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Emo-Sensory Expression at the Crossroads of Emotion, Sense, and Language: A Case of Color-Emotion Associations

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Abstract

Delving into the close relationship between sense and emotion mingled with language can be of utmost importance in studies related to management of emotions. In this regard, the current study qualitatively attempted to examine to what extent sense-induced emotions can be recognized, labelled, and managed by individuals. To this end, 36 Iranian males and females were asked to participate in interviews on color-emotion associations. Their responses to colors were categorized into positive, negative, and no emotion. The overall results revealed that 10 major themes can account for idiosyncratic variations in expressing color emotions. Culture, age, and education were found to impact individuals' emo-sensory expressions. In the end, based on the findings of this study, a three-set model of emotion expression was proposed to show the bond between sense, emotion, and language. As a result, a new concept called *emo-sensory intelligence* was introduced which transcends emotional intelligence (EQ) and sensory intelligence (SQ) by shifting its focus to sense-induced emotions.

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1. Introduction

Discussions of relativism have their roots in the lack of consensus over truth and knowledge claims which are indeed defined by the context giving rise to them. Following the Whorfian ideas of linguistic and cultural relativism (Whorf, 1956) concerning the critical role of linguistic and cultural perceptions in capturing multiple realities of the physical world, sensory relativism (Pishghadam, Jajarmi, & Shayesteh, 2016) set up to explain these idiosyncratic discrepancies from a different viewpoint. Senses, as the bedrock of this particular approach to relativism, are believed to relativize individual's cognition in a way that change the reality. Giving prominence to the emotional aspect of senses rather than their cognitive one, Pishghadam, Jajarmi et al. (2016) built their hypothesis upon sense-induced emotions, coined as emotioncy (Pishghadam, Adamson, & Shayesteh, 2013; Pishghadam, Tabatabaeeeyan, & Navari, 2013), pinpointing that Whorfian hypothesis has overlooked the emotions evoked from linguistic categories. They further explicated that contextual and local views of reality embrace not only cultural and linguistic categories but non-linguistic and to emo-sensory representations as well.

Although the literature on emotions and senses in isolation is hefty (e.g., Rouby, Fournel, & Bensafi, 2016), there is a paucity of research into their relationships. A few studies (e.g., Pishghadam, Jajarmi et al., 2016) have examined how the inputs we receive from different senses can relativize cognition. In fact, hearing about something, seeing, or touching it can generate different emotions in people that shape their understanding of the world. All these studies are of the view that individuals are not necessarily well aware of these sense-induced emotions and may not verbalize them. In fact, this implicit view of emotions ignores the effects of an explicit understanding of sense-induced emotions on cognition. With that in mind, it is our belief that being aware of the emotions we get from different senses and labeling them can change cognition as well. The point is that seemingly not all individuals can verbalize their sense-induced emotions.

To test our belief, we examine color emotions. Colors are an implicit communication tool to satisfy various human needs. They have thereby been the subject of a number of studies, including self-presentation and impression formation (Trinkaas, 1991), aesthetic values (Johnson, Johnson, & Baksh, 1986), gender-related stereotypes (Pomerlau, Bolduc, Malcuit, & Cossette, 1990), age-related trends (Boyatzis & Varghese, 1994) and emotional reactions (Gao et al., 2007; Kay & Kempton, 1984). Mapping emotions to colors has a long, rich history. The early studies aiming to put linguistic relativism into practice, focused on the domain of color, supposing that people coming from different language communities, form different perceptions of colors (Gao et al., 2007; Kay & Kempton, 1984). Cross-cultural diversities, likewise, influence patterns of color emotion associations (Johnson et al., 1986). A relatively large body of research undertaken to throw light on emotional connotations of colors through explicit memory analyses unanimously confirm that colors elicit unique emotional responses (e.g., Boyatzis & Varghese, 1994). Yet, to our best knowledge, none has considered the degree to which participants are able to express their emotions in the first place. While, sharing emotional experiences and feeling states depend on varied psychological, social, and cultural variations (Wang & Ross, 2007), previous studies on the evaluation of the emotional response of colors have taken for granted that participants are all equally able to express their emotions for colors.

