Emotion categorization in Moroccan Arabic and English: a Prototype Approach

Khalid Elasri

ABSTRACT:

Cross-linguistic research on emotion shows that there are similarities and differences in the conceptualization of emotions in different cultures. Using the prototype approach, we explored emotion categorization in Moroccan Arabic (MA) and compared it to American English (AE). Two studies were conducted. The first study reveals that there are 131 prototypical emotion categories in MA. The second study investigates how these emotions are categorized according to native speakers' judgement. The results of this study show that in both varieties there are six basic level emotion categories: love, surprise, and happiness within the positive superordinate category; and anger, fear, and sadness within the negative superordinate category. In the MA study, however, there were two additional categories: shame and hatred. The differences between the two varieties exist at the level of subcategories which includes culture-specific emotions in each variety. As a recommendation for further research, we suggested investigating the lexical equivalence of emotions between English and MA and explore the reasons behind this lexical anisomorphism.

1. INTRODUCTION

Human emotions have been studied from different perspectives in various fields including linguistics, psychology, philosophy, and anthropology. In linguistics, research on emotion has been of an interdisciplinary nature as linguists bring psychological, anthropological and philosophical insights in order to further our understanding of the way in which emotions are expressed and experienced in different cultures and languages.

Cross-linguistic research on emotion shows that there are similarities and differences in the conceptualization of emotions in different cultures. Studies in linguistic anthropology, as well as cultural psychology, have enabled us to trace the source of cross-cultural differences in emotions. In particular, cultures differ in the values they assign to certain emotions, antecedents that give rise to emotions, appraisal, emotional intensity, display rules and regulation (Ortony and Turner, 1990; Mesquita and Frijda, 1992; Russel, 1991; Mesquita, 1993).

According to Wierzbicka (1999), "Every language… has lexically encoded some scenarios involving both thoughts and feelings and serving as a reference point for the identification of what speakers of this language see as distinct kinds of feelings" (p. 15). These differences are reflected in a culture's emphasis on particular emotional events. That is, certain categories of events are highly visible and accessible in particular cultures. Such categories, in Levy's (1983) terms, are hyper-cognized, while

others that have little importance are hypo-cognized. Thus, emotion words may provide clues concerning which themes are important, which "emotions" are explicitly verbalized, and which are emphasized, valued, rejected, or suppressed in the given society (Russell, 1991).

The prototype approach to emotion categorization, based on Rosch's (1978) theory of prototypes and basic level categories, is considered to be a practical approach in investigating emotion domains in a culture. Using this approach, this article attempts to explore emotion categorization in Moroccan Arabic and investigate whether this categorization has any similarities and/or differences with English. This comparison will enable us to see which emotion categories are hyper-cognized and hypo-cognized in Moroccan Arabic and English, and whether the hyper-cognized /hypo-cognized emotion categories found in each variety reflect cultural assumptions about these varieties.

2. THE PROTOTYPE APPROACH TO EMOTION CATEGORIZATION

The prototype approach to emotion concepts refers to the techniques developed by Shaver and his colleagues (e.g., Shaver et al., 1987, 1992) for the study of emotion terms. The theory behind these techniques, called the prototype approach to categorization, was proposed by Eleanor Rosch in the 1970s. It should be noted, however, that Hare (1961) also introduced a categorization based on the emotional meaning of words. The theory provides a description of how concepts are categorized and organized with regard to each other. It challenged the classical view of categorization that was first postulated by Plato and later by Aristotle. These philosophers and others have argued that the experience of particulars as it comes through the senses is unreliable; therefore, only stable, abstract, logical, universal categories could function as objects of knowledge and objects of reference for the meaning of words. These categories should have clear boundaries; their members should have the necessary and sufficient features in terms of which the category is defined, and therefore predictable equal status (Rosch, 1978). However, this classical view of defining concepts cannot be applied to most of the concepts. For instance, the necessary and jointly sufficient features of an emotion can be defined as the occurrence of a feeling accompanied by physiological changes; but this specification would not always apply to all supposed emotions such as guilt, pity, or serenity, rather certain non-emotions should be included as emotions according to these criteria, such as pain, dizziness, and thirst (Parkinson, Fischer & Manstead, 2005).

