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Pleasantness and Motivational Intensity of Experienced Emotion Influence Affect Labeling in Men and Women: Does Inhibitory Control Play a Role?

Affect labeling involves describing emotional experiences using words. It is not known how different aspects of emotional experience influence affect labeling. The primary objective of this study was to compare the number of affective labels generated in emotional situations varying in valence and motivational intensity. Given that previous studies suggest that women are more capable in describing their emotional experiences, we also considered gender differences in generating affective labels. Additionally, we investigated whether inhibitory control influences the number of generated affective labels. Participants ($N = 72$) were instructed to generate affective labels in anger, sadness, and happiness. They also completed a color-word Stroop task with negative priming. Our results revealed that the motivational intensity of the emotions significantly influenced the generation of labels in women. A similar trend, though non-significant, was observed in men. No relationship between inhibitory control and the number of generated labels was found.

Key words: affect labeling, emotional valence, gender differences, inhibitory control, motivational intensity

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Emotional experiences are an inseparable part of human life, characterized by subjective, physical, and behavioral changes (Frijda, 2009). The quality, intensity, and duration of these experiences can be modified through emotion regulation strategies (McRae & Gross, 2020). One strategy that has garnered increasing interest is affect labeling (AL), which involves using words to describe emotional experiences (Torre & Lieberman, 2018). Although writing about feelings (e.g., Smyth et al., 1999; Pennebaker, 1997) or sharing emotional experiences in online communities (e.g., Rimé, 2020) has been studied in clinical and social contexts, AL has been more systematically investigated in laboratory settings over the last two decades, utilizing appropriate assessment methods and controlled emotion induction procedures (e.g., Burklund et al., 2014; Torre & Lieberman, 2018).

Various studies have proven the regulatory effect of AL. For instance, Constantinou et al. (2014) found that physical symptoms caused by viewing negative pictures were reduced after using AL. Similarly, Levy-Gigi and Shamay-Tsoory (2022) reported that AL enabled participants to down-regulate the distress they experienced upon viewing arousing pictures. Such outcomes have been explained by the dominant proposal that AL contributes to emotion regulation by reducing emotional uncertainty (Lindquist et al., 2015; Torre & Lieberman, 2018). While the majority of prior studies have confirmed the regulatory effects of AL on subjective experience (Constantinou et al., 2014), physiological changes (Tabibnia, et al., 2008), and brain activity (Lieberman et al., 2007), some studies have cast doubt on its regulatory impact. For example, Kircansky et al. (2012) found that although physiological and behavioral reactions to fear could be regulated through the application of AL, the participants' subjective experience of fear, as reported by themselves, did not reveal any noticeable changes. This pattern has also been observed in the application of AL to reduce public speaking anxiety (Niles et al., 2015). Furthermore, some studies suggest that AL may not only fail to contribute to emotion regulation, but may also disrupt the regulation of negative emotions by generating excessive interpretations of emotional experiences (Nook et al., 2021).

These inconsistencies suggest that AL is a complex strategy influenced by various "hidden moderators" that can affect its impact on emotion regulation (Nook et al., 2021, p. 188). For instance, in most studies investigating AL, participants have typically been required to select labels from a predetermined set of options (e.g., Constantinou et al., 2014; Lieberman et al., 2011). This methodology, while facilitating experimental control and minimizing task complexity, overlooks the potential role of freely generated labels in AL processes compared to those selected from a predetermined set (Vine et al., 2019; Nook et al., 2021). Specifically, AL seems to be more effective when participants generate their own labels (see Fitzpatrick et al., 2019, for a discussion). The number of generated labels is another crucial factor in AL processes. The quantity of produced emotional labels is important, as the ability to effectively manage emotional situations partly depends on individuals' capacity to clearly recognize and label their emotions (Barrett et al., 2001). However, engaging in excessive labeling of the experience

may cause confusion and obscure the core emotional meaning (Vine et al., 2019). Therefore, investigating how different emotional experiences influence the number of generated labels is an important topic in AL.