To this end, the major aim of this study is to determine to what extent people are able to identify and label their exclusive sense-induced emotions in general and color emotions in particular. Moreover, participants' explanations for their emotional reactions which depend largely on their personal experiences with the colors are also sought to better understand their ability to express, manage, and put their emotions into use.

2. Theoretical Framework

2.1. From Senses to Emotions

Senses are the information channels which connect us to the physical and social environment. The stimuli from these channels are turned to electrical impulses to be

transmitted to a specific area of the cerebral cortex through a maze of brain circuits. Receiving the inputs of stimuli, we make representations of the world, with behaviors as the output of this often unconscious process (Rouby et al., 2016). The five traditionally recognized senses of sight, hearing, taste, smell, and touch play more roles than just identifying the world we are exposed to. Sensory functions, integrated with emotional and cognitive responses, give us a better picture of what is happening around us (Dunn, 2000), manipulating the quality of life in general and emotional well-being in particular (Thomson, Crocker, & Marketo, 2010). Although sensations and emotions are forever married (Heller, 2002), the way they are linked is yet a matter of debate among researchers in the field.

Basically, all objects have emotional features recognized by our sensory channels. The identity of an object or concept depends largely on the resultant emotions which allow us to perceive, interpret, and give meaning to individual experiences. Therefore, sensory experiences and the evoked emotions coalesce into a single idea (Thomson et al., 2010). As we get more familiar with an object, we make associations between it and other conceptualizations in our mind. These conceptualizations are formed externally (including beliefs, hearsay, and advertising) and internally (inner experiences). In fact, object-related emotions are the results of these two sources, which make one have positive or negative emotions for different objects. The intrinsic nature of an object coalesces with these emotions to form an individual's understanding of the object (Thomson et al., 2010).

Senses and emotions are closely intertwined affecting one another in both directions. Vuilleumier (2005) explicated that emotions give rise to our sensory cortices. Everyday life experiences show that events or items associated with emotions are recalled better and in greater details than those lacking emotional significance (Conway, 1990; Ochsner, 2000). A number of further studies (e.g., Williams, Mathews, & MacLeod, 1996) revealed that emotional items are processed more easily in the brain. However, issues such as emotional attention (the tendency to

observe and monitor emotions), emotional clarity (the ability to understand and identify emotions), and emotional labor (the ability to regulate one's job-related emotions) are rather culture-dependent. As an instance, cross-cultural studies report that cultural variations account for the way and the extent to which people share their emotions. As a comparison between Asian and Western cultures, Koreans share nearly 80% of their emotions. This number reaches 95% for Americans (Rimé, Corsini, & Herbertte, 2002). Research into Western families showed that emotional communication initiates between parents and children from very early ages, making them understand and regulate their emotions better later in life. Accentuating the saliency of emotional discourse, mothers usually talk to their kids about different feeling states and try to clarify the reason for emotional experiences (Denham & Kochanoff, 2002).

Overall, emotional reactions could arise from different sensory experiences including vision, which according to Plato, is 'a source of supreme benefit to us' (Barney, 2001). The following section specifically focuses on one's emotional connections to colors which have an important role in shaping their identity.

2.2. From Emotions to Color Emotions

Literature has documented strong bonds between visual stimuli and emotions (Yoon & Wise, 2014). Human emotions most often rely on human vision (Kim, Kim, Koo, Jeong, & Kim, 2005). Colors, as a critical and visual source of information, have an undeniable impact on people's lives. They choose the color of their cars, clothes, and furniture based on how they want to express themselves (Trinka, 1991). Colors not only reflect cognitive functioning but they display emotional impressions (Thomson et al., 2010). For many years, the influence of colors on emotions has been delved into under the heading of synesthesia, yielding dissimilar results whether colors render positive or negative moods. Studies conducted in this field are generally of two major types: The first type focuses on the evaluative dimension of the colors and color preferences while the second type centers around the descriptive dimension of colors and the subsequent moods (Gao & Xin, 2006). Concerning the former dimension, Eysenck (1941) reported the

following order of color preferences: blue, green, violet, orange, and yellow. A typical study addressing the latter dimension asked a group of college students about which color better fits which mood (Odbert, Karwoski, & Eckerson, 1942). The results revealed that 'red' is close to 'exciting', 'yellow' to 'playful', 'green' to 'tender', and 'blue' to 'sad' and 'solemn'.

