; for example, no metaphors could be produced for Australia in 2015 when the students were in 5th grade, while 12 valid metaphors were produced later in 2018 when the students were in 8th grade. In the process of producing metaphors, knowledge accumulation is more important than the process of understanding and explaining metaphors because other words within the metaphorical sentences can provide various clues about the individuals in terms of meaning for understanding and explaining their metaphor. However, in the process of producing a metaphor, there is no clue as to how the person will create his/her metaphor. Therefore, it can be postulated that knowledge accumulation is a more important factor in the production of original metaphors.

Another interesting finding from the current study relates to the effect of daily political discourse and media on shaping the metaphors of both teachers and students. Media exposure appears to be quite influential in shaping the views of both secondary school students, who are labelled as "digital natives" by Prensky (2001), and the teachers who are labelled as "digital nomads." The recent case involving Reverend Andrew Brunson, and President Donald Trump's political discourse was reflected in participants metaphors produced about the US. France, Germany, The US, and the UK receive a higher percentage of coverage than other countries in the Turkish media due to the political, commercial, and cultural relations that between these countries and Turkey. Previous studies report that countries that have more coverage in the media are usually more advantageous in terms of country image (Sierp & Karner, 2017; Yılmaz & Yiğit, 2010). Pike and Barrows (1979) point out that the media is very influential in creating a positive image of a country. Akpınar (2006) states that Turkish school curriculum offers very limited information to students about other countries around the world, and as a result, especially primary and secondary school students compensate for this information deficiency by relying on the media for a large part (82.3%) of their information. Therefore, the limited effect of the media on the participants knowledge regarding Australia and Japan may have played a part in the low number of metaphors created for those two countries.

CONCLUSION

The results of this study have shown that the use of metaphors can be a reliable data collection tool when investigating perceived images and/or stereotypes. This current study is one of the first

studies to have examined both the perceived images of countries along with the process of metaphor production. To obtain more comprehensive and generalizable results, future studies should include larger participant groups, differing school types, and a variety of educational levels. In addition, similar research can be conducted in different countries in order to make comparisons and reveal stereotyping patterns that may exist. Considering what we perceive as an inadequacy of studies in the literature relating to the metaphor production process, the findings of this current study can play an important role in filling gaps in this research area as well as creating continued awareness and attention regarding the metaphor production process. Children's knowledge, grammar competence, vocabulary knowledge and production, age, and other factors such as intercultural transfer can play a key role in their comprehension of metaphoric sentences (Siltanen, 1986, 1990; Steen, 2008; Vosniadou, 1989). It is also very important to remember that metaphor production is multidimensional, and as a result, future research designs should focus on investigating a variety of factors that may affect metaphor production such as knowledge of the metaphor production process, resources of available information, grammar competence, vocabulary size and repertoire, environmental and cultural stimuli, cognitive development levels, and the effect of the media and educational environment.

Limitations

Following the completion of this longitudinal study, the researchers have determined there to be two limitations. First, the study was carried out with a relatively small sample size (e.g., n=104 participants, 66 students & 38 teachers). As a result, this participant sample cannot be seen as completely reflecting the general views of all Turkish people (nor does it have such a purpose to do so). However, this study does make an important contribution to the field because it highlights developmental and cognitive changes that can occur in regards to the perceived image of countries as well as to the process of metaphor production. The second limitation recognised by the researchers relates to the data collection methodology and in particular the research tool that was utilised. For example, in this study, the country images that existed in the minds of the students and teachers investigated were identified through the use of metaphors during data collection activities that took place during research visits over a four-year period. However, if one-on-one interviews would had been held with individual participants following each metaphor production stage, then the potential for gathering more detailed and comprehensive information would have been greater. As a result, the researchers may have better accessed the participants' perceptions regarding their images of developed countries as well as how they understood and carried out the metaphor production process. In the end, it is clear that when conducting future studies in regards to perceived image and metaphor production, particular attention should be placed on the use of detailed one-on-one participant interviews in order to potentially gain further insight into the participants perceived images as well as their metaphor production process.