In the theory of prototypes, categories are characterized by fuzziness and they are organized along three major levels of inclusiveness: the *superordinate* (e.g. furniture,), the *basic* (e.g. chair), and the *subordinate* (e.g. kitchen chair). The most common linguistic and cognitive distinctions are made at the basic level of categorization (e.g. houses, chairs, cars, cats, and dogs), which is the highest level at which categories have a single "prototype"; that is, the best or most typical exemplar (Rosch, 1978). Rosch calls the middle level "basic" because it seems to secure a psychologically more salient status in people's minds in comparison with other levels. Furthermore, differ-

ent studies have revealed that the basic level is special in several respects. Firstly, categories at this level are the first to be learned by children in their acquisition of their L1. Secondly, they are the categories which are accessed the fastest when a relevant stimulus is encountered. Thirdly, they are likely to have short, single-word names; and finally, they are the most abstract categories that can be represented by a single visual (Xia, 2011).

According to Boucher (1979), if the prototype approach is applied in the domain of emotions, emotion categories may be arrayed hierarchically as in other domains. In Boucher's version, *emotion* is the superordinate, most inclusive, category. At the next lower level, which is the basic level, *emotion* is divided into five to nine basic emotions such as *anger, fear,* and the like. Each of these, in turn, is subdivided forming a subordinate category of emotion, such as *annoyance, rage,* and *fury,* which are subtypes of *anger*. In the same vein, Shaver, et al. (1987), claim that just like concepts in the domains of furniture, animals, styles of painting, athletic games, emotion categories may be arrayed hierarchically, in terms of superordinate, basic, and subordinate levels. Shaver, et al. (1987) suggested three hypotheses: first, there should be basic-level concepts that are accessed most quickly and should correspond to the most frequently elicited emotions in previous studies such as the ones listed by subjects in Fehr and Russell's (1984) study. Second, the basic-level concepts should correspond roughly to emotion theorists' lists of basic emotions, especially Ekman's list of basic emotions. Third, they should correspond roughly to the emotions that children name first in spontaneous speech, such as the ones found in Bremerton and Beeghly's (1982) study which showed that the emotion categories of love, like, mad, scared, happy, and sad are those which are most frequently recognized by 28-month-olds.

3. EMOTION DOMAINS IN AMERICAN ENGLISH AND OTHER LANGUAGES

Shaver and his colleagues conducted a series of studies on emotion concepts of different cultures and languages using the theory of prototypes. The techniques they use to elucidate the structure of the conceptual domain of emotions include (1) determining which mental-state nouns in a particular language are considered by native speakers to designate emotions, and (2) determining how native speakers view the relations among the emotions named by these nouns. In their first study, which targets the structure of emotions in American English, Shaver et al. (1987) compiled a list of 213 emotion terms from different sources and submitted them to a group of subjects who rated them on a 4-point scale ranging from '*definitely* would not *call this an emotion*' to '*definitely* would *call this an emotion*'. The American subjects rated 135 words as highest on the 4-point emotionness scale. Each of the 135 terms was printed on a small white card, and the cards were presented to other subjects who were instructed to sort these cards into categories representing their best judgments about which emotions are similar to each other and which are different from one another. The table below displays the outcome of this experiment (The table is based on Shaver et al. (1992)).

Hierarchical levels

Superordinate	Basic	Subordinate
Positive	Love	(1) adoration, affection, love, fondness, liking, attraction, caring, tenderness, compassion, sentimentality; (2) arousal, desire, lust, passion, infatuation; (3) longing
Positive	Joy	(1) amusement, bliss, cheerfulness, gaiety, glee, jolliness, joviality, joy, delight, enjoyment, gladness, happiness, jubilation, elation, satisfaction, ecstasy, euphoria, (2) enthusiasm, zeal, zest, excitement, thrill, exhilaration, (3) contentment, pleasure, pride, triumph; (4) eagerness, hope, optimism; (5) enthrallment, rapture; (6) relief
Positive	Surprise	amazement, surprise, astonishment
Negative	Anger	(1) aggravation, irritation, agitation, annoyance, grouchiness, grumpiness; (2) exasperation, frustration; (3) anger, rage, outrage, fury, wrath, hostility, ferocity, bitterness, hate, loathing, scorn, spite, vengefulness, dislike, resentment; (4) disgust, revulsion, contempt; (5) envy, jealousy; (6) torment
Negative	Sadness	(1) agony, suffering, hurt, anguish; (2) depression, despair, hopelessness, gloom, glumness, sadness, unhappiness, grief, sorrow, woe, misery, melancholy; (3) dismay, disappointment, displeasure; (4) guilt, shame, regret, remorse, alienation, isolation, neglect, loneliness, rejection, homesickness, defeat, rejection, insecurity, embarrassment, humiliation, insult, (5) pity, sympathy
Negative	Fear	(1) alarm, shock, fear, fright, horror, terror, panic, hysteria, mortification; (2) anxiety, nervousness, tenseness, uneasiness, apprehension, worry, distress, dread

TABLE 1: Emotion hierarchy in American English.

