

Linguistic representation of emotion terms: Variation with respect to self-construal and education

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The present study examines the linguistic representations of emotion terms in relation to educational attainment and self-construal through a two-part narration task. Eighty Turkish adults recounted four events that they experienced in the last five years of their lives (event-description task) and then described what they felt during these events (emotion-elicited narration task). The results show that higher levels of educational attainment and autonomous-related self-construal predicted higher levels of linguistic abstractness in emotion terms, whereas higher levels of related self-construal predicted lower levels of linguistic abstractness in emotion terms. Comparisons of the level of abstractness of emotion terms in event-descriptions and emotion-elicited narrations indicate that while the linguistic abstractness of emotion terms was similar across the two tasks in the lower-educated group, it increased in the emotion-elicited narration task in the higher-educated group. The role of formal education and self-construal in emotional language use were discussed as sources of within-culture variation.

Key words: education, emotional expressions, language use, self-construal

Linguistic abstractness of emotion terms: variation with respect to self-construal and education

Both theory and research have long proposed and validated a relationship between self-construal and cognitive, affective and linguistic organization of experience (e.g. Markus, 1977; Markus & Kitayama, 1991; Semin, Görts, Nandram & Semin-Goossens, 2002). According to Markus and Kitayama (1991), construal of self as independent and interdependent is part of a repertoire of self-relevant schemata organizing and regulating one's experiences and actions. Cross-cultural research between self-construal and cognitive and linguistic processes show that individuals from interdependence-oriented cultures encode and remember (e.g. Wang, 2001; Wang & Conway, 2004) and linguistically express (Semin *et al.*, 2002) events in a more relational context than individuals from independence-oriented cultures.

Past cross-cultural research has conceptualized self-construal as a widespread psychological characteristic of cultures, largely ignoring intra-cultural variation and its effects. Recently, researchers have proposed that inde-

pendent and interdependent orientations can both be attested in a given culture (Matsumoto, 2006), self-construal may vary as a function of socioeconomic status (Kağıtçıbaşı, 2007), and that individual autonomy is reinforced in a social context such as school (Li-Jun, Zhang & Nisbett, 2004).

In addition to potential links to self-construal, formal education has direct implications for cognitive framing of experiences and their linguistic expression. There is long-standing research that reasoning styles and language use vary with educational attainment (e.g. Scribner, 1977; Klein, Ventura, Fernandes, Licata & Semin, 2010) and social class (Bernstein, 1971; Gee, Allen & Clinton, 2001). Specifically, formal education is linked to analytical and abstract thinking, and relatively more elaborate, abstract, propositional and decontextualized language use.

In the present study, we examine the variation in talk about emotions as a function of educational attainment and self-construal of the participants. More specifically, the present study examines the links between length of education, self-construal and the level of abstractness in the linguistic representation of emotion terms in narratives of life events, first told freely, and then with explicit elicitation of participants' emotions regarding the events. In addition, we explore whether linguistic abstractness varies with respect to the narrative tasks used in the present study (i.e., free event descriptions and emotion-elicited narratives). The sample consists of Turkish adults of different ages living in Turkey, a country that has a wide variability in educational attainment.

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Culture, self-construal and emotions

The self-system theory has argued that people's self-schema, defined as cognitive generalizations about the self (Markus, 1977), organize, evaluate and interpret experiences (Conway & Pleydell-Pearce, 2000; Markus, Moreland & Smith, 1985). Markus and Kitayama (1991) propose that self-construal of independence and interdependence is part of a person's self-schema. An independent self, which is more prevalent in Western societies, is organized in reference to one's own thoughts, feelings and actions, rather than in reference to those of others. By contrast, an interdependent self, which predominates in non-Western societies, is conceptualized as encompassing social relations such that one's behaviours are organized in relation to the thoughts, feelings and actions of significant others.