REFERENCES

Akpınar, B. (2006). Avrupa Birliğine uyum sürecinde Türk ilköğretim öğrencilerinin Avrupa Birliği imajı [European Union image of Turkish elementary school students in the European Union harmonization process]. *Eğitimde Politika Analizleri ve Stratejik Araştırmalar Dergisi, 1*(1), 8-26.

Allport. G. (1954). *The nature of prejudice*. NY: Addison-Wesley

Augoustinos, M., & Rosewarne, D. L. (2001). Stereotype knowledge and prejudice in children. *British Journal of Developmental Psychology, 19*, 143-156.

Becker, A. H. (1997). Emergent and common features influence metaphor interpretation. *Metaphor and Symbol, 12*(4), 243-259.

Białecka-Pikul, M. (2010). Teaching children to understand metaphors as a path leading to theory of mind development. *European Journal of Developmental Psychology, 7*(5), 529-544.

Burbules, N. C., Schraw, G., & Trathen, W. (1989). Metaphor, idiom, and figuration. *Metaphor and Symbolic Activity, 4*(2), 93-110.

Bruner, J. S. (1964). The course of cognitive growth. *American Psychologist, 19*, 1-15.

Chandra, S. (1967). Stereotypes of university students toward different ethnic groups. *The Journal of Social Psychology, 71*(1), 87-94.

Chattalas, M., Kramer, T., & Takada, H. (2008). The impact of national stereotypes on the country of origin effect: A conceptual framework. *International Marketing Review, 25*(1), 54–74.

Child, I. L., & Doob, L. W. (1943). Factors determining national stereotypes. *The Journal of Social Psychology, 17*(2), 203-219.

Choudhury, S., Blakemore, S. J., & Charman, T. (2006). Social cognitive development during adolescence. *Social Cognitive and Affective Neuroscience, 1*(3), 165-174.

Cunningham, J. W. (1976). Metaphor and reading comprehension. *Journal of Literacy Research, 8,* 363-368.

Deignan, A. (2003) Metaphorical expressions and culture: an indirect link. *Metaphor and Symbol, 18*(4), 255-271.

Dent, C. H. (1987). Developmental studies of perception and metaphor: the Twain shall meet. *Metaphor and Symbolic Activity, 2*(1), 53-71.

Diab, L. N. (1962). National stereotypes and the "reference group" concept. *The Journal of Social Psychology, 57*(2), 339-351.

Diab, L. N. (1963). Factors affecting studies of national stereotypes. *The Journal of Social Psychology, 59*(1), 29-40.

Dudycha, G. J. (1942). The attitudes of college students toward war and the Germans before and during the second world war. *The Journal of Social Psychology, 15*(2), 317-324.

Fischer, K. W. (1980). A theory of cognitive development: the control and construction of hierarchies of skills. *Psychological Review, 87*(6), 477-531.

Gardner, H., Kircher, M., Winner, E., & Perkins, D. (1975). Children's metaphoric productions and preferences. *Journal of Child Language, 2*, 125-141.

Gibbs, R. (1999). Taking metaphor out of our heads and putting it into the cultural world. In R. W. Gibbs & G. Steen (Eds.), *Metaphor in cognitive linguistics* (pp. 145-166). Amsterdam: John Benjamins.

Gibbs, R. W. (2011). Evaluating conceptual metaphor theory. *Discourse Processes, 48*(8), 529-562.

Gilbert, G. M. (1951). Stereotype persistence and change among college students. *Journal of Abnormal and Social Psychology, 46,* 245-254.

Glicksohn, J., Kraemer, S., & Yisraeli, O. (1993). A note on metaphoric thinking and ideational fluency. *Metaphor and Symbolic Activity, 8*(1), 67-70.