The table shows that there are six basic categories in American English: love, joy, surprise, anger, sadness, and fear. According to Shaver et al. (1992), these middle level categories correspond to Fehr and Russell's examples of emotions that are most readily named by the subjects in their study; they are similar to Bretherton and Beeghly's (1982) list of emotion terms that are learned first in early childhood, and they also correspond approximately to several lists of "basic emotions" proposed by theorists such as Ekman (1992a) and Izard (1977). Due to the convergence of their results with these studies, Shaver and his colleagues expect that the basic level of the emotion hierarchy will look more or less the same across cultures, while the subordinate level will differ substantially across cultures, because emotions at this level seem designed to convey intensity and other aspects of emotions. This leads Shaver and his colleagues to investigate the structure of emotions in other languages.

The study conducted by Shaver et al. (1992) in Beijing showed that Chinese categories at the basic level (joy, anger, fear, and sadness) resemble those of American English. Nevertheless, two smaller basic level categories appear in the Chinese data, namely 'shame' and 'sad love'. According to Shaver et al. (1992), the existence of these categories in the Chinese data and their absence in the American data indicate that

they are hypercognized in China and hypocognized in the United States. The subsequent study conducted by Shaver et al. (2001) investigated the structure of emotion terms in Bahasa Indonesia. The overall patterns of the results were strikingly similar to the structure of emotions in American English with the exception of the surprise category which did not appear in the basic level of emotion categories in Bahasa. There was no *shame* category in this language, contrary to what could be expected of a collectivist culture such as Indonesian. Finally, the same five basic emotion categories were also found in another study conducted by Shaver et al. (2006), which investigated the structure of emotions in the Basque language. In this language, however, there are five additional categories at the basic level. They are: surprise, Basque nationalism, desire/wishing, courage, and tranquility. Hence, these areas of emotion are hypercognized in the Basque culture.

In sum, the findings of the above studies related to four languages suggest that the emotion vocabulary of these languages seems to be organized around the categories of 'love,' 'joy,' 'fear,' 'anger,' and 'sadness', which are located at the basic level. Yet, in some languages there are additional smaller categories at this level that reflect the specific concerns of the cultures belonging to these languages. On the other hand, emotions that are culturally specific are located at the subordinate level. Thus, the prototype approach recognizes the role of both universal and cultural aspects in emotion construction.

4. METHODOLOGY FOR MOROCCAN ARABIC EMOTION LEXICON CATEGORIZATION

In this study, we adopted the procedures used by Shaver et al. (1987, 1992). The techniques used by Shaver and his colleagues to elucidate the structure of the conceptual domain of emotions in different cultures and languages include (1) determining which mental-state nouns in a particular language are considered by native speakers to designate emotions, and (2) determining how native speakers view the relations between the emotions signified by these nouns. Based on these objectives, the current study will attempt to answer the following research questions:

1. Which mental-state nouns in Moroccan Arabic are considered by native speakers to describe emotions?
2. When these emotions are put into a hierarchical structure, do the categories of 'love,' 'joy,' 'fear,' 'anger,' and 'sadness', appear at the basic level and the culture specific ones at the subordinate level, as predicted by Shaver et al. (1987)?
3. Are there any similarities and/ or differences in emotion categorization between American English and Moroccan Arabic?

In order to provide satisfactory answers to these questions, two studies are conducted targeting the Moroccan Arabic emotion lexicon. The methods and results of each study are presented in detail below.

4.1. STUDY ONE: EMOTION TERMS IN MOROCCAN ARABIC

4.1.1 PROCEDURES USED IN STUDY ONE

The first study required Moroccan Arabic native speakers to determine which mental states are considered to be emotions. For this purpose, all mental states that are supposed to denote emotions in Moroccan Arabic had to be listed. In fact, this phase of listing terms was a challenging task since there had been no studies conducted on the language of emotions in Moroccan Arabic. Besides that, this variety has no written form which would enable researchers to look for emotion words in different registers or dictionaries. With the exception of one bilingual dictionary of Moroccan Arabic and English (Harrell, 2007), a preliminary list of emotion words was examined. In the second phase, another list of emotion terms was obtained from some native speakers of Moroccan Arabic.

