Can Flashbulb Memory Characteristics Predict Prototypicality in Social Representations? A Study on a Turkish Sample's Recollections of the 2016 Coup Attempt

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In contrast to the mainstream assumption that flashbulb memories (FBM) of social events should be evaluated as autobiographical memories, some researchers have recently suggested that they may also have various social functions. This study aimed to investigate the July 15th, 2016 coup attempt in Turkey as an example of negative FBM and a social representation (SR) by using both quantitative and qualitative data. Participants ($N = 343$) responded to an online survey that included questions measuring the quality of their memories and the hierarchical evocations of the coup attempt. It was found that memories of this event had the basic characteristics of FBM. Strong and weak FBM groups differed from each other on phenomenological aspects of rehearsal (social sharing and rumination) and vividness (visual relieving). Findings also showed that, compared to the weak FBM group, participants who were in the strong FBM group reported more evocations from the central core of the general social representation, whereas they did not differ in terms of the evocations from the periphery and the total social representation. Regression analyses showed that the variance in the number of evocations from the central core of the social representation was predicted by the phenomenological aspect of surprise and emotional valence. For the total number of evocations, however, surprise was the only predictor among the phenomenological aspects. Interestingly, age was not a significant predictor of the quality of the FBM,

whereas it predicted significant variance in the number of evocations from the central core and the total evocations.

INTRODUCTION

The mainstream social cognition approach has long been criticized heavily for its "individualizing" approach and negligence of social context in its memory studies. Due to this pressure, social factors ranging from social groups to the culture involved in the act of remembering are becoming more important in recent studies. Such attempts have gone further in remedying the "asocial" nature of mainstream approaches to memory by proposing a link between two distant traditions of social psychology, namely social cognition and the social representations theory (SRT). Although these two approaches differ from each other radically in their epistemological and ontological premises (Moscovici, 1988), some scholars believe that there is merit in trying to integrate them in the study of memory by paying special attention to the level of analysis (Augoustinos & Innes, 1990; Blank, 2009; Devine-Wright, 2003). Augoustinos and Innes (1990) suggested that addressing memory with a multilevel analysis is not only beneficial for the mainstream social cognition approach but also for SRT, as there is a need "to understand how social representations are acquired, processed, developed, structured and used by individuals in the course of everyday social interaction" (p. 215). Despite the potential of such an endeavour for many areas of social cognition, ranging from schemas to collective memory, such research in the memory literature is still in its development phase after three decades (for a related discussion, see Coman, 2015; Hirst et al., 2018).

In this article, we propose a link between the concepts of flashbulb memories and social representations (SR). As a type of memory containing vivid and long-lasting details about learning of surprising events that are related to the individual, group, culture, or society (Brown & Kulik, 1977, p. 73), we believe that flashbulb memories (FBMs) constitute a good example for integrating the mainstream social cognition approach with the SRT. FBM is one of the earliest concepts in mainstream social cognition, and incidents of collective and political violence, deaths of famous people, and disasters such as earthquakes or nuclear accidents are prominent examples of events that have been investigated in FBM research (Páez et al., 2009).

As SRs function to "familiarize the unfamiliar" (Moscovici, 1973), events that can be classified as related to FBMs, with their surprising nature, fit well within the array of stimuli that trigger the formation or re-organisation of an SR.

Recently, Hirst et al. (2018) have also pointed to the divergence between "top-down" and "bottom-up" approaches in psychology in handling the collective memory. In this respect, we argue that the SRT can be seen as utilizing the "top-down approach" in studying the formation and retention of collective memories by ignoring the intra-individual factors. On the other hand, the mainstream social cognition constitutes a clear example of the "bottom-up approach" as it has limited itself mainly to the intra-individual factors at the expense of neglecting the wider social/contextual factors. By focusing on the July 15th, 2016 coup attempt in Turkey, which was an unprecedented development in the history of Turkey that caught society off guard, we aimed to link these distant two perspectives by examining the possible relationships between the FBMs and SRs of the event.

THE STRUCTURE OF A SOCIAL REPRESENTATION

As an alternative to the mainstream psychology's "schema" concept that excludes the social, Moscovici (1973, 1988) proposed a basic mental structure: the concept of "social representation", which is created in a collective manner and has the power to shape social behaviours. An SR, as described by Moscovici (1973, p. xiii), is a "system of values, ideas, and practices" that makes the new and foreign (ideas, practices, or objects) familiar to individuals and groups. Moscovici argued that SRs have two basic functions: first, they help individuals to adapt and control physical and social environments; and, second, they enable social change and interactions between members of a community. For Moscovici, people define the histories of themselves and the groups to which they belong through representations, and they can classify all important information without leaving any uncertainty when defining their selves and the identities of their groups.