In addition, most previous studies have not adequately addressed the multidimensional nature of emotional experiences. The multidimensionality of emotional experiences emphasizes that the mental representation of emotions encompasses various aspects, including -but not limited to- pleasantness (hedonic valence of emotional experience), arousal (the levels of physiological or mental activity associated with the experienced emotion), and motivational intensity (the strength of the tendency to approach or avoid an object or a person, accompanied by the experienced emotion) (Frijda, 2009; Gable & Harmon-Jones, 2010a). Studies investigating AL have mostly focused on negative emotions while disregarding positive emotions. However, a comprehensive understanding of the regulatory effects of AL requires investigating both positive and negative emotions. Surprisingly, the limited number of studies available on AL's effects on positive emotions has not yet reached a consensus. While some studies found that AL decreases the strength of experienced positive emotions (Lieberman et al., 2011; Exp. 4), others observed that it increases their intensity (Vlasenko et al., 2021).

Furthermore, studies that target AL in negative emotions have not adequately addressed the motivational intensity dimension of the experienced emotions. Ignoring this aspect hinders the development of a comprehensive understanding of AL, as findings from different studies cannot be cumulatively compared and generalized. For example, despite both being negative emotions, anger and sadness have different motivational intensities (high vs. low, respectively) (Gable & Harmon-Jones, 2010a). Therefore, understanding the relationship between motivational intensity and AL is crucial, particularly in light of recent findings confirming the association between different aspects of emotion regulation and motivational intensity. For instance, Yang et al. (2022) investigated the influence of motivational dimensions on the selection of emotion regulation strategies. They observed that, for emotions with high motivational intensity, distraction is preferred as a regulatory strategy over reappraisal.

To address the gaps of previous AL research, this study aimed to investigate whether the number of affective labels generated by individuals is influenced by the pleasantness and motivational intensity of the experienced emotion. Unlike the common methodology, this study focused on the number of emotional labels generated in each emotional situation, rather than selecting labels from a predetermined set. This free labeling approach is more cognitively demanding (Nook et al., 2021) and, therefore, may reveal more information about how AL adapts to situational requirements.

To enable comparisons of how AL is influenced by emotions with different levels of pleasantness and motivational intensity, we included anger and sadness (both unpleasant emotions with different motivational intensity) as well as happiness (a pleasant emotion with high motivational intensity) in our study. Given that these

specific comparisons have not been previously investigated, we explored the effects of the two dimensions of emotion (pleasantness and motivational intensity) on AL.

This study also considered the role of gender differences in generating affective labels for different emotional experiences. Given that previous studies have shown that women have higher emotional awareness and are better at describing their own and others' emotional experiences than men (e.g., Barrett et al., 2000), this study examined whether this gender difference is also observable in affective labeling of different emotional situations. Following previous studies, we hypothesized that, in comparison to males, female participants would have a richer repertoire of affective labels, enabling them to produce more labels to describe their emotional experiences.

The final objective in this research was to investigate the potential relationship between the number of generated labels and inhibition. Inhibitory control, a key self-regulatory ability, helps individuals to align their performance with their situational goals (Miyake & Friedman, 2012). In previous studies, inhibitory control has been conceptualized as a supervisory system that prevents interference of irrelevant, competing stimuli or actions (Miyake & Friedman, 2012). Given this theoretical framework, we expected that the number of generated labels might be related to inhibitory processes. Building on previous research suggesting that AL regulates emotions by reducing uncertainty of emotional experiences (e.g., Lindquist et al., 2015; Torre & Lieberman, 2018), we reasoned that generating an excessive number of labels could interfere with this regulatory process by increasing conflicting information. We therefore, hypothesized that higher inhibitory control would be associated with fewer generated labels for positive and negative emotions with different motivational intensities.

Method

Participants

One-hundred and thirty-eight adults aged between 18 and 40 years participated in this study ($M = 26.17$; $SD = 4.48$). Participants were recruited through advertisements in online groups and communities related to tertiary education. As 66 participants did not complete the study, they were excluded from further analysis, resulting in a final sample size of 72 individuals: 59.72% men, 38.89% women, and 1.39% other (see Table 1 for demographic information of the final sample). This study was reviewed and approved by the Bio-Medical Ethics Committee of Shahid Beheshti University (No.IR.SBU.REC.1401.012).