Glicksohn, J., & Yafe, T. (1998). Physiognomic perception and metaphoric thinking in young children. *Metaphor and Symbol, 13*(3), 179-204.

Jablonski, P., van der Lans, J., & Hermans, C. (1998). Metaphor theories and religious language understanding. *Metaphor and Symbol, 13*(4), 287-292.

Haas, M. E., & Clary, E. (1985). *The perception of other nations by students in north-western Arkansas.* Retrieved from ERIC database. (ED257710)

Karakuş, U., & Aşçı, F. (2018). Ortaokul öğrencilerinin kıta, okyanus ve ülke ile ilgili harita bilgileri ve ülkelere karşı duyuşsal tavırları [The map knowledge of secondary school students related to the concepts of continents, oceans and countries and their cognitive attitudes towards countries]. *Turkish Studies, 13*(27), 1308-2140.

Katz, D., & Braly, K.W. (1933). Racial stereotypes of one-hundred college students. *Journal of Abnormal and Social Psychology*, *28*, 280-290.

Keil, E. (1986). Conceptual domains and the acquisition of metaphor. *Cognitive Development, 1,* 73-96.

Korner, I. N., & Allison, R. B. (1965) Comparative study of metaphoric thinking. *The Journal of Psychology, 60*(1), 67-70.

Lakoff, G., & Johnson, M. (2005). *Metaphors we live by [Metaforlar hayat, anlam ve dil, Çeviren: Gökhan Yavuz Demir]*. İstanbul: Paradigma Yayınları.

Lippmann, W. (1922). *Public opinion*. New York: Harcourt Brace

Low, G. (2008). Metaphor and education. In R. W. Gibbs, Jr. (Ed.), *The Cambridge handbook of metaphor and thought* (pp. 212-231). NY: Cambridge University Press.

Lynch, H. L., & Fisher-Ari, T. R. (2017). Metaphor as pedagogy in teacher education. *Teaching and Teacher Education, 66,*195-203.

Madon, S., Guyll, M., Aboufadel, K., Montiel, E., Smith, A., Palumbo, P., & Jussim, L. (2001). Ethnic and national stereotypes: The Princeton trilogy revisited and revised. *Personality and Social Psychology Bulletin, 27*(8), 996-1010.

Mahood, W. (1987). Metaphors in social studies instruction. *Theory and Research in Social Education, 15*(4), 285-297.

Mashal, N., Gavrieli, R., & Kavé, G. (2011). Age-related changes in the appreciation of novel metaphoric semantic relations. *Aging, Neuropsychology, and Cognition: A Journal on Normal and Dysfunctional Development, 18*(5), 527-543.

McCrae R. R., & Terracciano, A. (2005). 79 Members of the personality profiles of cultures project personality profiles of cultures: aggregate personality traits. *Journal of Personality and Social Psychology, 89*(3), 407-425.

Meenes, M. (1943). A comparison of racial stereotypes of 1935 and 1942. *The Journal of Social Psychology, 17*(2), 327-336.

Mllckl, P. P., & Ellemers, N. (1996). Being different or being better? National stereotypes and identifications of Polish and Dutch students. *European Journal of Social Psychology, 26,* 97-114.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* Thousand Oaks, CA: SAGE.

Navaneedhan, C. G., & Kamalanabhan, T. J. (2016). Is metaphorical thinking related to development of cognitive structures among learners? *World Scientific News, 52, 1-13.*

Nelson, E. M. M. (1993). The effect of metaphor on group reminiscence. *Metaphor and Symbolic Activity, 8*(4), 297-309.

Noveck, I. A., Bianco, M., & Castry, A. (2001). The costs and benefits of metaphor. *Metaphor and Symbol, 16*(1-2), 109-121.

Saban, A. (2004). Prospective classroom teachers' metaphorical images of selves and comparing them to those they have of their elementary and cooperating teachers. *International Journal of Educational Development, 24,* 617–635.