Although SRT has attracted considerable attention, especially in continental Europe, it has also faced many criticisms, ranging from the static nature of the SR concept to the SRT's similarity to the mainstream cognitive approach (Voelklein & Howarth, 2005). Contrary to some critics stating that the SR concept necessarily implies a resistance to change, Moscovici had considered the possibility that SRs are open to change with contributions from individuals; thus, the concept of SR makes it possible to examine both social similarities and individual

differences (Voelklein & Howarth, 2005). Some other critics asserted that the SRT has not been far removed from the mainstream social cognition approach. For some scholars, however, instead of keeping these two traditions apart, it would be more fruitful to integrate them, as some examples of the structural approaches to SR have striking similarities with the social cognitive approach (e.g., Augoustinos & Innes, 1990; Parales Quenza, 2005). Similarities between the mainstream social cognition's schema concept and structural approaches to SRs are the most mentioned among these. More specifically, Parales Quenza (2005) sees such an integration as a way of remedying the "serious mismatch between theory and method in the exploration of the [SR] structure" (p. 85, brackets are added).

In one of the structural approaches to SR, Abric (1993) proposed considering the content of an SR in a dual manner, including central and peripheral structures. In this proposition, while the central core includes elements that are relatively resistant to change, the peripheral structures contain the unique contributions of individuals and, thus, the possibilities for change. According to Abric (1993), central features include the compromising trends and, therefore, reflect the homogeneity of the group, whereas peripheral elements emphasize the heterogeneity. Thus, although the occurrences of disorganisation are possible in some cases (Wachelke, 2012), the central core of a SR is the determining structure that serves the collective memory and the history of a group. Abric (1989, as cited in Parales Quenza, 2005, p. 82) provided evidence in his experimental studies showing that recall contingencies of core elements were higher than peripheral elements, and this is especially so in delayed recall. However, the individual factors that lead to the strength of the central zone of an SR have not been examined thoroughly for a long time (Augoustinos & Innes, 1990).

FLASHBULB MEMORY CHARACTERISTICS

Many scholars believed that FBMs have various structural features that make it possible to distinguish them from other autobiographical memories. An up-to-date list of features that researchers generally agree upon includes the key aspects of FBMs: importance, consequentiality, emotional intensity, vividness, rehearsal, and significance (Demiray & Freund, 2015). It is thought that FBMs differ from other autobiographical experiences in terms of imagination, memory quality, and frequency of discussion/consideration after the event. Another feature of FBMs that attracts researchers' attention is that they do not change easily over time (Williams & Conway, 2009). Not surprisingly, in FBM research, rather than the

importance and the details of the event itself, the focus has been mostly on coding the conditions which the person is in at the moment of the event (e.g., the presence of other people, characteristics of the place, what activity the person is engaged in, etc., see Hirst et al., 2009; 2015; Talarico & Rubin, 2018).

Researchers who interpret the findings of various studies point out that FBMs may have some basic psychological functions. Given their widespread use by individuals and large groups, it is suggested that FBMs perform at least three basic psychological functions: self-continuity, social-bonding, and directive functions (Bluck et al., 2005; Demiray & Freund, 2015; Hyman & Faries, 1992; Rasmussen & Berntsen, 2009). While the common belief is that FBMs should be defined by their individual characteristics and that these functions serve personal benefits (Demiray & Freund, 2015), some researchers have recently proposed examining these functions through group-based benefits (e.g., Berntsen, 2018; Páez et al., 2009). Suggesting that FBMs of some striking (positive or negative) social and personal events are related to social identities, Berntsen (2018) sees social identities as the trigger of the functions listed above. Therefore, it is possible to consider FBMs as collective memory elements that are shaped by social identity categorizations and stored within these identities. Tamayo-Agudelo (2012) has also speculated on the possible empirical relationship that can be established between SRs and FBMs by suggesting the use of SRs together with previous attitudes in assessing the importance of social identity and FBM events (see also, Conway et al., 1994, Hirst et al., 2009).

THE PRESENT STUDY

Our main aim in this study is to see the extent to which the FBM features predict the number of individuals' evocations from an SR. We believed that establishing the link between the cognitive dynamics behind the formation of a memory and SRs may pave the way for a multi-level analysis from the individual to the group level. In this framework, by focusing on the July 15th coup attempt in Turkey, we expected that FBM features would allow us to examine the individual differences in assessing the consensuality of the SR related to the coup attempt.