In a cross-cultural study, Semin *et al.* (2002) examined the linguistic abstractness of terms that denote emotions as self- and relationship-markers by using the Linguistic Category Model (LCM) (Semin & Fiedler, 1988). According to the LCM, the degree of abstractness of a term is dependent on the linguistic form in which an emotion is expressed. The lowest level of abstractness is found in the use of action verbs (e.g. *hit*), then in state verbs (e.g. *dislike*), and nouns (e.g. *aggression*) and adjectives (e.g. *aggressive*) express emotions in highly abstract ways. For example, in a sentence such as 'I worried when I read his letter,' the verb *worry* (a state action verb) denotes one particular emotional activity directed to one particular situation. In the sentence 'I dislike him,' the verb *dislike* denotes a general emotional experience abstracted from several incidences, and thus gives general information about an emotional experience that is not limited to here and now. Adjectives and nouns form the most abstract grammatical category in the LCM. Compared to verbs, adjectives and nouns refer to an overall characteristic of an event, object or a person denoted, as in the sentences 'It was a surprise' or 'She is a cheerful person.'

Semin *et al.* (2002) argue that in interdependence-oriented cultures, concrete language use (e.g. verbs) prevails over abstract language use (e.g. adjectives and nouns) since verbs mark relationships between people and carry situational information. In independence-oriented cultures, on the other hand, abstract language use is more prevalent. Semin *et al.* (2002) elaborate their hypotheses by stating that because the use of interpersonal verbs (i.e. love, envy) in a sentence always requires a subject and an object, verbs serve as relationship markers and represent feelings in terms of the relationships between people (e.g. 'I envy Agneta'). Even though emotions are regulatory states in relation to something or someone, unlike verbs, nouns and adjectives do not necessarily require an object; therefore, they can represent an emotional state by abstracting the state from the object (e.g. 'I am envious'). Thus, nouns and adjectives serve as self-markers by giving information

about the emotional state of the individual, whereas verbs serve as relationship markers by giving information about the emotional state in relation to an external object or a person. Indeed, Semin *et al.* (2002) confirm their hypotheses, indicating that Dutch college students used more nouns and fewer verbs compared to their Hindustani-Surinamese counterparts to express emotions in an emotion-listing task. Similarly, Dutch students expressed their emotions in a more abstract way than Turkish students did in describing emotional events and emotion naming tasks (Semin *et al.*, 2002).

In summary, the organization of the relationship between self and others, as reflected in self-construal, appears as a source of cross-cultural variation that affects how emotion expressions are rendered. The present paper investigates how self-construal can be a source of intra-cultural individual differences in linguistic abstractness of emotion expressions.

Language use, culture and education

The differential preference for using linguistic categories such as verbs, nouns or adjectives has also been interpreted as an indication of analytical or holistic thought orientation that is prevalent in Western and Eastern cultures, respectively. For example, in describing persons, Oriyans (from Orissa in India) referred more to actions by using verbs, (e.g. 'She brings cakes to my family on festive days'), whereas Americans referred more to decontextualized traits by using adjectives (e.g. 'She is friendly') (Shweder & Bourne, 1984). Researchers argue that these differences could be explained in terms of the holistic and analytical worldviews held by Oriyans and Americans, respectively. In a holistic worldview, a person is described in terms of his/her relationships with others. By contrast, in the West, a person is an object of interest *per se*, and described in terms of her/his qualities in isolation from any social context. Recent studies support Shweder and Bourne's (1984) findings. For example, Italians preferred adjectives to verbs, and Japanese showed the opposite pattern in descriptions of persons as well as groups (Maass, Politi, Karasawa & Suga, 2006). Australians produced more object-centred descriptions (i.e. by using nouns and adjectives), whereas Koreans produced more process-centred descriptions (i.e. by using verbs) not only of persons but also of groups and relationships (Kashima, Kashima, Kim & Gelfand, 2006). In sum, cross-linguistic studies indicate that the tendency to use specific linguistic categories such as nouns, adjectives and verbs vary across individualist and collectivist cultures. The differences have been claimed to stem from the organization of relationships between self and others or from thought systems that foreground objects (which is reflected in a preference to use nouns) or the context (which is reflected in a preference to use verbs).

Abstract, decontextualized and analytical thinking has long been associated with literacy gained through formal education (e.g. Olson, 1991). Scribner (1977) underlines that it is not literacy *per se* but the acquaintance with Western-style formal schooling that contributes to verbal hypothetical reasoning. Formal education is linked to a specific type of language use, which is characterized as being more explicit and expository (for a discussion, see Gee, 2007) and elaborate (i.e. analytical and abstract) (Bernstein, 1971). Through experience with the genre of a specific type of discourse at school (i.e. decontextualized and based on hypothetical reasoning), individuals develop a schema that includes a variety of examples of that genre (Scribner, 1977). Taken together there is evidence that activities and discourse types embedded in formal education influence the language use of their participants.