The ranking of the emotionness of these terms was based on Oatley and Jenkins's (1996, p. 96) definition of emotion, which may be summarized as follows: (1) It is caused by the conscious or unconscious evaluation of an event as relating to a concern or goal; it is felt as positive when a goal is advanced and as negative when a goal is impeded; (2) it consists of action readiness and the prompting of plans, gives priority and a sense of urgency to one or several kinds of action, and thus interrupts or competes with other mental processes and actions; (3) it is usually experienced as a distinctive type of mental state, sometimes accompanied or followed by bodily changes, expressions, and actions.

Based on these steps, we listed 214 words which denote mental states in Moroccan Arabic. We tried to use nouns, rather than adjectives or verbs, because, as explained by Shaver et al. (1987, 1992), the forms of emotion words are used to increase the psychological similarity of emotions to ''objects'' in Rosch's studies. The emotion nouns were written randomly in a questionnaire and given to the first group of participants (32 subjects), who rated each emotion on a 4-point scale ranging from 0 (very certain that this word is not an emotion word) to 3 (very sure that this word is an emotion word). The SPSS software was used to calculate the mean for each item. Mean Prototypicality ratings were used to select the best examples or prototype exemplars of the emotion words' domain.

4.1.2 RESULTS OF STUDY ONE

Out of the 214 words, 131 emotion words were judged by native speakers of Moroccan Arabic as the best examples of emotions. This result provides an answer to the first research question concerning the words that Moroccan Arabic speakers consider emotion words. The ten most prototypical emotions in Moroccan Arabic are shown in Table 2 below. The word "ħob" (love) had the highest value of prototypicality, (m = 2.91), i.e. almost all of the 32 participants considered this term to be the most prototypical emotion in Moroccan Arabic. In Shaver et al.'s (1987) study of American English, the most prototypical word was also 'love'. Despite being the most prototypical in both varieties, love is not listed among biologically basic emotions. But according to Shaver et al. (1992), sexual mating, reproduction, parenting, and maintaining relationships with relatives

and reciprocally altruistic relationships with friends and neighbors are fundamental issues for humans. Therefore, love is a basic emotion in human life. Moreover, the majority of the remaining emotions appeared among the ten most prototypical emotions in the American data. These include happiness, anger, sadness, hatred, envy, and fear.

Nevertheless, the Moroccan Arabic list of the ten most prototypical emotions differed from the American in that it included *ħogra* and *ħešma*. These two emotions are hypercognized in Moroccan culture. For a start, *ħešma* encompasses several emotion concepts denoting positive or negative shame. *For instance, ħeshma* is a desirable emotion — a necessary thing, and it is felt especially in the presence of strangers or the opposite sex. On the other hand, *ħšuma,* which is a very common word in MA, denotes a negative variant of shame. It describes the feeling of a group of people witnessing something bad being done by a person (e.g. someone damaging public property or offending an old person). A feeling such as this acts as a regulator of immoral behaviors and, therefore, regulates a person's conduct.

Ħogra is a culture specific term in MA. It is an emotion felt as a result of receiving unfair treatment, being humiliated and being neglected. It is also the result of inequality, disdain, oppression and authoritarian treatment. It makes one feel sad and very angry but unable to react. In fact, *ħogra* is not only the most prevalent emotion in Moroccan culture, but it is the most frequent and omnipresent term in Moroccan Arabic. The word *ħogra* can be found in a variety of forms; it is printed on t-shirts, in popular songs; and it is always the first slogan to be lifted in demonstrations in Morocco.

Emotion word	mean	English definition
ħob	2.91	love, love affair, affection
saʕada	2.83	happiness
ġaḍab	2.71	anger
ħuzn	2.69	sadness
ħogra	2.64	sadness, unexpressed anger, resentment
korh	2.55	hatred
ħsed	2.46	envy
xawf	2.32	fear,
nashat	2.28	elation, joy
ħešma	2.12	shame, embarrassment

TABLE 2: The ten most prototypical emotions in Moroccan Arabic.