As a commonly-agreed-upon assumption, clinicians (e.g., Goldstein, 1939) claimed that certain colors induce certain emotional responses. For instance, red is tied with anger and excitement while blue is associated with peace and cleanliness. Green is associated with quietness, whereas black manifests depression and anxiety (Shape, 1974). To verify emotional valance, Hemphill (2010) looked into adults' color-emotion associations. In response to the question how they feel about each color, 49% of the participants had positive emotions, 36% had negative emotions, and 15% expressed no emotion for colors. Purple and white colors had the highest 'no emotion' responses for both men and women. Gray received the highest number of negative responses.

Research into color emotion significance has been extended to children as well. As such, psychologists postulated that children's use of colors in their paintings might uncover their underlying emotions. Boyatzis and Varghese (1994) investigated children's emotional associations with colors, declaring that they had more positive emotions for bright colors such as blue and yellow and negative emotions for dark colors such as black and gray. Moreover, their emotions were somewhat gender-related. Boys showed less negative feelings for dark colors in comparison with girls. Boyatzis and Varghese (1994) further concluded that color-evoked emotions depend on personal experiences and are not at all universal. In addition, emotional responses to colors get more complicated with increasing age. While in Boyatzis and Varghese's (1994) study, 75% of the children's responses to colors was positive, this percentage decreased to 49% in adults in Hemphill's (2010) set of experiments.

The convoluted color-emotion relationship may also be affected by linguistic, national, and cultural backgrounds besides factors above (Gao et al., 2007). Each culture is

replete with different verbal metaphors and arbitrary linkages which yoke colors to various emotional states. The English language is not an exception: 'To feel blue' or 'to be green with envy.' It is therefore believed that the major part of people's emotional experiences may arise from their cultural roots (D'Andrade & Egan, 1974). Berlin and Kay's (1969) color classification draws chiefly upon linguistic factors, suggesting that each culture generates different themes for a single color. Other cross-cultural experiments (e.g., Manav, 2007) explain that color preferences are basically culture-specific. As an instance, the common popularity of white in Asia is related to their regional inclination to cleanliness, purity, and nature.

Overall, the conceptual link between color and emotion is defined through two complementary approaches. The first approach addresses the question "what color is associated with emotion x?", whereas the second approach tries to find answers to "what emotion is associated with color y?". Although the final results may seemingly overlap to some degrees, differences may also be unraveled. Simply put, anger may be linked to red, yet red could associate with warmth and love too. The main focus of this paper is the second approach. However, this approach is merely a tool to dig into individuals' ability in recognizing and expressing their inner emotions. A cursory look into a number of studies conducted to identify the types of emotions evoked by different colors (e.g., Boyatzis & Varghese, 1994), foods (e.g., Rouby et al., 2016.), brands (e.g., Singh, 2006), etc. one can realize that the underlying assumption of all these studies is that individuals can recognize their own emotions and can choose or verbalize them with no difficulty. This assumption has led to designing different types of scales measuring emotional tendencies or associations consciously. While the neurological techniques such as fMRI attempt to check the implicit and nondeclarative memory, the verbal scales tap into the explicit and declarative memory with the assumption that all individuals have the same ability to recognize sense-related emotions. Thus, to verify this assumption, we investigate color emotions as an impetus.

3. Methodology

3.1. Participants

In this study, 36 high school, graduate, and undergraduate university students (12 males and 24 females) aged between 17 to 57 ($M=30$) were asked to participate in structured interviews on color emotions. They were at different levels of education (High school diploma: 15, BA: 6, MA: 7, Ph.D.: 8), studying different majors at high school and humanities (including languages, history, theology, education, and economics) at Ferdowsi University of Mashhad, Iran. The sampling procedure was purposive and data collocation was continued till the saturation criterion was met. They were all middle-class students with no professional knowledge about colors or defective color vision.

3.2. Materials

Materials in this study consisted of primary (blue, red, and yellow) and secondary colors (purple, orange, and green) supplemented with the colors of brown, pink, gray, and black.

3.3. Procedure

The participants were supposed to take the following questions and express their emotions for the number of selected colors. They were allowed to mention more than one emotional response for each color.