The present study

The present study examines the linguistic abstractness of emotion terms in descriptions of life events first told freely (event-description task) and then with explicit elicitation of emotion-language (emotion-elicited narration task) in relation to the education and self-construal of narrators. Self-construal includes the autonomous self, the related self and the autonomous-related self, conceptualized by Kağıtçıbaşı (2005, 2007). An autonomous self-construal is high in autonomy but low in relatedness, a related self-construal is high in relatedness but low in autonomy, the autonomous-related self is high in both relatedness and autonomy (Kağıtçıbaşı, 2007).

The linguistic abstractness of emotion terms was examined according to the LCM (Semin & Fiedler, 1988) as introduced above, and will be explained in detail in the Method.

We addressed the following questions:

- 1 Is there a link between educational attainment and self-construal of narrators and the level of linguistic abstractness of emotion terms in the recounting of events?
- 2 Does the type of narrative task make a difference in the level of abstractness of emotion terms?

In relation to the first question, relying on the self-system theory (Conway & Pleydell-Pearce, 2000; Markus, 1977; Markus *et al.*, 1985), and evidence on the relationship between education and language use (e.g. Bernstein, 1971; Scribner, 1977), we expected that both education and self-construal would be linked to the linguistic abstractness of emotion terms. More specifically, education, autonomous and autonomous-related self would be linked positively, and related self would be linked negatively to the linguistic abstractness of emotion terms.

Semin (2000) argues that questions are linguistic tools that function as structural constraints in interpersonal language; as such, questions impose a specific structural

organization upon the target's answers. In our study, in the event-description task, the question asked to the participants prompted spontaneous mentioning of emotions while recounting the events. In the emotion-elicitation task, on the other hand, the question asked the participants to identify their emotions. For our second research question, therefore, we expected that the emotion-elicited narrations would facilitate more abstract expressions of emotions than would free event descriptions.

Method

Participants

Eighty individuals (40 males and 40 females), whose ages ranged from 20 to 60 ($M = 38.6$, $SD = 11.9$), participated in the present study. The educational attainments of participants ranged from being literate but having no formal schooling to 29 years of formal education ($M = 13.06$, $SD = 7.07$). The sample evolved partly as a convenience sample ($n = 34$) and a snowball sample ($n = 26$). Other participants were approached individually at their workplace ($n = 14$) or recruited from an Introductory Psychology class ($n = 6$). Sixty-four of the participants were employed, three were retired and 13 were unemployed. A preliminary analysis was conducted to see if the convenience and non-convenience samples differed in the frequency and use of linguistic abstractness in their emotion terms. No significant differences were found between the two subsamples.

Procedure and measures

The data collection procedure consisted of two parts. Participants performed a two-part oral narration task first. Right after the narration task, they completed the Autonomy-Relatedness Scale developed by Kağıtçıbaşı (2007). The language used in the interview and the scales were Turkish. Participants were native speakers of Turkish and they did not use any other language in their narratives. Participants were interviewed either at home, their workplace or in a private office at the university depending on their choice. The comfort and privacy of the participants were assured during the interview.

In the first part of the oral narration task (the event-description task), participants were asked to recount four events that affected them in the last five years of their lives. The following instructions were used: 'I want you to talk about four events that affected you in the last five years of your life. First, I want you to think of the last five years of your life and to narrate one of the events that affected you within this period.' Participants were encouraged to talk about another event until they provided four narratives by the following eliciting questions: 'Now could you talk about another event?', 'Now, could you talk about a third

one?,' 'Lastly, could you talk about another event?' In the second part (the emotion-elicited narrative task), participants were asked the following question right after their recount of each event: 'Could you now tell me how you felt and why you felt like that when you were experiencing each of these events?'

The event-description task provided information regarding the extent to which the participants spontaneously referred to emotions when they described their experiences. In the emotion-elicited narration task, participants were explicitly prompted to talk about their feelings. The oral narratives provided by the participants were audio-recorded and transcribed verbatim.