Materials

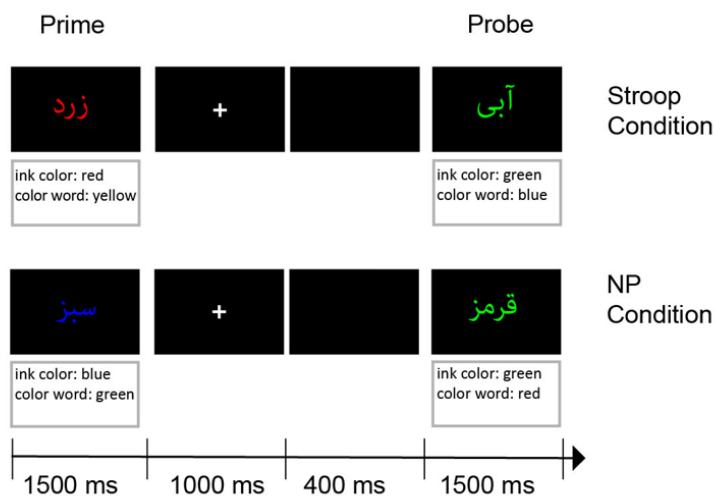
Color-Word Stroop Task with Negative Priming (NP)

Participants' inhibitory control was assessed using the color-word Stroop task

Table 1. Demographic Information of the Final Sample

Education level	Gender	N
High school diploma	Men	6
	Women	1
	Other	0
Undergraduate degree	Men	19
	Women	5
	Other	1
Postgraduate degree	Men	18
	Women	22
	Other	0
Total		72

Figure 1. Color-Word Stroop Task in the Persian Language



Note: This image illustrates trials from a Color-Word Stroop Task in the Persian language with and without negative priming (NP). The figure depicts both the classic Stroop condition and the NP condition.

(Stroop, 1935). In this task, participants were presented with the names of four colors (i.e., red, green, blue, and yellow) written either in congruent or incongruent ink colors. For example, the word GREEN could be written in green (congruent) or red ink (incongruent). Participants were instructed to respond to the ink color while ignoring the meaning of the word.

The task consisted of 285 trials, including 97 congruent, 94 Stroop, and 94 Stroop with negative priming (NP) trials. In Stroop trials, there was no relationship between the ink colors and color words of two consecutive trials. However, in NP trials, the ink color of one trial (i.e., to-be-attended information) matched to the color word of its preceding trial (i.e., to-be-ignored information) (Figure 1).

To familiarize participants with the task requirements, they completed three blocks of practice trials (52 trials total). During practice trials, detailed feedback was displayed on the screen for 1000 milliseconds after each response, indicating whether the response was correct, incorrect, or not registered. Since the experiment was conducted online, using participants' keyboards, pressing any key other than the specified ones triggered an alert reminding participants of the correct keys to press to record their responses. During the main phase of the experiment, participants did not receive any feedback.

Affect Labeling Task

This task consisted of the emotion elicitation and the affect labeling phases.

Emotion Elicitation Phase. Participants' emotional experience was manipulated using a guided-imagery procedure (Zhang et al., 2014). Participants were instructed to read six scenarios and imagine themselves in the depicted situation. The scenarios were designed to elicit anger, happiness, and sadness. The main themes of the six final scenarios are presented in Table 2. The content of the scenarios was adopted from Wingenbach et al. (2019), but the suitability of the scenarios for eliciting the intended emotions was verified through a pilot study. In the pilot study, 13 participants were presented with 12 hypothetical situations (four scenarios for each target emotion) and asked to choose the label that best described each scenario from a list of options (i.e., happiness, anger, sadness, fear, disgust, and neutral). The two scenarios that received the highest level of agreement among participants (more than 60% agreement) were selected for the study to elicit the intended emotion.

Affect labeling phase. Following the emotion elicitation phase, participants were asked to type emotional labels that they believed accurately described their emotional experience. Participants were free to generate as many labels as they wanted. This method was adapted from Vine et al. (2019).

Procedure

Data collection for this study was conducted online. To enable this, we developed a color-word Stroop task with NP using PsychoPy2 (Peirce et al.,

Table 2. The Main Themes of the Scenarios

Scenario	Main theme
Anger 1	Failure in a project due to a teammate's irresponsibility
Anger 2	Witnessing a close person being bullied
Sadness 1	Separation from siblings following the death of parents
Sadness 2	Pregnancy loss
Happiness 1	Parental guidance and support leading to a child's success
Happiness 2	Supporting toddler's walking skills through playful interaction

2019) and hosted it on Pavlovia¹. The demographic questionnaire, and the affect labeling task (including the emotion elicitation and affect labeling phases) were hosted on ePoll².