As stated above, the 2016 coup attempt is a unique historical event for Turkish society in some respects. On the evening of July 15th, a group of soldiers within the Turkish Armed Forces attempted to take control of the country by closing the Bosporus Bridge, bombing the Parliament building, and shooting at protesting crowds. Although Turkish people had

experienced two coups in the past (in 1960 and 1980), this attempt was peculiar in some respects and surprised almost everyone. Unlike the previous ("successful") coups that started before dawn while people were in their beds, this one took place rather late, around 10 PM, when people were still on the streets. Also, unlike the previous ones, which involved the whole army in a chain of command, this coup was attempted with a seemingly limited number of troops which were allegedly led by FETO (Fethullah Terror Organisation; a group which has been accused as being responsible for organizing the coup). Later that night, the president, over TV broadcasts, invited the public to the city squares to protest the coup. After the call, several anti-coup demonstrations took place in many provinces. The attempt was finally suppressed the next morning as a result of operations carried out by the Turkish Armed Forces and Security General Directorate.

This event, in which more than 250 people lost their lives, surprised and deeply shocked the public, and its effects on social and political arenas lasted for several years. After the incident, large numbers of people, including the soldiers who were accused of being related to FETO, were arrested and/or jailed. This attempt carries additional importance in the history of coups in Turkey, as it created an intense uncertainty and disagreement in the public regarding the motives and perpetrators behind it (for the diversity in evaluating the coup in Turkish media, see Nisan & Şeker, 2017). Some labelled the coup attempt as an organized attack on Turkish democracy by "traitors" whereas opponents perceived it as a "controlled or planned coup" designed to consolidate the power of the existing government by pacifying dissidents under martial law.

The present study, as far as is known, is the first empirical research on the link between FBMs and SRs. As there was no study on this event, our first aim was to examine whether the memories of the night of July 15th bear the qualities of an FBM. The second aim was to determine whether the memories related to this event have the structural qualities of an SR by applying a prototypical analysis. The last aim was to examine whether the consensuality for the core, the periphery, and the total of SR related to this event differs depending on the quality and the phenomenological characteristics proposed for the concept of FBM. In particular, as such memories tend to be represented as SRs in individuals' minds, we expected that the levels of consensuality in individuals with strong FBMs would be higher than individuals with weak FBMs especially in rehearsal of the FBM by group-related means (i.e., talking to others, following media, etc.).

The data were analysed using a convergent design, a sub-type of a mixed-design approach (see Creswell & Plano-Clark, 2017), in which quantitative and qualitative data are collected simultaneously from the same group of participants and analysed in relation to each other. The use of this methodology is another unique aspect of the present study and we believed that the mixed-designs would make it possible to combine the top-down and bottom-up approaches in examining FBMs.

METHOD

Participants

This study was carried out with an online survey using *SurveyMonkey*® whose link was sent to Turkish citizens reached through the convenience sampling technique. Participants were contacted via word of mouth, authors' personal contacts, and social media such as Facebook and Instagram. One hundred and ninety-two (30%) out of 621 people who visited the survey link left the questionnaire after reading the first page; 40 (7%) did so after completing the first part of the survey. Among the remaining 389 (63% of the total visitors) who completed the questionnaire, forty participants who did not fully comply with the guidelines and five participants reporting no memory of the night of July 15th, 2016, as well as a fourteen-year-old participant, were removed from the final data set. The final sample included 343 participants (219 female and 124 male) between the ages of 17-80 ($\bar{x}_{age} = 32.07$, $SD = 10.97$).

Demographic information on education and occupation indicates that, although most were women (about 64%), the sample was satisfactorily heterogeneous: Majority of participants (86.6%) were living in metropolitan areas; 59.4% of them were employees in public (14.9%) and private (%28.8) sectors, and the rest was composed of self-employed individuals (15.7%), pensioners (3.5%), housewives (3.8%), students (28.3%), and people who were not working (5%). However, the sample included highly educated individuals: 82.2 % of the participants had university degrees ranging from undergraduate to PhD.

Instruments

Canonical Category Questions

In order to decide whether the participants had an FBM related to the coup attempt, five questions previously used in various studies were asked (e.g., Demiray & Freund, 2015). The

first question was a closed-ended one that asked participants whether they remember their personal circumstances in which they first heard the news of the night of July 15th, 2016 and required a 'yes/no' response. Four canonical questions used extensively in the literature about the source, the location, the time, and the ongoing activity were asked about the details of the moment in order to determine the existence of an FBM (see Curci & Lanciano, 2009). The participants answered these questions by writing in a text box.