4.2. STUDY TWO: THE CLASSIFICATION OF EMOTION WORDS IN MOROCCAN ARABIC

4.2.1 PROCEDURES

The second study was aimed at identifying emotion domains in Moroccan Arabic. This part of the research was carried out on 36 high school students (19 females and 17 males). The subjects were given the same instructions as in Shaver et al.'s (2006)

study. Each participant was given an envelope of 131 small white cards. Each card had one of the 131 emotion names typed on it. The participants were asked to sort the cards into similarity-based groups, using their intuitive knowledge. They were asked to choose the cards that have similar emotions according to their judgment, as there is no single correct way to sort these cards. They were also told that they could create as many or as few categories as they wished, and that in each category they could put as many or as few cards as they thought best.

The envelope received from each subject was shown on a matrix that contained all the words and the subjects' judgments regarding their relations. In line with the procedures applied by Shaver et al. (1987, 1992, 2001, 2006), a 131 × 131 co-occurrence matrix was constructed for every participant, with the value "1" indicating that a particular pair of terms was placed in the same category and "0" indicating that the members of the pair were placed in different categories. The resulting 36 matrices (from 36 participants) were aggregated to form a single 131 × 131 matrix in which cell entries could range from 0 to 36, indicating the number of participants who placed a particular pair of words into the same category. For the purpose of clustering, this matrix was transformed into a distance or dissimilarity matrix by subtracting the constant 36 from each entry. Then the dissimilarity matrix was submitted to a hierarchical cluster analysis using the *hclust* program's average distance option (Hartigan, 1981) in S-Plus 2000 (Mathsoft, 1999).

4.2.3 RESULTS AND DISCUSSION OF STUDY TWO

The results of the hierarchical cluster analysis of 131 × 131 Moroccan Arabic emotion terms are shown in Figure 1 and summarized in Table 1. Figure 1 reveals that just as in the American English hierarchy reported above, the Moroccan Arabic emotion hierarchy also features two large categories at the superordinate level containing negative and positive emotions. The next level down indicates branching points for the seven basic levels of emotion categories: ġaḍab (anger), ħuzn (sadness), xawf (fear), saʕada (joy/happiness), ħob (love); ħešma (shame), and a small group of mufajaʔa (surprise). Thus, the results provide a positive response to the second question since the categories of 'love,' 'joy,' 'fear,' 'anger,' and 'sadness' appeared at the basic level of the Moroccan Arabic emotion hierarchy, beside two additional categories (ħešma 'shame' and mufajaʔa 'surprise').

Concerning the third question, which explores the similarities and differences between the hierarchical structure of emotions in Moroccan Arabic and American English, inspection of Figure 1 indicates that the Moroccan Arabic emotion hierarchy includes six basic level categories that are recognizably the same as the six major groups found in the American data. These six categories are marked using the small squares above each category. From right to left**,** they are saʕada (joy/happiness), ħob (love), ħuzn (sadness), ġaḍab (anger), xawf (fear), and a small group of mufajaʔa (surprise). Nevertheless, there are some differences between the two varieties as far as their hierarchy of emotions is concerned.