Autonomy-Relatedness Scale

The Autonomy-Relatedness Scale consists of three subscales: The autonomous-self subscale measures the degree of agency in close relationships (e.g. 'I feel independent of the people who are close to me'). The related self subscale assesses the degree of a person's interdependency in close relationships (e.g. 'I need the support of persons to whom I feel very close'). Finally, the autonomous-related self subscale determines the extent to which people achieve a balance between being emotionally close to others but at the same time retain their agency (e.g. 'A person can feel both independent and connected to those who are close to him/her'). Each of these three subscales originally consisted of nine items on a five-point Likert scale ranging from 1 = strongly disagree, to 5 = strongly agree. We used a reduced version of the scale based on factor analyses. Cronbach's were 0.77, 0.70 and 0.65 for autonomous self, related self and autonomous-related self subscales, respectively.

The narrative data

To control for the different lengths of discourse produced by each participant, the transcribed narratives were divided into clauses (Bauer, Stennes & Haigh, 2003; Wang & Conway, 2004). A clause is defined as a grammatical construction containing an implied or an explicit subject and a predicate, such that it may be a finite sentence (e.g. 'I got angry with him') but can be non-finite as well (e.g. 'when I heard it') (Crystal, 1993).

Emotion terms were identified for the event-description and the emotion-elicited narration tasks separately. Words that explicitly denoted emotions such as happiness, love and anxiety were coded as emotion terms (Bauer *et al.*, 2003). However, consistent with the LCM (Semin & Fiedler, 1988) and Bauer *et al.*'s (2003) operationalization of an emotion expression, words that implied an emotion rather than explicitly denoting it (e.g. laugh, hug, fall silent) were also counted as emotion terms. These emotion terms

could be used as verbs, adjectives or nouns in their respective clauses. The frequency of emotion terms was calculated as the percentage of the number of emotion terms in the total number of clauses for the two parts of the narrative task separately.

Coding

Level of abstractness of emotion terms. Each emotion term was coded in terms of the level of abstractness, which ranged from 1 to 4, according to the LCM coding manual (Coenen, Hedeboom & Semin, 2006). In the LCM, there are two main linguistic categories: one of them is verbs, which express processes or actions. In the context of the present study, emotional processes refer to acts of feeling such as worrying, crying or being disappointed. The verb category includes four different kinds of verbs that differ in degree of abstractness. The second linguistic category is nouns/adjectives, which qualify objects and properties. The noun/adjective category is considered to be the most abstract category in this system. The Appendix presents two coded examples from emotion-elicited narratives in their English translations.

What is meant by 'abstractness' in LCM can be explained by referring to one important principle: the degree of abstractness of an expression increases from being a description of a concrete action that can easily be observed by others to a general mental representation in the mind of the narrator in the form of an object. In the category of verbs, the most concrete verb category encompasses verbs that represent processes that can clearly be observed and identified by others such as *to cry*, *to hit* and *to kiss*. Such verbs fall under the category of Descriptive Action Verbs (DAV), and are given one point each. Interpretive Action Verbs (IAV) and State Action Verbs (SAV) are considered to be at the same abstraction level and given two points. IAVs refer to actions or series of actions that can be observed from the outside, such as *not to talk to someone* and *to fall silent*, but the emotional state that they connote can only be inferred. SAVs, on the other hand, refer to the emotional consequences of an action, and unlike IAVs, SAVs do not have a behavioural counterpart observable from the outside. Some examples of SAVs are *to worry*, *to be excited* and *to enjoy*. State verbs (SV) such as *to love*, *to hate*, *to like* constitute the most abstract category of verbs; they refer to enduring psychological states of a person which are abstracted from several events. State verbs are given three points each.

Adjectives such as *cheerful*, *sad*, *happy* and nouns such as *joy*, *sadness*, *happiness* form the most abstract category in the LCM framework since they qualify the general properties of an event, a situation or a person. This category differs from the verb subcategories such that the person expresses his/her feelings not as the process of feeling *per se* (e.g. 'I worried a lot'), but by referring to these feelings