At the start of the experiment, each participant viewed an 80-second video clip, providing an overview of the tasks and experimental procedure. After watching the video, participants were presented with the online informed consent form. The experiment could proceed only after participants digitally signed the informed consent. Following this, participants were asked to complete a demographic questionnaire, including questions about age, gender, and educational level.

After this, the color-word Stroop task with NP was introduced to participants. General instructions required participants to respond to the ink color of the words as quickly and accurately as possible using their keyboard. After finishing the color-word Stroop task with NP, participants proceeded to complete the affect labeling task. The scenarios of this task were presented one-by-one, and participants were instructed to imagine themselves in each scenario and then generate affective labels that best described their emotional experience. Participants were required to type the labels into a text box located at the bottom of each scenario. The six emotional scenarios were presented in a fixed order, starting with two anger-inducing scenarios, followed by two sadness-inducing scenarios and ending with two happiness-inducing scenarios. After each pair of scenarios conveying the same emotion, a neutral scenario (e.g., containing geographical information) was presented to neutralize the potential influence of the previous emotional scenarios on the subsequent material. Additionally, a neutral scenario was presented at the beginning of the emotion eliciting phase to ensure that participants started the task with a neutral mood.

The entire experiment took an average of 30 minutes to complete.

Label Extraction and Analysis

Although the main variable of this study was the number of labels generated in each emotional condition, we also considered other characteristics of the generated

¹ Pavlovia.org

² epoll.pro

labels to gain a more comprehensive understanding of the results. For example, we noticed that the majority of the labels generated by participants were single words; however, 6.9%, 4.6%, and 5.2% of the labels in the anger, sadness, and happiness conditions, respectively, were multiword expressions (i.e., phrases). To determine whether a response was a phrase, we referred to the Sokhan Dictionary (Anvari, 2003), one of the most recent monolingual Persian dictionaries. Nonetheless, all produced labels (single and multiword labels) were counted and analyzed.

The emotional content of the labels for each emotional condition was considered by a psycholinguist and the most frequent labels for each scenario were extracted (Table 3). However, to ensure that the labels matched the intended valence of each scenario in a systematic way, we used a Persian sentiment lexicon called HesNegar (Asgarian et al., 2018). HesNegar was constructed using a comprehensive Persian WordNet (FerdowsNet), which is based on Princeton WordNet, and the English SentiwordNet (version 3.0). The development process involved mapping polarity scores from English SentiwordNet to corresponding synonymous sets (synsets) in FerdowsNet. Asgarian et al. (2018) reported that HesNegar achieved a precision score of 0.86 and a recall score of 0.75. The Polarity score for each synset includes a positivity and a negativity value, each ranging from 0 to 1. Since words often have multiple senses, a single word may appear in more than one synset, resulting in multiple polarity scores for that word. Determining a prior polarity score that can be applied to a word out of context is challenging, and various methods have been proposed in the literature to address this issue (e.g., Guerini et al., 2013).

In this study, for each label participants produced in each scenario, we first extracted all synsets from HesNegar. We then organized the synsets based on the positivity or negativity value, depending on whether the label belonged to a positively valenced scenario (happiness) or a negatively valenced scenario (anger/sadness). For example, for the label /ʔæsæbāni/, which belongs to the anger scenario, we extracted 33 synsets from HesNegar and organized them from the highest to the lowest negativity value. Similarly, for the label /rezāyæt/, which belongs to the happiness scenario, we organized the synsets from the highest to the lowest positivity value. After organizing the synsets as described, we used the polarity score reported for the first synset and considered it as a prior polarity score for each label. The mean polarity scores for the scenarios are presented in Table 3.

Results

Affective Labels Generated in Different Emotional Experience in Men and Women

To compare the number of affective labels generated in each emotional situation (anger, sadness, and happiness) by men and women, we utilized linear mixed models as a flexible analysis approach. The mixed-model framework accommodates the within-subject variability inherent in our data (Cunning, 2012), as each participant was tested at three measurement points, with responses correlated due to originating from the same individual.