The first remarkable difference is the appearance of two independent categories, *shame* and *hatred* in Moroccan Arabic. In the American English data, shame-related
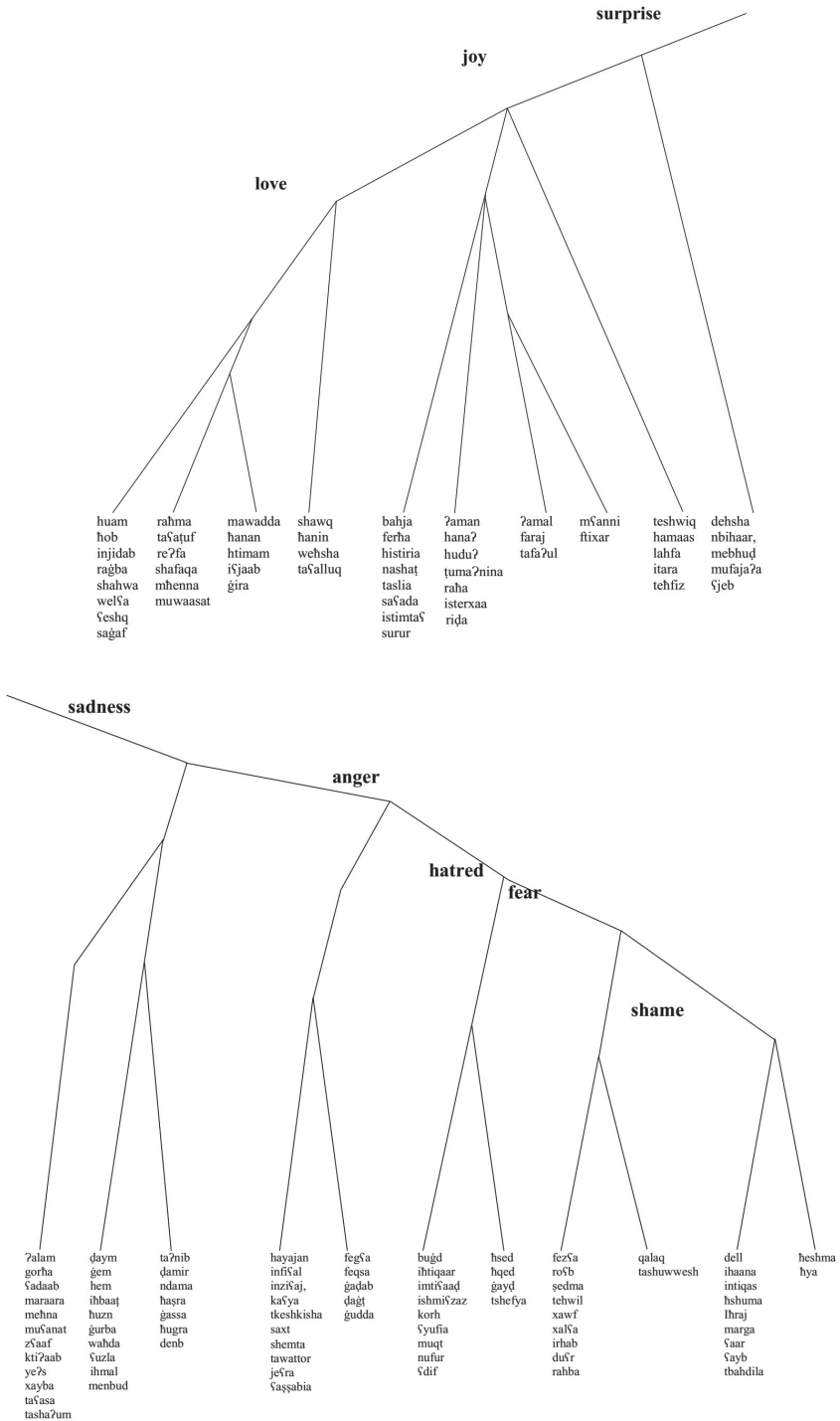
FIGURE 1: Results of a hierarchical cluster analysis of 124 Moroccan Arabic emotion terms, Study 2.

Hierarchical levels

Basic	Subordinate
saʕada (happiness)	farħa, bahja, (delight), ħamaas (enthusiasm), itara (thrill), lahfa (eagerness), teħfiz (motivation), nashaṭ (enjoyment), taslia (entertainment), teshwiq (excitement), histiria (hysteria), ʔamal (hope), faraj (relief), ʔaman (security), hanaʔ (peace), huduʔ (calm), istimtaʕ (joy), isterxaa (relaxation), raħa (comfort), riḍa (satisfaction), saʕada (happiness), surur (pleasure), tafaʔul (optimism), ṭumaʔnina (assurance), mʕenia, iftixar (pride)
ħob (love)	huam, ħobb (love), ħanan, mawadda (affection), iʕjaab (admiration), injidab (attraction), ġira (jealousy), htimam (caring), mħenna (taʕaṭuf), compassion), muwaasat (sympathy), raġba (desrie), shawq (longing), weħsha, ħanin (yearning), shahwa (lust), welʕa (fondness), ʕeshq (adoration), shaġaf (passion), taʕalluq (conern), shafaqa (pity), raħma, reʔfa (mercy)
mufajaʔa (surprise)	dehsha (astonishment), inbihaar (fascination), mebhuḍ (amazement), mufajaʔa, ʕjeb (surprise)
sħuzn (sadness)	ḍaym, ġem, ħuzn, hem, zʕaaf, ġassa (sadness), gorħa (grief), ġurba (homesickness), ħaṣra, ħugra, Iħbaaṭ (frustration), iktiʔaab (depression), maraara (bitterness), ʔalam (pain), taʔnib-ḍamir (remorse), meħna (distress), muʕanat (suffering), ndama (regret), waħda (loneliness), yeʔs (despair), ʕuzla (isolation), Ihmal (carelessness), menbud (rejection), xayba (disappointment), taʕasa (unhappiness), tashaʔum (pessimism), ʕadaab (torture), denb (guilt)
ġaḍab (anger)	ġaḍab (anger), fegʕa feqsa ġudda (unexpressed anger) ḍaġṭ (stress) hayajan (fury) infiʕal (inziʕaj (annoyance), jeʕra, kaʕya, tkeshkisha (rage) saxt (indignation) shemta (anger and hatred) tawattor (tensenss) ʕaṣṣabia (nervousness)
korh (hatred)	korh, muqt, nufur, ġayḍ, buġd, tshefya, ʕdif, (hatred), ħsed (envy), ħqed (spite), iħtiqaar (contempt), imtiʕaaḍ (resentment), ishmiʕzaz, ʕyufia (disgust)
xawf (fear)	xawf, rahba (fear), fezʕa (alarm), roʕb (horror), ṣedma (shock), tehwil (terror), xalʕa (fright), duʕr (panic), irhab (terror), qalaq (worry), mshuwwesh (concern)
iħraj (shame)	dell, ihaana, tbahdila intiqas (humiliation), ħeshma ħya (positive shame), Iħraj (embarrassment), ħshuma, temriga, ʕaar, ʕayb, (shame)