Phenomenological Aspects

Drawing upon research (e.g., Berntsen & Thomsen, 2005; Gandolphe & El Haj, 2017; Kvavilashvili et al., 2010), several phenomenological features of FBM such as importance, consequentiality, emotional intensity, emotional valence, surprise, vividness, and rehearsal were assessed by fourteen statements which were presented with five or ten-point Likert scales (for anchors, see Table 2).

Exploratory factor analyses with varimax rotation were carried out to determine whether these statements were grouped under the factors previously proposed in the literature. The first factor analysis using varimax rotation produced four factors with eigenvalues above one, explaining 64.41% of the total variance. Three items did not load on any factor (emotional intensity, physiological reviviscence, and mental travel in time). After repeating the analyses with eleven items by using five and six-factor solutions, we decided on a six-factor solution explaining approximately 83% of the total variance as it was able to differentiate the phenomenological qualities as proposed in the literature (see Table 1). Reliabilities of the composites revealed acceptable results, ranging from .74 to .83 (for reliabilities, see Table 1; for inter-correlations, see Table 4).

The SR Contents

The 'hierarchical evocations technique', which has frequently been used to derive the content of an SR in the relevant literature, was employed (e.g., Dany et al., 2015; Fattori et al., 2015). Participants were first asked to write down seven words or phrases that come to their minds when they thought about the night of July 15th, 2016 and then rank their importance from 1 (*the most important*) to 7 (*the least important*). The data were subjected to a *prototypical analysis* (or *evocation analysis*), a lexicographic analysis that aims to capture the organization

Table 1.

Composition of factors for the phenomenological FBM characteristics with factor loadings,

percentages of variance explained and Cronbach Alpha values

Items	F$_1$	F$_2$	F$_3$	F$_4$	F$_5$	F$_6$
Rehearsal						
Talked about-Since its announcement, how often have you talked to others about the attempt?	.84					
Following the mass/social media-Since the announcement of the attempt, how closely have you followed the media and social media coverage and discussions?	.81					
Thought about-Since its announcement, how often have you by yourself thought about the attempt?	.78					
Importance						
Personal importance-When you first heard the news of the coup attempt, how important was if for you personally?		.91				
National importance-How important was the news of the coup attempt considered in Turkey?		.88				
Consequentiality						
Immediate changes-How many immediate changes did the attempt cause for you and your surroundings when it took place?			.91			
Long-term consequences-How many long-term consequences did the attempt have for you and your life?			.83			
Vividness						
Clarity-When you remember the moment when you first learned about the coup attempt, do you remember it quite vividly?				.87		
Visual reliving-When you remember the moment when you first learned about the coup attempt, do you see this moment in your mind?				.84		
Emotional valence						
How emotionally positive/negative/neutral did the attempt appear to be when it took place?					.98	
Surprise						
When you first learned about the attempt how surprising was it?						.96
Eigenvalues:	3.6	1.5	1.3	1.1	.95	.74
Variance explained:	32.8	13.3	11.6	9.9	8.6	6.7
Cronbach α:	.78	.83	.76	.74	-	-

Note. N = 343.

of the content of a SR by considering the frequency (high and low frequencies) and the importance (high and low importance) of evocations reported by the total sample. This analysis

reveals four areas (or, *houses*): the central core, the primary peripheral area, the secondary peripheral area, and the contrast zone. In this study, only the central core and primary peripheral area elements were examined. The central core elements are the most frequent and most importantly rated features of the SR; primary peripheral area refers to elements that are frequently reported but have a low level of importance (Lo Monaco et al., 2017).

Procedure

Data were collected in May 2019, approximately 34 months after the coup attempt. Participants were not compensated in any form for taking part in the present study. After providing their consent, participants first wrote their evocations about the event of July 15th, 2016 and then did the ranking task. Then they answered the questions related to the canonical category, phenomenological features of their memories about the event, and socio-demographic questions.[1] Average time spent on questionnaires that were in Turkish was approximately seven minutes.

RESULTS
Quality of the FBMs

The quality of the FBMs was determined by applying a coding scheme similar to the one previously used by Demiray and Freund (2015) that uses the four basic canonical categories, aiming to create an individual-level index. Rather than focusing on a "taxometric investigation" of FBMs for differentiating them from autobiographical memories (Demiray & Freund, 2015, p. 493), this scheme categorizes a memory as an FBM if all of the four of the canonical qualities are present in individuals' responses as these are the basic qualities that form an FBM.