Table 1 Bivariate correlations among variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Age	38.58	11.97									
2. Sex (1: female, 2: male)	–	–	–0.06								
3. Education in years	13.06	7.08	–0.04	0.03							
4. Autonomous self	3.00	0.72	–0.16	–0.02	0.50***						
5. Related self	4.05	0.65	0.05	0.01	–0.41***	–0.53***					
6. Autonomous-related self	4.27	0.55	–0.03	–0.29*	0.30*	0.30*	–0.06				
7. Frequency of emotion terms in task 1 (%)	11.62	8.23	0.08	–0.22*	–0.23*	–0.25*	0.21†	–0.06			
8. Frequency of emotion terms in task 2 (%)	26.28	13.95	–0.16	–0.16	0.26*	0.07	–0.19	0.04	0.15		
9. Abstractness of emotion terms in task 1	2.59	0.58	0.17	–0.06	0.16	0.18	–0.18	0.08	0.21†	–0.01	
10. Abstractness of emotion terms in task 2	2.77	0.54	0.08	0.05	0.52***	0.41***	–0.37**	0.28*	–0.07	0.30**	0.27*

Note. $N = 80$, except abstractness of emotion terms in task 1, where $n = 75$. † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

as the quality of the event (e.g. ‘It was a sad event’), or by just naming the emotion (e.g. ‘It was sadness’) prevalent in his/her experience. An emotional expression coded as an adjective or as a noun is given four points, which is the highest level of abstraction possible in the LCM.

The level of abstractness of emotions for each participant is determined by taking the mean score of the emotion terms (Coenen, Hedebeuw & Semin, 2006). Two independent coders coded 10% of the narratives to calculate the inter-coder reliability coefficient and calculated level of abstractness of emotions. Cohen’s κ was 0.74.

Results

Length and emotion term density of narrative data

Each participant provided four narratives, except four who had difficulty remembering a fourth event. As a result, 316 recounts of memories were analyzed in the present study. The two narrative parts elicited through different instructions were analyzed separately.

In the event-description task in which each participant was asked to narrate four different events, the total number of clauses was 7713, and the total number of emotion terms was 822. In other words, 10.6% of the total number of clauses included emotion terms. In the emotion-elicited narrative task, in which participants were explicitly asked to talk about how they felt while they were experiencing these events, the total number of clauses was 5382. The total number of emotion terms mentioned was 1218. Thus, 22.6% of the clauses contained emotion terms when the participants were prompted to talk about their emotions.

Correlations among the variables

As Table 1 shows, the length of education was positively linked to the autonomous self, autonomous-related self and the linguistic abstractness of emotion terms in the emotion-elicited narratives. Education was negatively associated with the number of emotion terms in event descriptions. In the emotion-elicited narrations, on the other hand, this relationship was reversed, with education being positively linked to the number of emotion terms. Correlations indicated sex differences for two variables. Women had higher scores in autonomous-related self compared to men, and men generated fewer emotion terms in event descriptions than did women.

Correlations among self-construal and emotion variables indicate that higher levels of autonomous self were related to fewer numbers of emotion terms in the event descriptions and higher levels of linguistic abstractness of emotion terms in the emotion-elicited narrations. Conversely, a higher level of related self was linked to a higher number of emotion terms in event descriptions and a lower level of linguistic abstractness in emotion-elicited narrations. Finally, higher levels of autonomous-related self were positively correlated with higher levels of linguistic abstractness of emotion terms in emotion-elicited narrations.

The link between educational attainment, self-construal and the linguistic abstractness of emotion terms

To predict the level of abstractness from the length of education (in years) and self-construal (Question 1), a backward stepwise multiple regression analysis was performed for the emotion-elicited narration task only. The

Table 2 Stepwise regression analysis predicting abstractness of emotion terms in emotion-elicited narrations (task 2) from education and self-construal ($n = 80$)

Variable	First model			Second model		
	B	SE	β	B	SE	β
Education in years	0.03	0.00	0.35**	0.03	0.08	0.39***
Autonomous self	0.09	0.09	0.12	–	–	–
Related self	–0.13	0.10	–0.15	–0.17	0.09	–0.20*
Autonomous-related self	0.15	0.10	0.15	0.16	0.10	0.16†
	$R = 0.58, R^2 = 0.34, F = 9.48***$			$R = 0.57, R^2 = 0.33, F = 12.28***$		

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

regression analysis was not conducted for the event-description task, since the correlations among variables were not significant in this task. Also, sex was not included in the analysis, because it was not significantly related to the dependent variable. The age range of the participants was wide. However, because preliminary analyses did not yield significant relationships between age and variables of interest, age also was not included in any of the analyses reported.