1. Which types of emotions (positive, neutral, and negative), do you have for each color?
2. What emotions come to your mind when you hear these colors?
3. What is your favorite color?
4. Do you manage your life based on the knowledge of color emotions? If yes, specify them.

Each interview took around 20 minutes, and the researchers recorded and transcribed them to derive the emerging themes. Moreover, the researchers, using the Lincoln and Guba (1985)'s model of validity and reliability for qualitative works, tried to meet all four criteria of dependability, credibility, transferability, and confirmability.

4. Results

The interviews initiated by asking the participants about their emotions for the set of selected colors. Their explanations for their emotional reactions were also analyzed to draw a clearer picture of their color-emotion associations as concrete evidence for emotional information and overall emotional expression. To address the first question and capture the variety of elicited emotions, their responses were simply categorized into positive, negative, and no emotion.

Participants' comments on the first and second research questions revealed that their emotional responses are basically evoked by idiosyncratic social and personal experiences over time. They associated their moods to tastes, "*brown is sweet since chocolate is brown*", to objects, "*pink is my favorite color. It reminds me of pudding and jelly*", and to people they loved, "*orange gives me positive feelings because my mum loves it*".

To be specific, orange raised both positive feelings of liveliness, happiness, and thirst, and negative feelings of sickness and failure. The participants with positive responses identified orange with summer fruits and freshness, whereas the individuals with negative responses tied it with winter fruits and sickness. For colors such as brown and yellow, some had either absolute positive (power and attraction) or negative feelings (hopelessness and hatred). A participant stated that, "*yellow gives me energy like the sun*" but "*brown brings depression and loneliness*". Another example is from a participant who explained why brown is a source of positive feeling to her, "*leather is brown, so brown is classy*". Several participants, however, could not find a single word to express their inner feelings for orange, brown, and yellow. The participants labeled green as "*the color of life*" and linked it to peace, cleanliness, rain, and victory for which they had no reason, or they associated it with cliché concepts including nature, grass, and jungle. For blue, also, they expressed similar emotions such as peace and rain, associating it with routine images of sea and sky. Their emotional reactions for green and blue were pretty fast which could justify their lack of deep understanding of their emotions. Across all colors, black and gray evoked the highest percentage of negative

responses despite being popular colors. A participant believed that, “*black is boring but I prefer black for my shoes, bags, and clothes*”. After black and gray, red raised more negative responses. Although some females favored this color linking it to happiness and love, more than half of the participants considered it as inconvenient and a bit of nerve-racking. Purple, otherwise, elicited the highest number of no emotion response in our participants. The color was somewhat vague and insignificant to males which may have its roots in the cultural ambience of Iran.

Further findings indicated no relationship between gender and color-emotion associations. According to the participants, colors do not convey much gender-related information. It is widely accepted that, blue is associated with males and pink with females. Though emotionally oriented, more than half of the females had no feelings for pink, and blue was both males’ and females’ favorite colors. While some associated pink with childhood, toys, happiness, and peace, some of the participants had negative feelings for it, “*pink is meaningless and puts me to sleep*”.

The results also suggested mild age-related trends in emotional responses to colors corroborating the notion that cognitive development may also account for complex associations. While younger participants had a tendency to express positive emotions for bright colors, older ones preferred dark tones. Moreover, whereas younger participants linked colors to fixed, routine concepts and events, older ones associated them with personal- or life-relevant experiences.

A further category of experiences which affects color-emotion associations could be education. Education may in fact influence individuals’ ability to label and hence to manage their emotions. The depth and complexity of elicited emotions increased with education. The participants holding M.A. and Ph.D. degrees were more metacognitively aware of their emotions and were more comfortable in putting their emotions into words. Others, nevertheless, tend to use more hedges to talk about the reasons behind their feelings, “*I like pink, maybe because it is a light color*”.

In response to the third research question addressing their favorite color, it was revealed that the participants either had no idea about their favorite colors or they preferred bright colors. However, it was quite interesting that, the participants were not wearing their favorite colors at the time of interview. Although black was found boring, a great majority of them were wearing black for various reasons. Literally speaking, some did not want to attract attention by wearing bright colors in public, some were fat and needed to look slim and fit, and some were more comfortable matching it with other colors. A further reason could be related to the Persian culture which is not in favor of bright colors. In general, blue and green received the most positive responses among both males and females.