Responses of participants were examined by two independent coders and a 'recall score' was created for each participant out of 4 points. The score of "0" was assigned for responses to each canonical question that reflected uncertainty (e.g., "I don't remember" or "I guess") or an inconsistency with the responses to other canonical questions. If the information given was relevant and detailed, a score of 1 was assigned. None of the participants received the scores of

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[1] In order to derive the SRs as raw as possible, participants' evocations about the event of July 15th were collected at the beginning of the questionnaire. However, it is highly possible that this might have been triggered participants' FBMs and led to higher recall scores.

0 and 1, whereas twenty participants received the score of 2. By following Demiray and Freund (2015, p. 493), we classified the participants who had a recall point from

Table 2.

Means, standard deviations and results of ANOVA comparisons between the strong and weak FBM holders on all phenomenological qualities.

| Variables (*Scale Anchors*) | FBM Quality | | | | |
| | Weak | | Strong | | |
	$\bar{x}$	SD	$\bar{x}$	SD	F
Rehearsal (1: *Never*, 5: *Very often*)	4.34	0.71	4.53	0.64	6.144**
Talked about	4.35	0.85	4.53	0.74	4.094*
Following the mass/social media	4.64	0.73	4.74	0.64	1.753
Thought about	4.03	1.01	4.31	0.83	7.144**
Importance (1: *Not important at all*, 10: *Extremely important*)	8.75	1.91	8.82	2.15	.082
Personal importance	8.36	2.39	8.52	2.43	.405
National importance	9.15	1.78	9.11	2.07	.040
Consequentiality (1: *None*, 5: *Very many*)	2.68	1.14	2.59	1.04	.688
Immediate changes	2.76	1.17	2.76	1.16	.000
Long-term consequences	2.61	1.34	2.41	1.21	2.052
Vividness (1: *Not at all*, 5: *As clearly as if it happened now*)	4.04	0.65	4.18	0.72	3.487
Visual reliving	4.17	0.76	4.34	0.84	3.921*
Clarity	3.92	0.72	4.03	0.76	1.756
Emotional valence (-2: *Very negative*, 2: *Very positive*)	-1.17	0.89	-1.25	0.89	.663
Surprise (1: *Not at all surprising*, 5: *Very surprising*)	4.26	0.93	4.28	0.94	.019

Note. $n_{weak} = 202$ $n_{strong} = 141$. *$p < .05$, **$p < .01$.

one to three (actually, two to three; as no participant had the score of 1) to the 'weak FBM' category, whereas the 'strong FBM' category included participants who had four points. Finally, 202 participants were placed in the 'weak FBM' group and 141 in the 'strong FBM' group. Cohen's Kappa coefficients between the independent coders were generally high: .75 for source, .83 for location, .82 for time, .87 for activity, and .82 for overall FBM recall score. In general, these results showed that the event of July 15th seemed to bear the basic qualities that would be expected from a FBM.

In order to see whether individuals with strong FBMs would differ from individuals with weak FBMs with regard to the phenomenological features, strong and weak FBM groups were compared by one-way ANOVAs on both the single items and the composites of the factors that were derived from the factor analysis (see Table 2). The strong FBM group differed from

the weak FBM group significantly in the visual reliving (vividness) ($F_{1, 341}$ = 3.921, MSE = 0.63, $p < .05$, η_p^2 = .11), social sharing (rehearsal) ($F_{1, 341}$ = 4.094, MSE = 0.66, $p < .05$, η_p^2 = .11), thinking about (rehearsal) ($F_{1, 341}$ = 7.144, MSE = 0.89, $p < .01$, η_p^2 = .14), and the composite rehearsal score ($F_{1, 341}$ = 6.144, MSE = 0.47, $p < .05$, η_p^2 = .13).

Content of SRs

In order to examine whether the memories related to this event have the structural qualities of an SR, we conducted a prototypical analysis by using the evocations of participants. From the evocations of the entire sample, a total of 2999 words were derived: 906 of these were distinct, and 564 words were used only once. The diversity index of the SR contents was .30, and the rarity (or, hapax) index was .62, showing that the SR of the coup attempt had a well-organized, but rather inconsistent, structure.[2] After applying the lemmatization criteria to 2999 words, they were reduced to 2402 evocations, 408 of which were distinct, and 184 of which were used only once. All evocations (n = 2402) were then subjected to a prototypical analysis using IRaMuTeQ 0.7 with the minimum frequency threshold of 5 (17.5% of the number of participants). 'Fear' and 'coup' appeared as the most frequently reported evocations among the elements of the SR's central core, whereas the most frequent evocations for the periphery system were 'soldiers', 'death', and 'tank' (see Table 3).