In the regression analysis, we first entered education and the three self-construal scores as predictors. As Table 2 shows, in the first model, the only significant predictor was education. Self-construal scores were not significant predictors. Because the autonomous self had the weakest contribution among the self variables, it was removed in the second model.

The second model indicates that education was the strongest predictor of the abstractness of emotion terms, with higher levels of education being linked to higher levels of linguistic abstractness of emotion terms. Higher levels of related self significantly predicted lower linguistic abstractness in emotion terms. The positive link between the autonomous-related self and the abstractness level, on the other hand, was only a trend. An examination of partial correlation coefficients indicates that education accounted for 15%, related self 5% and autonomous-related self 4% of the variance in the level of abstractness of emotion terms.

In summary, both education and relatedness in self-construal were significant predictors of the degree of abstractness of emotion terms in the emotion-elicited narration task. Autonomous-related self also explained some variance in the level of abstractness, though its contribution was marginally significant.

Differences in the level of abstractness of emotion terms between the two tasks

To see whether the linguistic abstractness of emotion terms varied between the two tasks (Question 2), a mixed-design

(2×2) ANOVA was performed. In this analysis, the linguistic abstractness of emotion terms in event-description and emotion-elicited narration tasks was the within-subjects variable, and educational background was the between-subjects variable. The lower-educated group consisted of 30 participants with at most a middle school degree (i.e. less than eight years) ($M = 5.59, SD = 1.66$) and the higher-educated group consisted of 45 participants who had at least a high school degree (i.e. more than 11 years) ($M = 18.04, SD = 4.37$).

The ANOVA results show that the main effect of linguistic abstractness of emotion terms was marginally significant, $F(1, 73) = 3.60, p = 0.058, \eta^2 = 0.05$, indicating that the linguistic abstractness of emotion terms was slightly higher in the emotion-elicited narration task ($M = 2.72, SD = 0.06$) compared to the event-description task ($M = 2.57, SD = 0.07$). The main effect of education was also marginally significant, $F(1, 73) = 3.84, p = 0.054, \eta^2 = 0.05$, indicating that higher-educated participants ($M = 2.83, SD = 0.06$) generated more linguistically abstract emotion terms than did the less-educated participants ($M = 2.45, SD = 0.07$). Follow-up univariate analyses of variance show that the difference between the higher-educated ($M = 3.00, SD = 0.47$) and lower-educated ($M = 2.43, SD = 0.47$) groups was driven by the difference in emotion-elicited narration task, $F(1, 78) = 27.42, p < 0.001, \eta^2 = 0.26$. The linguistic abstractness was not significantly different between the two groups in event descriptions.

As Figure 1 shows, an interaction was observed between the type of task and the level of education of the narrator on determining the level of abstractness in emotional language, $F(1, 73) = 3.84, p = 0.05, \eta^2 = 0.05$. While in the less-educated group there was no difference in the linguistic abstractness of emotion terms between event-description and emotion-elicited narration tasks ($M_{Task1} = 2.46, SD = 0.10, M_{Task2} = 2.45, SD = 0.09$), the linguistic abstractness increased in the emotion-elicited narration task in the higher-educated group ($M_{Task1} = 2.68, SD = 0.08, M_{Task2} = 2.98, SD = 0.07$).

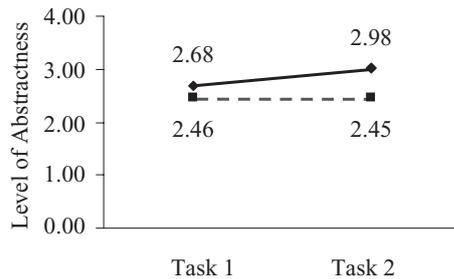


Figure 1 The level of linguistic abstractness of emotion terms in event descriptions (task 1) and emotion-elicited narratives (task 2), $n = 75$. \blacklozenge -, Higher-educated; \blacksquare -, Lower-educated.

In summary, a comparison of the level of the linguistic abstractness of emotion terms across event-description and emotion-elicited narration tasks indicates that the linguistic abstractness of emotion terms was higher in the emotion-elicited narratives than in the event descriptions. In addition, higher-educated participants generated abstract expressions of emotion terms significantly higher than lower-educated participants did in their emotion-elicited narratives, but not in event descriptions.

