Bilingualism: Language and Cognition 11 (2), 2008, 165–167 © 2008 Cambridge University Press doi:10.1017/S1366728908003295

PEER COMMENTARIES

Expressions of emotion as mediated by context

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In her thoughtful work regarding various aspects of emotion and emotion related words, Pavlenko explores a variety of perspectives on how we might characterize and conceptualize expressions of emotion. It is a work that is quite rich in breadth – one that leads to a variety of different thoughts on this topic, many of which are amenable to experimental exploration. Thus, the work prompts the field into asking new and interesting questions. My comments will relate some of these new directions that are prompted by reading Pavlenko's paper, as well as a few ideas that constitute a bit of a reinterpretation of her conclusions. Towards the end, a body of literature (i.e., Emotional Stroop Effects) that is highly relevant but was not covered will be noted as it yields a greater understanding of the activation and access of emotion.

To begin, I agree with the statements regarding the distinction between at least three different word types – concrete, abstract, and emotion. Work that stems from our laboratory has examined these distinctions through the use of a variety of tasks including free recall, word ratings, word association, and word priming/lexical decision. All of these investigations point to the conclusion that emotion words carry their own distinct set of features that distinguish them from other words. Perhaps the most important implication of this work is that previous studies that included emotion words mixed together with abstract words actually produced an artifactual confound in their stimuli. Various previous works, as noted by Pavlenko, examined concreteness effects. But an interesting observation was that they often mixed abstract and emotion words together. The notion that emotion words are represented differently challenges the validity of results produced from stimulus lists that mixed word types. Perhaps most important in this area of investigation is not whether emotion words carry X or Y features, but rather that they are distinct from other word types – period. Further, this area of inquiry provided an avenue in the cognitive literature for examining emotion words, empirically, in their own right.

Pavlenko goes on to state that these characterizations of emotion words do not speak to their conceptual categorization. However, the notion of context availability *does* imply something more than the fact that words possess a level of either ease or difficulty in accessing a relevant context. This particular dimension of emotion words underscores the fact that these words, at one time, were learned in context. Context plays a significant role in the learning of emotion related words and emotional expression, overall. In fact, one might say that emotion laden words (e.g., death, etc.) are simply mediators to core emotions (e.g., sadness). These emotion laden words, for example, acquired their semantic meaning when they were experienced or learned in the context of a negative situation. That is, one might argue that all emotions are learned in context and that it is the available context that supports the learning of emotions and delimits their conceptual representation. Indeed, while one culture might fear death, thus prompting a negative association to death, another culture might see it as a time of transcendence to a different form of existence and might celebrate the passing of an individual as, in fact, a more positive event. Thus, the notion of "prototypical scripts" or "causal antecedents" as quoted from Pavlenko, devolves to a single construct – context. It is context that is somewhat captured by the notion of context availability, for in order to determine ease of access of a context, the feature presupposes the existence of such a context when emotion was first encoded. Altarriba (2003) noted that one of the reasons emotional expression might be more richly represented in the native language of a bilingual is because emotion was first experienced in contexts in which that language was the primary language in use. Presumably, it is L1 that carries a richer interconnection of associations and connotations as a result of the context in which the emotion was first encountered.

Pavlenko continues to dig deeper into the conceptualization of emotion by discussing the notion of "concept comparability". This is an important construct particularly when discussing issues of code switching. In their review detailing theories regarding code switching, Heredia and Altarriba (2001) noted that bilinguals may code switch simply because they find it difficult to express the same concept by means of a set of translation equivalents across languages. That is, a word may not have a single word translation in a different language. This idea, of course, applies additionally to emotion words. For example, the word "cariño" in Spanish. This word might translate to a concept between "liking" and "affection" in English with perhaps a familial component added in. Yet neither of the above English words, nor any single word in the English

https://doi.org/10.1017/S1366728908003295 Published online by Cambridge University Press

language, captures all of the nuances that are activated, semantically, etc., or expressed by the Spanish word.

In fact, one step further might indicate that within a language, there are various senses of a word, and these senses may or may not translate across languages. In his novel work, Finkbeiner (cf. Finkbeiner, Forster, Nicol and Nakamura, 2004) suggested that words carry many different senses. For example, the word "black" can be used in the term "Black Friday", as the color black, or in the description of a person as a "black sheep". This facet might be yet another contributor to the issue of whether or not emotion word translations are strictly compatible. Emotion words may work in a similar vein as one might use the word "terrific" in a negative sense as a marker for an extreme event – "one terrific storm". However, terrific might be used in the positive sense to denote, say, good work – "that was a terrific job you did". Thus, the notion of conceptualizing emotion words, within and between languages, must also take into account the fact that words carry different senses, again based on their context and usage, and often, also based on generational differences. The negative form of terrific above, for example, was most frequent in old English, while the positive form is a newer version of the same word. Thus, the idea that words change over time is one that can be applied to emotion related words. This notion is consonant with Pavlenko's notion of "conceptual shift", but amplifies her definition to include language changes over time.