In order to examine whether the consensuality for the core, the periphery, and the total of SR related to this event differs depending on the quality and the phenomenological characteristics of FBMs, three new variables – the central core total, the periphery system total, and the general total – were created simply by counting participants' associations that were the same as the elements of the general sample's SR and its sub-structures of central core (including 12 evocations) and the periphery (including 13 elements; for a similar procedure, see Sire et al., 2018). Each of these new scores had to be in the range of 0 to 7 as the participants allowed to write down seven words or phrases at most. The actual ranges were found to be 0-5 for each of the central core and the periphery consensuality variables, whereas it was 0-7 for the totals of

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[2] Rarity/hapax index (R) refers to the cognitive organization of an SR and calculated by taking the ratio of the number of words used only once to the number of different words. This index varies between $0<R<1$. A value close to 1 indicates that the SR's heterogeneity is high, whereas lower values indicate a high level of cognitive organization in the SR. Diversity index (D) indicates the level of a group's consensus on an SR and is calculated by taking the ratio of the number of different words to the number of all evocations. This index varies between $0<D<1$; a value close to 1 indicates a high level of diversity whereas a value less than 0.5 indicates a low level of diversity (Flament & Rouquette, 2003, as cited in de Andrade & Wachelke, 2011, p. 837).

Table 3.

Prototypical analysis of the 2016 Coup Attempt.

Frequency ≥ 17.69; First rank ≤ 3.93			Frequency ≥ 17.69; Last rank >3.93		
Central core elements	*f*	$\bar{x}$	**Periphery elements**	*f*	$\bar{x}$
Fear	136	3.6	Soldiers	83	4.0
Coup	94	2.9	Death	48	4.0
Worry	54	3.9	Tank	48	4.6
FETO	54	3.6	Disorder	42	4.3
Stage	48	3.4	Bosporus Bridge	40	4.7
Betrayal	36	3.1	Jets	38	5.1
Country	33	2.5	Surprise	34	4.1
Uncertainty	32	3.7	Sadness	33	4.4
Fight	28	3.5	Anger	26	4.0
Lie	27	3.9	Anxiety	24	4.1
Martyrs	24	3.1	Salâ[a]	18	4.6
Family	23	2.8	President	18	4.8
			Noise	18	4.3

Note. f: The frequency of evocations, $\bar{x}$: The mean of the positions of the evocations.

[a]*Salâ* is the name of a public prayer made from mosques asking for salvation for Muslims who have died.

participants' SRs (for descriptive statistics of these new variables, see Table 4).

In order to examine whether the levels of consensuality for individuals with strong FBMs would be higher than individuals with weak FBMs, one-way ANOVAs were conducted. Results of the ANOVAs comparing the strong and weak FBM groups' consensuality scores showed that the central core totals were significantly higher in the strong FBM group than in the weak FBM group ($F_{1, 341} = 5.561$, $MSE = 1.03$, $p < .05$, $\eta_p^2 = .13$), whereas there was no significant difference for periphery system totals ($F_{1, 341} = .068$, $p > .05$) and general totals ($F_{1, 341} = 3.474$, $p > .05$).

Predicting the Quality of the FBMs and the Consensuality Levels of SR

Pearson correlations were computed to examine the relationships between the phenomenological characteristics of FBM (rehearsal, importance, consequentiality, vividness, surprise, and emotional valence), the number of the shared central core, peripheral system, and total SR associations, and age (see Table 4). Although they were generally low, coefficients showed that age was related only with the rehearsal of the FBM event ($r = .147$, $p < .01$): as the

participant's age increases, FBM appears to be repeated more by different means. Although age also had a relationship with the number of SR evocations, this relationship was negative: as the participant's age increases, the number of evocations with the central, peripheral, and general SR tends to decrease (r's, respectively, -.175, -.144, and -.239, p ' s $< .01$). The number of evocations associated with the central core of SR were related to emotional valence ($r = -.130$. $p < .05$) and surprise ($r = .127$. $p < .05$): the number of evocations increases as the emotional valence of FBM shifts to negative, whereas it increases along with the level of surprise. The number of peripheral evocations was related only to surprise ($r = .120$. $p < .05$), showing that the higher the level of surprise, the more evocations from the peripheral structure of the general SR.

A two-steps hierarchical multiple regression analysis was performed to discover the phenomenological features that best predicted the level of FBM quality. Six phenomenological features (rehearsal, vividness, importance, consequentiality composite scores, surprise, and emotional valence) were added in the first step, and age was added in the second step by the "enter" method. Results showed that the significant predictors were rehearsal and vividness scores in the first step (β's = .120, p's $< .05$). However, the predictive power of these variables was lost when age entered into the equation (see Table 5).