Their reactions to the question how much they care about the choice of colors in their daily life and to what extent they are able to manage their emotions accordingly manifested that, some people are not fully aware of their emotions. Although some have the emotional understanding of colors, they are not actually able to put their feelings into words. Indeed, the ones who had no explanation for their emotions or were not even able to label their inner feelings, did not value the role of colors and more importantly emotions in their life, “*I don’t care about the color of my bedroom and my clothes*”. In contrast, some could significantly regulate their emotions. For instance a girl mentioned that, “*I always drink strawberry milk because pink cheers me up*”. Another participant commented that, “*I don’t eat meat because it turns brown when you cook it and brown makes me sick*”. A teenage participant noted that, “*I use my favorite color pens and highlighters to make studying enjoyable*”. Some other participants who had expressed positive feelings for green and blue stated that they use these colors a lot in their life due to their peaceful nature.

To put it in a nutshell, there are several sources which manipulate color emotions including gender socialization, age, and religion as well as linguistic, national, and cultural backgrounds. Yet, we conclude by postulating that, participants’ cultural variations, as the key source of experience, explains a majority of color-emotion variations. Colors, like many other concepts, are presented and

linked to particular images and events in different cultures. Given that the focus of this study was to investigate the variations in emotional reactions, perceptive aspects of

colors such as hue, brightness, and saturation were disregarded. Bearing these in mind, we extracted the following themes from their emotional responses (see Table 1):

Table 1

Themes Extracted from the Interviews

Themes	
1.	There were variations for all colors except for blue and green which were calm ones.
2.	Some could not name emotions instead they used adjectives to describe feelings.
3.	Cliché emotions and colors were answered more quickly.
4.	Talking about the valence (positive, negative, and neutral) was much easier and faster than mentioning the type of emotions.
5.	The older the participants, the more cognizant they are of their emotions.
6.	Less educated individuals were less aware of their emotions and could not manage colors. They preferred others to choose for them.
7.	Some manage colors not based on the emotions evoked by them but their functions (e.g., easiest colored cars to keep clean).
8.	The ones who could name emotions faster and more easily claimed they managed the colors based on their emotions.
9.	Some claimed that although they know the emotions, they do not care to manage based on that.
10.	Emotions are experience-based, culture-based, and situation-based (e.g., black is both positive and negative depending on where to see it).

5. Discussion

In order to investigate to what extent individuals are able to recognize, label, and manage their sense-induced emotions, colors were employed as evidence, presupposing that we have all been equally exposed to different colors throughout our life. The results indicated distinct emotional reactions to particular colors, corroborating some earlier works (e.g., Hemphill, 2010; Shape, 1974) in this realm. The normal variations among individuals are generally due to evolution, culture, and accrued personal experiences (Boden, & Berenbaum, 2011). With regards to the first research question concerning emotional valence, participants had positive, negative, or no emotion for colors. They responded more negatively to black, gray, and red and more positively to blue and green. The justification could be the significant roles of culture and religion which should not at all be neglected. Centuries of cultural tradition have associated certain colors with Islam. In Iran, as an Islamic country, black and red feature mourning ceremonies conveying the negative feeling of grief to people. As for blue and green, positive emotions are linked to images

such as nature and water which, in essence, may suggest the overall sense of peace. Despite being religiously significant, unlike black and red, green raises positive feelings, symbolizing life and nature. In addition to positive and negative feelings, plenty of the participants were emotionally blank for colors. As such, the colors purple and orange promoted the largest number of 'no emotion' responses confirming Hemphill's (2010) previous findings. The likely reason may be that, in the Islamic culture of Iran, bright, vivid colors, particularly purple and orange, have no specific meaning and are not commonly observed in the environment.

In response to the second research question asking the participants of their emotions for a set of different colors, (*emo*)*sensory capital* (Pishghadam, Shakebaee, & Shayesteh, in press) along with personal relevance turned out to be the indisputable logic behind their emotional diversities. They attached color-evoked emotions to their different sensory experiences including tastes and foods. In particular, our findings were rather in line with those of Shape (1974) and Boyatzis and Varghese's (1994), associating blue with

peace and black with depression. Yet, our results contradicted those of Odbert et al. (1942) which tied blue to sadness and yellow to playfulness.