Saban, A. (2010). Prospective teachers' metaphorical conceptualizations of learner. *Teaching and Teacher Education, 26,* 290-305.

Saban, A., Kocbeker, B. N., & Saban, A. (2007). Prospective teachers' conceptions of teaching and learning revealed through metaphor analysis. *Learning and Instruction, 17,* 123-139.

Sherif, M., & Sherif, C. W. (1956). *An outline of social psychology*. NY: Harper.

Sierp, A., & Karner, C. (2017). National stereotypes in the context of the European crisis. *National Identities, 19*(1), 1-9.

Siltanen, S. A. (1986). Butterflies are rainbows?: A developmental investigation of metaphor comprehension. *Communication Education, 35*(1), 1-12.

Siltanen, S. A. (1990). Effects of explicitness on children's metaphor comprehension. *Metaphor and Symbolic Activity, 5*(1), 1-20.

Sinha, A. K. P., & Upadhyaya, O. P. (1960) Change and persistence in the stereotypes of university students toward different ethnic groups during Sino-Indian border dispute. *The Journal of Social Psychology, 52*(1), 31-39.

Steen, G. (2008). The paradox of metaphor: Why we need a three-dimensional model of metaphor. *Metaphor and Symbol, 23*(4), 213-241.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Science, 9,* 69-74.

Stites, L. J., & Özçalışkan, Ş. (2013). Teasing apart the role of cognitive and verbal factors in children's early metaphorical abilities. *Metaphor and Symbol, 28*(2), 116-129.

Stofflett, R. (1996). Metaphor development by secondary teachers enrolled in graduate teacher education. *Teaching and Teacher Education, 12*(6), 577-589.

Stuhlfaut, M. W., & Vanden Bergh, B. G. (2014). Creativity is …: A metaphoric model of the creative thought process. *Journal of Marketing Communications, 20*(6), 383-396.

Özçalışkan, Ş. (2007). Metaphors we move by: children's developing understanding of metaphorical motion in typologically distinct languages. *Metaphor and Symbol, 22*(2), 147-168.

Piaget, J. (1964). Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching, 2,* 176-186.

Piaget, J., & Weil, A. (1951). The development in children of the idea of the homeland and of relations with other countries. *International Social Science Bulletin, 3*, 561-578.

Pike, L. W., & Barrows, T. S. (1979). *Other nations other peoples: A survey of student interests, knowledge, attitudes, and perceptions*. Washington, DC: US Department of Health, Education, and Welfare.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon, 9*(5), 1-6.

Rutter, M. (1985). Family and school influences on cognitive development. *Journal Child Psychology and Psychiatry, 26*(5), 683-704.

Terracciano, A., Abdel-Khalek, A. M., Adam, N., Adamovova, L., Ahn, C., Ahn, H., … McCrae, R.R. et al. (2005). National character does not reflect mean personality trait levels in 49 cultures. *Science, 310,* 96-100.

Van der Veer, R., & Valsiner, J. (1991). *Understanding Vygotsky: A quest for synthesis*. Cambridge, MA: Blackwell.

Vosniadou, S. (1989). Context and the development of metaphor comprehension. *Metaphor and Symbolic Activity, 4*(3), 159-171.

Winner, E., Rosenstiel, A. K., & Gardner, H. (1976). The development of metaphoric understanding. *Developmental Psychology, 12*(4), 289-297.

Yılmaz, K., & Yiğit, Ö. (2010). Sosyal bilgiler öğretmen adaylarının Avrupa, Ortadoğu ve Türkiye'ye komşu ülkelere ilişkin algıları [Pre-Service social studies teachers' perceptions of Europe, the Middle East, and the neighbouring countries of Turkey]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi 38,* 318-334.

Yu, N. (2008). Metaphor from body and culture. In R.W. Gibbs (Ed.), *The Cambridge handbook of metaphor and thought* (pp. 247–261). Cambridge: Cambridge University Press.