Three hierarchical multiple regression analyses using the consensuality scores of SR evocations (central core, peripheral structure and the total evocations in the SR) as dependent variables were carried out in three steps by using the "enter" method: the first model included six phenomenological features whereas the FBM quality group variable was added to the second step as a dummy variable, while the last step included age together with other variables in previous steps. Results (see Table 5) for the central structure evocations showed that, although the model was not significant, emotional valence and surprise scores reached the level of significance (respectively, β's .117 and .114, p's $< .05$) in the first step of the analysis. In the second step, the FBM quality could also predict the number of evocations in the central core: as FBM quality increases, the participant's total number of evocations increases ($\beta = .121$, $p < .05$). In the last step, age ($\beta = .133$, $p < .05$) and FBM quality ($\beta = -.171$, $p < .01$) were significant predictors of central core evocations. The models in the

Table 4.

Inter-correlations of all variables used in the study

	$\bar{x}$	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11
Age (1)	32.07	10.97	17	80	--	.147**	.035	-.039	.075	.067	-.218**	-.175**	-.144**	-.239**	.111*
Rehearsal (2)	4.42	0.69	1	5		--	.294**	.264**	.391**	-.169**	.218**	.063	.000	.045	.153**
Importance (3)	8.78	2.01	1	10			--	.256**	.332**	-.219**	.312**	.072	.021	.068	.042
Consequentiality (4)	2.64	1.10	1	5				--	.249**	-.181**	.267**	.059	.017	.055	.011
Vividness (5)	4.10	0.68	1	5					--	-.134*	.135*	.052	.015	.048	.150**
Emotional valence (6)	-1.20	0.89	-2	2						--	-.068	-.130*	.074	-.031	-.054
Surprise (7)	4.27	0.94	1	5							--	.127*	.120*	.186**	.035
Number of central core elements (8)	1.73	1.02	0	5								--	-.125*	.603**	.119*
Number of peripheral system elements (9)	1.37	1.17	0	5									--	.717**	.026
Total number of central core and peripheral system elements (10)	3.10	1.45	0	7										--	.105
FBM quality (11)	1.41	0.49	1	2											--

Note. N = 343.

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

FBM quality: 1 = Weak FBM group, 2 = Strong FBM group.

Table 5.

Betas from hierarchical multiple regression analyses of the quality of FBMs and SR elements

	FBM Quality		Number of Central Core Elements			Number of Peripheral System Elements			Total Number of Central Core and Peripheral System Elements		
	1st Step	2nd Step	1st Step	2nd Step	3rd Step	1st Step	2nd Step	3rd Step	1st Step	2nd Step	3rd Step
	β	β	β	β	β	β	β	β	β	β	β
Rehearsal	.120*	.101	.012	-.004	.028	-.020	-.023	.003	-.008	-.021	.022
Vividness	.120*	.117	.015	.006	.009	.016	.015	.018	.024	.016	.021
Importance	-.032	-.040	.002	.006	.021	.000	.001	.012	.002	.005	.024
Consequentiality	-.052	-.049	.000	.012	.008	-.001	.001	-.002	-.001	.009	.004
Surprise	.014	.041	.114*	.114*	.067	.128*	.128*	.089	.183**	.183**	.120*
Emotional valence	-.033	-.042	-.117*	-.113*	-.096	.082	.082	.096	-.017	-.013	.010
FBM quality group	--	--	--	.121*	.133*	--	.018	.028	--	.100	.116*
Age	--	.099	--	--	-.171**	--	--	-.136*	--	--	-.229***
F value	2.314*	2.283*	1.819	2.292**	3.234**	1.240	1.076	1.668	2.061	2.264*	4.241***
Adj. R²	.020	.026	.031	.014	.026	.022	.000	.016	.018	.025	.092

Note. $N = 343$.

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

Adj. R^2: Adjusted explained variance. FBM quality group: 1 = Weak FBM group, 2 = Strong FBM group.

analysis of the total number of evocations for the peripheral structure did not reach to significance (see Table 5), showing that none of the variables in the models were effective in explaining the variance in the dependent variable. The analysis of the total number of evocations associated with the total SR, including both the central core and periphery elements, revealed that the surprise score was a significant predictor in all steps (β's = .183, $p < .01$ for the first and second steps; $\beta = .120$ for the last step, $p < .05$). In the third step, the age predicted the total SR negatively ($\beta = -.229$, $p < .001$). Results of the regression of the total evocations associated with the peripheral structure were not statistically significant.