Conceptualizations of color-emotion associations revealed no difference between males' and females' emotional competence, explaining that the cultural dominance of dark colors reduces the choice of colors and restricts the individuals. The slight age-related discrepancy in participants' emotional moods and feelings was also attributed to the quality and quantity of sensory experiences determined by emotional maturation, cognitive development, and the social exposure to emotion disclosure. While it was harder for younger ones to recognize and label their unique color-emotions, older participants did it with more ease. Education, more than age, could affect one's emotional understanding and expression. The more educated individuals had more access to emotional words and were more aware of their inner emotional states.

Participants' preference for colors (the third research question) manifested that, although the participants are strongly drawn to green and blue, they would not use it much in their daily life. Some had no reason why they favor these colors, yet others provided their own

exclusive justifications whose basis could be closely tied to the social and cultural applications of colors aside from mere personal tendencies. Studies (e.g., Gao, & Xin, 2006) acknowledge that color preference is more cultural than individual. Dark colors, especially black, are more popular across Islamic countries including Iran. Women wear black chador (cover) and, despite its negative emotional connotation, tend to pick black as the color of modesty. People find black more formal and believe that everything looks good in black. Seemingly, Iranians as a collective society are more concerned with what others believe (Pishghadam, 2014), valuing function more than emotion. Slightly different, Choungourian (1968) reported red and blue as the top choice among Americans.

An investigation of all the responses led to the conclusion that, successful management of color emotions in general and sense-induced emotions in particular (research question four) may result from emotional expression which largely depends on the aforementioned mediating factors. In order to shed more light on this concept, the following Venn diagram was designed and constructed based on the participants' various emotional reactions to colors.

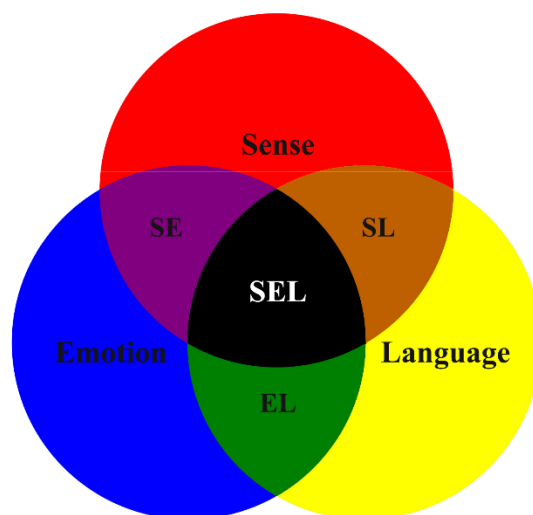


Figure 1

The Three-Set Model of Emo-Sensory Expression

More explicitly, the three-set Venn diagram comprises overlapping circles each representing sense, emotion, and language with sense as its key component set. The overlapping closed curves (i.e., SE, SL, and EL) illustrate different abilities of individuals

in expressing their emotions which correspondingly give rise to different degrees of emotion regulation with SEL as the ideal condition. Table 2 encapsulates the description of the terms used in the diagram along with some illuminating example sentences.

Table 2
Venn Diagram Terms and Examples

Region	Description	Example
Sense (Red)	It represents the sensory information obtained through our sensory organs.	<i>I listen to music.</i>
Emotion (Blue)	It refers to psychological states, moods, or feelings.	<i>I am sad.</i>
Language (Yellow)	It accounts for the individuals' knowledge of emotion-related words to label their emotions.	<i>Pink is delicious.</i>
SE (Purple)	The intersection of sense and emotion captures sense-induced emotions (sensory emotions) explaining emotional reactions to sensory knowledge. Senses may indeed evoke specific types of emotions prior to the actual behavior. For instance, the smoke smell may trigger a feeling of danger before calling for help.	<i>I have a bad feeling but I do not know what it is exactly.</i> (only valence is recognized).
SL (Orange)	The intersection of sense and language (sensory language) refers to those emotional moods associated with cliché events or images. (You have a cliché emotion word for the color, yet there is no idiosyncratic emotional experience behind it).	<i>I remember nature when I see green.</i>
EL (Green)	The intersection of emotion and language (emotional language), renders those clear emotions individuals have for items/concepts, which they can label (emotional clarity) as a result of better access to emotion vocabularies, regardless of having adequate sensory experiences.	<i>I guess, red cheers me up at first glance. But if I use it a lot it may tire me, triggering negative feelings of anger and anxiety.</i>
SEL (Black)	The intersection of sense, emotion, and language characterizes the states individuals sense an entity and recognize the type of emotion evoked by that, label it, and try to manage it to guide behavior.	<i>I love brown. It satisfies my desire for luxury and comfort since it is the color of wood and leather. I use it a lot for my furniture. It looks amazing.</i>