TABLE 3: Emotion hierarchy in Moroccan Arabic.

terms are included in the category of sadness, and hatred-related terms are included in the category of anger. The category of *shame* reinforces the fact that Moroccan Arabic belongs to a collectivist culture. In such cultures, emotions are influenced by connections to others and interpersonal relations. Additionally, some of the Moroccan Arabic terms which are related to shame have positive connotations; whereas all the shame-related concepts in the English data have negative meanings. This result concurs with Markus and Kitayama's (1991) view that *shame* is a negative emotion in many individualist societies, because it is associated with weakness and personal failure or wrongdoing; whereas in collectivist cultures, *shame* has a more positive connotation because it fosters interdependence by motivating people to restore harmony in relationships.

Although *shame* does not appear in the American data as an independent basic category, recent studies suggest that there are distinct nonverbal displays for this

emotion. For example, Tracy and Matsumoto's (2008) study investigated the innateness of pride and shame in sighted and blind Olympic athletes from 20 different countries just after they had either won or lost a judo competition. The results of this study show that both sighted and blind Olympic athletes display the same behavior relevant to expressing pride and shame. After victory, both groups of athletes alike threw their arms in the air with chest out as an expression of pride. After losing, both groups dropped their heads and slumped their shoulders in a display of shame.

The results of the Moroccan Arabic emotion hierarchy also show that there are similarities and differences between English and Moroccan Arabic at the level of subordinate categories. For example, within the Moroccan Arabic 'love' category, there are subcategories concerned with admiration, attraction; kindness, and affection, which are also subcategories of love in the American study. The only difference, however, can be seen in the appearance of *ġira* (jealousy) in Moroccan Arabic under the positive category of love, and *ħsed* 'envy) in the subcategory of hatred; while in American English both terms are located under the negative category of anger. This can be explained by the fact that ħsed' is considered a sin in Moroccan culture and in Islamic teachings; therefore, it is something undesirable; while *ġira* is used interchangeably with love in some contexts; for example, "Brahim ʕandu lġira ʕla bladu" (literally: Brahim has love for his country).

On the other hand, the analysis of the subcategories related to the basic category of anger in both varieties reveals that there are terms which either arise due to the fact that "something bad happened" or due to something going against the wishes of the experiencer. Nevertheless, there is another anger-related subcategory in Moroccan Arabic that encompasses unexpressed anger words, namely fegʕan mefqus, gheban, and mqelleq. The existence of such terms in Moroccan Arabic is typical of a collectivist culture that emphasizes a connection to others and promotes the hiding of conflict, while their absence in American English indicates that this variety is compatible with an individualist cultural dimension which encourages the expression of anger in a straightforward manner.

As far as the fear category is concerned, there are more fear related terms in American English (17 terms) than in Moroccan Arabic (11 terms). This is because the fear category in American English contains several anxiety subcategories, while in Moroccan Arabic there are just two terms; 'qalaq' and 'mšuwweš'. The fact that more terms such as these exist in American English and that their equivalents are absent from Moroccan Arabic reveals that concerns about the future seem to be hypercognized in American English culture and hypocognized in Moroccan Arabic.