Discussion

We found that high levels of autonomous self are associated with fewer emotion terms in event descriptions and higher abstractness in emotion-elicited narrations. Conversely, higher levels of related self correlate with more emotion terms in event descriptions and lower abstractness in emotion-elicited narrations. These findings provide some support for the self-system theory, which states that self-construal influences the way experiences are represented and expressed (Conway & Pleydell-Pearce, 2000; Markus, 1977; Markus & Kitayama, 1991). A highly abstract narrative style shows the typical pattern of making the target of an emotion talk an object, be it a person (e.g. *he is annoying*) or an event (e.g. *it is surprising*). The emphasis is on a general characteristic of the person, which is not bound to one specific situation. For example, in the phrase uttered by one of our participants, 'there was *surprise* there, *surprise*, *panic*, and *fear*,' the narrator talks about her feelings by distancing the experience from herself. On the other hand, in relatively more concrete narratives, people talk about their emotions in a more engaged manner, that is, by talking about the mere process of feeling in relation to someone or something. For example, the following excerpt from our data, '... in the last event that I talked about, first of all I was *surprised*. I was *surprised* thinking why she wrote these to me instead of talking to me. And then I *worried*

when I read what she wrote,' exemplifies a relatively concrete way to express the narrator's emotional experience.

But above and beyond self-construal, higher education predicted abstract language, and only the higher educated group included more abstract emotional language in their emotion-elicited narratives than their event descriptions. Our interpretation for this effect to appear only in emotion-elicited narratives is that all participants were more inclined to generate more concrete emotion terms by using verbs when focusing on event descriptions. For this reason, the event-description task might not have generated a notable co-variation between level of education and language use. The second task of emotion-elicited talk was inherently more prompting of abstract language use, but only the participants with higher educational status displayed such highly decontextualized language.

In the present study, education clearly had more explanatory power in accounting for the variation in linguistic abstractness compared to self-construal. The link between higher educational attainment and the tendency to apply more abstract linguistic categories can be interpreted in different ways. It may be the case that because higher-educated participants are more familiar with the type of discourse prevalent at school (Laosa, 1982) and in professional life, they are habitually more disposed to apply more abstract linguistic categories. Gee *et al.* (2001) observe differences between the characteristics of the language used by adolescents from middle class and working class families in their descriptions of the kind of people they are. Gee *et al.* (2001) report that middle class teens appear to talk in a more abstract ('school-like') way, and that they elaborate their knowledge claims by creating distance from personal experiences compared to working class teens. Gee *et al.* (2001) says '... the working class teens fashion themselves in language as immersed in a social, affective and dialogical world of interaction and upper middle class teens in language as immersed in a world of information, knowledge, argumentation and achievements built out of these' (p. 180). Gee *et al.* (2001) conclude that each group situate themselves in a social world in relation to institutions like family, school and larger society and talk about themselves in language that is compatible with their respective social worlds. In applying this framework to our results, we think that differences in language use may be linked to a discourse genre that is habitual in specific social institutions (i.e. school, professional life) and social environments.

Viewed from another perspective, the differential preference for specific grammatical categories is not a simple issue of linguistic habit, but rather an indication of specific cognitive orientations which are compatible with analytical or holistic thought systems (Kashima *et al.*, 2006; Klein, Ventura, Fernandes, Licata & Semin, 2010). Indeed, cross-cultural differences in grammatical category use have been interpreted in other research with reference to analytical or

holistic thought systems prevalent in certain cultures (e.g. Kashima *et al.*, 2006; Nisbett & Norenzayan, 2002; Shweder & Bourne, 1984). Kashima *et al.* (2006) argue within a cognitive linguistic point of view, proposing that each linguistic category implies a specific cognitive construal to which it refers. Nouns and adjectives highlight independent objects that are the hallmark of analytic worldviews, whereas verbs highlight relational processes that are compatible with holistic frameworks. In other words, an emphasis on using nouns and adjectives rather than verbs is an indication of where thought systems reside in this dimension of analytic versus holistic thought systems (Kashima *et al.*, 2006).