DISCUSSION

The main purpose of this study was to examine the 2016 coup attempt in Turkey as both an FBM and an SR. In line with this aim, the responses to the questions related to the canonical and phenomenological features of the memory were examined to understand whether participants' recollections of July 15th could be seen as an FBM. Results revealed a similar pattern to the negative events that have been utilized in Western literature (e.g., Berntsen & Thomsen, 2005; Gandolphe & El Haj, 2017; Kvavilashvili et al., 2010), showing that memories of Turkish people about the 2016 coup attempt can also be seen as a negative FBM.

Results of comparisons between strong and weak FBM groups that were classified using four canonical features that have been frequently used in the literature revealed that those with strong FBMs have more vivid visual memories and tend to rehearse these memories more than those who did not. It was also seen that the strong FBM holders tend to diverge significantly from the weak memory group on rehearsal, especially by talking to other people and thinking about the event. Findings of regression analysis also revealed that rehearsal and vividness were the most important variables in predicting participants' FBM quality. The findings are consistent with those of previous research (for rehearsal, see Otani et al., 2005; Tinti et al., 2014; for vividness, see Gandolphe & El Haj, 2017).

The SR theory puts forward that the mental structures functioning to familiarize people, events, objects, and ideas that are unfamiliar to individuals are SRs that are formed collectively, rather than individual schemes (Moscovici, 1973). Similar to the FBMs, SRs are assumed as building upon events that catch all individuals unprepared and create a need for a definition and

meaning. The finding that the surprise feature was evaluated by participants in relation to the coup attempt with a mean of nearly 4.30 on a five-point Likert scale meets this expectation. Findings of regression analysis also showed that surprise was among the variables that predicted the number of evocations. Therefore, it can be concluded that the 2016 coup attempt has a detailed SR in the minds of Turkish people, especially given its surprising nature.

As a result of the prototypical analysis of the SR related to the coup in the general sample, the words "fear" and "coup" emerged as the main elements of the central core. Results generally show that organizations (e.g., FETO) and attributes assigned to the event (e.g., "betrayal" and "lie") are at the centre of the representation, which reveal the perception of the nature and perpetrators of the coup. On the other hand, it is understood that the evocative elements in the central core were somewhat diverse in terms of both these aspects. For example, some elements described the coup attempt as a "betrayal", while others point out that the whole thing was "staged" or a "lie". According to Flament (1987, as cited in Wachelke, 2012, p. 731), representations without an organized core are "non-autonomous" and "find their meanings in other related representations". Thus, it is plausible to assert that the observed diversity in the SRs of the coup attempt may be related to the polarized political identities in Turkish society.

One of the findings from the comparisons of weak and strong FBM groups justifies the combination of mainstream and SR approaches: the strong FBM group reported more evocations from the central core than did the weak FBM group. Although these groups did not differ significantly in their numbers of evocations from the peripheral structure or the whole SR, the difference reached for the central core is important, as this structure represents the level of consensus in a group and is, relatively, the most stable feature of an SR. Therefore, the sustainability of a strong FBM can be said to vary depending on the level of inclusion of elements from SRs. Another supporting result for this conclusion was that being classified in the strong FBM group predicted the number of evocations. As rehearsal by talking with other people can possibly improve a specific memory in terms of both reinforcing and modifying its content via "constructing stories" of events, an FBM may be seen as reflecting the "communicative demands and the interpersonal situation rather than the accuracy of their recall" (Finkenaueret al., 1998, p. 517), just as an SR is assumed to do.

Finally, age, which is of fundamental importance in studies related to FBM (Kopp et al., 2020), produced differential results for the mainstream and SR approaches. While this variable was

ineffective in predicting FBM quality, it appeared as a powerful variable in predicting the number of evocations from both the central core and the total SR. Although it has a correlational nature, the finding that the number of evocations decreased as the age of participants increased can be interpreted as a result of an increasing distancing of individuals from their social networks as they age. This finding may also indicate the importance of social context in determining the content of memories, just as the SR theory predicts.

CONCLUSION

In conclusion, although they were not derived from a representative sample, this study provides some clues showing that it may be possible and useful to combine two different research traditions based on different theoretical premises. The present study introduced how the question of how FBMs, which are generally considered as individual-level variables, can be addressed within the SR theory. Drawing upon the findings, the present study shows that an SR may reflect the underlying diversity in a society with regard to an event; it is believed that a more detailed assessment of the proposed approach (especially with a balanced design for the order of FBMs and SRs in questionnaires) through the use of political and identity-related divisions will contribute to the study of the proposed link between memory and social identities, ranging from individual-level to group-level (see Blank, 2009; Devine-Wright, 2003).

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