Finally, the categories of sadness and happiness in the two languages are quite similar. In the Moroccan Arabic data there are 29 words and in the US data there are 37. In both cultures, the sadness category includes despair, grief, remorse, regret, pity, etc. On the other hand, there are 25 terms related to happiness in Moroccan Arabic. This is approximately the same as the number of joy-related terms in the American study (33 terms). In Moroccan Arabic, there are three major subordinate categories: hope/optimism, contentment, and happiness, all of which appeared in the American study as well.

CONCLUSION

The emotion lexicon of Moroccan Arabic was investigated through two main studies in this research. The first study was devoted to determining mental-state nouns which represent emotions in Moroccan Arabic. The results of this study show that there are 131 prototypical emotion expressions in Moroccan Arabic. The second study investigated how these emotions are categorized according to native speakers' judgements. For this purpose, the prototype approach was adopted. The results of this study show that on the superordinate level (positive vs. negative emotions), the Moroccan Arabic emotion hierarchy is quite similar to the American English hierarchy. In both Moroccan Arabic and American English there are six basic level emotion categories: love, surprise, and happiness within the positive superordinate category; and anger, fear, and sadness within the negative superordinate category. In the Moroccan Arabic study, however, there were two additional negative categories: shame and hatred. The existence of the hatred category is not unexpected; for disgust is frequently listed among biologically basic emotions by researchers who study facial expressions. Also, the existence of a shame category in Moroccan Arabic is not arbitrary since Moroccan Arabic belongs to collectivist cultures, where this emotion plays an important social role.

The results also show that there are similarities and differences between English and MA at the level of subordinate categories. For example, the 'love' category in both varieties includes subcategories concerned with admiration, fascination, attraction, kindness, and affection. Furthermore, the basic category of anger in both varieties includes terms that either arise due to "something bad happening" or something going against the wishes of the experiencer. But in MA there is another anger-related subcategory that encompasses unexpressed anger words. Concerning 'fear', there are more fear related terms in American English than in Moroccan Arabic. Hence, it seems that concerns about the future are more hypercognized in American culture than in Moroccan culture. Finally, sadness and happiness categories in both languages are quite similar.

Thus, the basic categories in Moroccan Arabic and American English are very similar. The differences between the two varieties exist on the level of their subcategories, which reveal culture-specific emotions. This finding is consistent with Brown's (1986) claim that categories subordinate to the basic level are formed for cultural utility, and hence show cultural variability. The finding is also consistent with Boucher's (1979) hypothesis stating that the domain of emotion takes a hierarchical form in all languages, with the top two levels being universal, and the lowest level showing cultural specificities. Furthermore, the findings also confirm Shaver et al.'s (2006) prediction that "the same five basic emotions will appear, perhaps accompanied by others that are less prominent but also biologically universal but currently hypocognized in the field of emotion" (pp. 861–864).

Finally, as a suggestion for further research, it should be said that it is often taken for granted that emotions in one language seldom have their exact equivalence in another language. In other words, the emotions of a language can have near equivalence, partial equivalence or no equivalence with other languages (Wierzbicka, 1999; Pavlenko, 2005, 2008). It would be, therefore, interesting to investigate the concep-

tual equivalence of English and Moroccan Arabic and explore the reasons behind this lexical anisomorphism.

NOTES ON TRANSLITERATIONS

Consonants

Most consonants in Moroccan Arabic are similar to the consonant sounds of English. However, there are eight consonants in Moroccan Arabic which have no equivalents in English. The transcription symbols for each of these sounds are explained below. The transliterations are based on the International Phonetic Alphabet (IPA).

Transcription Symbol	Sound	
ḍ	The Arabic emphatic "d"	These sounds are pronounced like their non-emphatic counterparts, but with a lower pitch and a greater tension in the tongue and throat
ṣ	The Arabic emphatic "s"	
ṭ	The Arabic emphatic "t"	
q	Like the English /k/ but pronounced further back in the throat	
x	This sound is like the "ch" in the German "Bach"	
ġ	This sound is similar to the French "r"	
ħ	Like the English "h", but pronounced deep in the throat as a loud raspy whisper	
ʕ	This sound is pronounced with the tongue against the bottom of the mouth and from as deep in the throat as possible	

Vowels

Moroccan Arabic has six vowel phonemes, i.e. sounds that differentiate word meaning. It has five short and one long vowel. Vowel length is represented by the colon.

	Front	Central	Back
Close	i		u
Close-mid	e		o
Mid			
Open		a, a:	

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Khalid Elasri | Faculty of educational sciences, Mohammed V University of Rabat
<elasrik@gmail.com>