A further reminiscence that derives from this work by Pavlenko, relates to the expansive work conducted by David Matsumoto and colleagues (cf. Matsumoto, Yoo, Hirayama and Petriva, 2005) on display rules governing emotional expression. Matsumoto has examined emotional expression as a function of the social context in which an emotion is displayed. For example, he asks individuals in different cultures whether or not they would express certain emotions (e.g., anger, discontent) differently if say a co-worker were present, a subordinate, a supervisor, a family member, a friend, etc. He indeed finds that depending upon the culture and the display rules that are sanctioned, individuals reveal that they would be more or less prone to display certain emotional reactions depending upon the situation. Thus, emotional expression has a situational component that is socially regulated. In Western cultures, for example, individuals might not feel as restrained in displaying emotion to an authority or superior as perhaps in some Asian cultures. Moreover, females and males may exhibit distinct display rules as governed by the cultural expectations of individuals of different genders, ages, etc., within a culture. Thus, Pavlenko's notion of "experience" or "consequence" might be further refined by asking whether or not an individual is in someone's presence and socially, culturally, what relationship that person bears to that individual.

Clearly, what is needed, as aptly stated by Pavlenko, is a model or set of models that clearly explore all of the many dimensions that are incorporated into the notion of mentally representing emotion related stimuli, including words, pictures, scripts, etc. This is particularly the case when trying to explore the similarities and differences between and among languages, as in bilinguals, trilinguals, polyglots, and so on. However, Pavlenko often refers to models that reserve a single conceptual store when describing bilingual memory. One cannot help, of course, but to think of the work of Kroll and colleagues and their lexical and conceptual levels of representation. While I agree with the statement that there is much more models need to account for these days, than we once thought, a model such as that of Kroll and Stewart was originally designed with the word-to-word translation possibility in mind. That is, the model indicates that one might first mediate through a word in the first language lexicon in order to semantically or conceptually understand meaning for its translation in the second language. However, it is quite clear that a model such as this one was not designed for instances wherein, there is no translation equivalent. As such, it is not so much that this model cannot account for nontranslatable emotion words; it simply was never designed to do so. As mentioned by Pavlenko, models that consider the distributed properties of features across languages, such as the one devised by de Groot and others likely holds more promise in being able to describe the featural, semantic, and conceptual overlap that words share across languages – words that do not seem to have a one-to-one correspondence.

Perhaps one of the more provocative areas of investigation, as reviewed by Pavlenko, resides in the usefulness of knowing whether or not emotion is coded differently in a bilingual's languages. Altarriba and Santiago-Rivera (1994) provided evidence to suggest that individuals who are dominant in their first language, and have a subordinate second language, express emotion differently in terms of quality and quantity across languages. The first language appears to contain a more richly packed set of associations and a semantic, conceptual depth that is not mirrored in the second, weaker language. Thus, the second language becomes that of emotional distance that can be used when one wants to discuss an issue devoid of the emotional content, while the first language is that of emotional expression. This idea has been included in investigations of the strategic use of code switching to maximize an individual's ability to report events, completely and accurately. In fact, the practical application of this work lies in the fact that in any context where bilinguals are being questioned, whether in a clinical or mental health setting, or as eyewitnesses to particular events, one might elicit more accurate, elaborate information by having the individual switch languages, strategically. This is definitely an area worth expanding

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upon not only in applied domains, but also in terms of basic, empirical research.

One final theoretical and methodological avenue that is ripe for further investigation is the role of multiple languages in mediating what are known as Emotional Stroop Effects. This is one paradigm that was not considered in the work by Pavlenko but that has an important role to play in uncovering the automaticity with which emotion concepts are activated in memory. Simply stated, in this effect, participants are slower to name the color in which emotion words appear, as compared to non-emotional control words. For example, the word "anger" might appear in blue while a control word "boat" might also appear in blue. Assuming these two words are controlled for factors such as word length, word frequency, etc., naming time for the word "anger" will be significantly longer than for "boat". The interference in naming the color of the emotion word is thought to arise from the emotional content of the word, and this task provides an experimental measure of selective attention to emotional information. Recently, Sutton, Altarriba, Gianico and Basnight Brown (2007) reported these effects in both English and in Spanish for a group of Spanish–English bilinguals. As these were primarily balanced bilinguals in terms of their language proficiency, they showed similar effects in both languages. Thus, it appears that not only is emotion automatically activated leading to interference in color naming, but this effect also extends to more than one language in bilinguals. This is certainly the type of task that could uncover the true nature of lexical and semantic access for the emotional components of emotion related words, as well as providing additional converging evidence as to the role of arousal, valence, etc., in the representation of these words, overall.

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