The overall results add to the findings of prior studies, indicating that SEL could come as a manifestation of a new type of intelligence called *emo-sensory intelligence* (ESQ → emotional-sensory quotient), which surpasses a simple integration of emotional intelligence (EQ) and sensory intelligence (SQ). While EQ revolves around pure emotions without regard to their sensory origins, and SQ taps sensory experiences aside from the resultant emotions, ESQ adopts a combinatory approach and

highlights the value of sense-induced emotions generated as the by-product of direct sensory interactions with the environment. It, in fact, gives prominence to the inseparable bond between sense and emotion corroborating Vuilleumier's (2005) and Sacco and Sacchetti's (2010) shared findings that emotions cultivate sensory cortices. Borrowing some common features (i.e., emotional awareness, emotion recognition, labeling, and emotion regulation) from emotional differentiation, emotional

clarity, and emotional intelligence, ESQ develops itself as a fresh view of intelligence. To define, ESQ can be the ability to recognize, label, monitor, and manage sense-induced emotions to guide one's behavior. To substantiate the underlying foundations of this view any further, ESQ could be investigated in line with IQ, EQ, and SQ, which may go beyond the scope of this paper and requires future research endeavors.

References

- Barney, H. (2001). *Names and nature in Plato's Cratylus*. New York: Routledge.
- Berlin, B., & Kay, P. (1969). *Basic color terms: Their universality and evolution*. Berkeley & Los Angeles: University of California Press.
- Boden, M. T., & Berenbaum, H. (2011). What you are feeling and why: Two distinct types of emotional clarity. *Personality and Individual Differences, 51*, 652–656.
- Boyatzis, C. J., & Varghese, R. (1994). Children's emotional associations with colors. *The Journal of Genetic Psychology, 155*, 77–85.
- Choungourian, A. (1968). Color preference and cultural variation. *Perceptual & Motor Skills, 26*, 1203–1206.
- Conway, M. A. (1990). *Autobiographical memory: An introduction*. Philadelphia: Open University Press.
- D'Andrade, R., & Egan, M. (1974). The colors of emotions. *American Ethnologist, 1*, 49–63.
- Denham, S. A., & Kochanoff, A. T. (2002). Parental contributions to preschoolers' understanding of emotion. *Marriage and Family Review, 34*, 311–343.
- Dunn, W. (2000). Habit: What's the brain got to do with it? *The American Journal of Occupational Therapy, 55*(6), 608–620.
- Eysenck, H. J. (1941). A critical and experimental study of color preferences. *American Journal of Psychology, 54*, 383–394.
- Gao, X., & Xin, J. (2006). Investigation of human's emotional responses on colors. *Color Research and Application, 31*(5), 411–417.
- Gao, X., Xin, J., Sato, T., Hansuebsai, A., Scalzo, M., Kajiwara, K., ... Billger, M. (2007). Analysis of cross-cultural color emotion. *Color Research and Application, 32*, 223–229.
- Goldstein, K. (1939). *The organism*. New York: American book.
- Heller, S. (2002). *Too loud, too bright, too fast, too tight: What to do if you are sensory defensive in an over-stimulating world*. New York: Harper Collins.
- Hemphill, M. (2010). A note on adults' color-emotion associations. *The Journal of Genetic Psychology: Research and Theory on Human Development, 157*(3), 275–280.
- Johnson, A., Johnson, O., & Baksh, M. (1986). The colors of emotions in Machiguenga. *American Anthropologist, 88*, 674–681.
- Kay, P., & Kempton, W. (1984). What is the Sapir-Whorf hypothesis? *American Anthropologist, 86*, 65–79.
- Kim, S., Kim, E. Y., Jeong, K., & Kim, J. (2006). Emotion-based textile indexing using colors, texture and patterns. In G. Bebis et al. (Eds.), *Advances in visual computing. Lecture notes in computer science* (Vol. 4292, pp. 1077–1080). Berlin, Heidelberg: Springer.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Manav, B. (2007). Color-emotion associations and color preferences: A case study for residences. *Color Research and Application, 32*, 144–151.
- Ochsner, K. N. (2000). Are affective events richly 'remembered' or simply familiar? The experience and process of recognizing feelings past. *Journal of Experimental Psychology: General, 129*, 242–261.
- Odbert, H. S., Karwoski, T. F., & Eckerson, A. B. (1942). Studies in synesthetic thinking: Musical and verbal association of color and mood. *Journal of Genetic Psychology, 26*, 153–173.
- Pishghadam, R. (2014). An investigation into data collection methods in language studies: A movement towards localizing research in Iran. *Language Related Research, 5*(2), 55–70.
- Pishghadam, R., Jajarmi, H., & Shayesteh, S. (2016). Conceptualizing sensory relativism in light of emotioncy: A movement beyond linguistic relativism. *International Journal of Society, Culture & Language, 4*(2), 11–21.