Our findings do not directly lead us to propose such a tight fit between language use and cognitive styles. We agree with the meta-theoretical underpinning of the LCM that there is a reciprocal relationship between language and cognition (Fiedler, 2008). Within this dynamic relationship, cognitive and linguistic processes may not have a one-to-one correspondence relationship. In other words, language habits may not always mirror thought habits in reflecting abstract or holistic cognition.

Adopting a functional approach to language use, we agree with preexisting research that evidenced abstract or concrete language having different communicative purposes in regard to the kind of information they convey (for reviews, see Fiedler, 2008; Semin, 2008). In other words, language category preferences might reflect different communicative perspectives rather than being a reflection of different cognitive orientations. However, we can speculate that the tendencies of having a relatively more decontextualized communicative style in talking about emotional content might be affected by specific cultural and educational experiences. The extent to which linguistic framings and cognitive orientations map each other is an empirical question that needs further investigation. However, our findings show a systematic difference between the lower-educated and higher-educated groups in linguistic category preferences. It is important to note that participants in both groups were native speakers and very efficient users of Turkish. However, they differed in their preference for linguistic categories to

talk about their emotions, and only when they were prompted to identify and talk about their emotions.

In the present study, we did not hypothesize about the relationship between the frequency of emotion terms and self-construal. However, descriptive findings show that although education and autonomous self were negatively related to frequency of emotion terms in the event-description task, only education was linked to the frequency of emotion terms in the emotion narration task; and this link was in a positive direction unlike the link in the event-description task. This finding further highlights the relatively more effective role that education plays in linguistic framing of words as compared to self-construal. We may speculate that educational experience might have initiated a more task-oriented response in the generation of emotions. Nevertheless, this change of pattern in the two narration tasks awaits future studies for an explanation. Another finding that may require elaboration is that the autonomous self and the autonomous-related self show a similar pattern in their relationship with linguistic abstraction. Given that education was positively linked to both the autonomous self and the autonomous-related self, the pattern common to both types of self may be an artefact that comes with higher exposure to education (e.g. communication patterns in work life, social status, etc.).

The present study has some caveats. The time window for the events to be recounted was limited to the 'last five years,' and the criteria for the types of recounted events was the subjective perception of events by participants as important. The nature and intensity of an event, the relationships involved, and the intensity or valence of emotions may potentially be other factors that influence the linguistic framing of events and emotions. Another factor that may affect the linguistic expression of abstractness may be the characteristics of the interviewer (e.g. gender, status, etc.). Although the same female interviewer conducted all the sessions, the gender and status of the interviewer might have created differences in participants' involvement in the narration task. Future research could examine the abovementioned factors and the interviewer characteristics as variables in linguistic framing.

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Appendix. Examples of coded narratives from Emotion-elicited Narration Task

Participant ID #: 32

*Frankly saying, I do not think that my feelings for my grandfathers' death can easily be explained. A deep **sorrow** (noun), and besides that deep **sorrow** (noun) something you are accustomed to, or to put it differently . . . it was quite **hard** (adjective) to accept the fact that someone whom you think is always there is not there anymore. I do not know why I felt like that, honestly. Maybe because with his loss, I felt that others as well may fade away, and this brought a greater **anxiety** (noun) besides **sorrow** (noun). There was my grandfather, but he does not exist anymore. Therefore, other people may cease to exist; everyone can face the same fate. The reason why I **worried** (state action verb) that much for his death was the idea that besides his disappearance the possibility that others may disappear as well.*

Participant ID #: 6

*I graduated from university in 2004. When I graduated I was supposing that everyone was waiting for me in working life. Unfortunately, it was not like that, it was not like I imagined in any way. In fact, I made an investigation in our department. Maybe everybody was experiencing the same thing. I saw that people who found what he/she was expecting for was only a few and everyone was **disappointed** (state action verb) in a way. I passed through the same processes and that **worried** me (state action verb) a lot. Since I was a humanities student I was against the system, and to be a part of it **worried** me (state action verb). It still **worries** me (state action verb) because I see that everybody in my social environment is doing wrong. For example, the job that I work for is a job that is performed only for earning money. I believe that working only for money is wrong, people should give something to others. That is, I do not **like** (state verb) working life, I **want to** (state verb) be a student again. The reason for it is not laziness and inability to take responsibility. There is a corruption and I do not **like** (state verb) to be a part of that corruption. That's it.*