- Pishghadam, R., Adamson, B., & Shayesteh, S. (2013). Emotion-based language instruction (EBLI) as a new perspective in bilingual education. *Multilingual Education*, 3(9), 1-16.
- Pishghadam, R., Shakebaee, G., & Shayesteh, S. (in press). Introducing cultural weight as a tool of comparative analysis: An emotioncy-based study of social class. *Humanities Diliman*.
- Pishghadam, R., Tabatabaeyan, M. S., & Navari, S. (2013). *Tahlil-e enteghadi va karbordi-e nazariyehaye faragiri-e zaban-e aval: Az peidayesh ta takvin* [A critical and practical analysis of first language acquisition theories: The origin and development]. Iran, Mashhad: Ferdowsi University of Mashhad Publications.
- Pomerlau, A., Bolduc, D., Malcuit, G., & Cossette, L. (1990). Pink or blue: Environmental gender stereotypes in the first two years of life. *Sex Roles*, 22, 359-367.
- Rimé, B., Corsini, S., & Herbertte, G. (2002). Emotion, verbal expression, and the social sharing of emotion. In S. R. Fussell (Ed.), *The verbal communication of emotions: Interdisciplinary perspectives* (pp. 185-208). Mahwah, NJ: Erlbaum.
- Rouby, C., Fournel, A., & Bensafi, M. (2016). The role of senses in emotion. In H. Meiselman (Ed.), *Emotion measurement* (pp. 65-81). New York: Woodhead Publishing.
- Sacco, T., & Sacchetti, B. (2010). Role of secondary sensory cortices in emotional memory storage and retrieval in rats. *Science*, 329(5992), 649-656.
- Shape, D. T. (1974). *The psychology of color and design*. Chicago: Nelson Hall.
- Singh, S. (2006). Impact of color on marketing. *Management Decision*, 44(6), 783-789.
- Thomson, D. M., Crocker, C., & Marketo, C. G. (2010). Linking sensory characteristics to emotions: An example using dark chocolate. *Food Quality and Preference*, 21(8), 1117-1125.
- Trinkaus, J. (1991). Color preference in sport shoes: An informal look. *Perceptual and Motor Skills*, 73, 613-614.
- Vuilleumier, P. (2005). How brains beware: Neural mechanisms of emotional attention. *Trends in Cognitive Sciences*, 9(12), 585-594.
- Yoon, S.-Y., & Wise, K. (2014). Reading emotion of color environments: Computer simulations with self-reports and physiological signals. In J. Watada, H. Shiizuka, K. Lee, T. Otani, & C.-P. Lim (Eds.), *Industrial applications of affective engineering* (pp. 219-232). Basel, Switzerland: Springer.
- Wang, Q., & Ross, M. (2007). Culture and memory. In H. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology* (pp. 645-668). New York: Guildford Publications.
- Whorf, B. (1956). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. Cambridge, MA: MIT Press.
- Williams, J. M. G., Mathews, A., & MacLeod, C. (1996). The emotional Stroop task and psychopathology. *Psychological Bulletin*, 120, 3-24.