Table 3. The Mean Polarity Scores for Each of the Emotional Conditions and the Most Frequent Labels in Each Condition

Scenario	The mean polarity score	The most frequent labels*
Anger	Negative value: 0.63 Positive value: 0.04	Rage – Anger – Sadness
Sadness	Negative value: 0.65 Positive value: 0.05	Sorrow – Anger - Sadness
Happiness	Negative value: 0.05 Positive value: 0.56	Happiness – Joy - Pride

Note: * For ease of understanding, we translated the most frequently generated labels into English. Please refer to the supplementary materials for the original Persian words.

Figure 2. The Mean of Affective Labels



Note: The mean of affective labels generated by men ($N = 43$) and women ($N = 28$) in anger, sadness, and happiness. Female participants generated more labels than male participants. There was a significant difference in labels generated in sadness compared to other emotional conditions in women. Error bars represent ± 1 standard error of the mean.

Considering that only one participant selected their gender as “other”, their data were removed from further consideration. For the analysis of the remaining data, we utilized Jamovi 2.5 statistical software (The Jamovi project, 2022), a graphical interface designed using the R programming language. A linear mixed model with condition (anger/sadness/happiness) and gender (man/woman) as fixed factors and a random intercept for participant was conducted. A restricted maximum likelihood estimate (REML) algorithm was applied to estimate the fixed effects.

The results showed a significant main effect for condition, $F(2, 138) = 17.82$, $p < .001$. The results of post hoc comparison using Bonferroni correction showed a significant difference between sadness ($M = 8.08$, $SD = 4.19$) and the two other emotions (anger: $M = 6.55$, $SD = 2.89$, $p < .001$; and happiness: $M = 6.75$, $SD = 3.04$, $p < .001$). The difference between anger and happiness was not significant ($p = 1.00$).

The results revealed a significant main effect for gender, $F(1, 69) = 13.45$, $p < .001$, showing that women created more labels ($M = 8.66$, $SD = 1.36$) than men ($M = 6.13$, $SD = 0.5$). The interaction between condition and gender was also significant, $p = .023$. Post hoc analysis using Bonferroni correction revealed that a significant difference in the generated labels was observed only in women. Although a similar pattern was observed in male participants, it did not reach statistical significance (Figure 2).

Relationship Between Number of Labels and Inhibitory Control

To analyze data from the inhibitory control task, reaction times and response accuracy were computed for congruent, Stroop with NP, and Stroop trials. Trials in which responses were incorrect were removed and outliers were identified by excluding trials in which the reaction time deviated beyond ± 2.5 standard deviations (SD) from the participant's mean reaction time. The procedure of finding the outliers was adopted from previous studies (e.g., Mokhtari & Buttle, 2015).

For measuring the Stroop effect and Stroop with NP effect, we first removed the data of participants who had an accuracy rate of lower than 85% in the congruent conditions (2.78% of participants). Then, in the remaining participants, for measuring the Stroop effect and Stroop with NP effect, we calculated the difference in reaction times between the incongruent (Stroop & Stroop with NP) and congruent conditions.

Pearson correlation coefficient revealed no significant correlation between the Stroop condition and the number of affective labels for anger, $r(68) = .15$, $p = .22$, sadness, $r(68) = .1$, $p = .43$, and happiness, $r(68) = .09$, $p = .44$. Similarly, no significant correlation was observed between the Stroop with NP condition and the number of affective labels for anger, $r(68) = .14$, $p = .26$, sadness, $r(68) = .09$, $p = .46$, and happiness, $r(68) = .12$, $p = .31$.

Discussion

In this study, we aimed to compare the number of affective labels produced in different emotional situations. We intended to explore whether emotional experiences, differing in pleasantness and motivational intensity, influence AL differently. We also investigated the role of gender in the production of affective labels across diverse emotional contexts. Furthermore, we studied whether indices of inhibitory control have a relationship with the number of affective labels.

The first part of our results revealed that both the emotional context and

gender differences influenced AL. In general, participants generated more affective labels to describe sadness compared to anger and happiness, while no significant difference was observed between the number of affective labels generated for anger and happiness. These findings suggest that AL is more closely linked to the motivational intensity of the experienced emotion compared to its valence. One possible explanation for this finding could be the influence of motivational intensity on attentional scope (Gable & Harmon-Jones, 2010b). It is suggested that emotions with low motivational intensity are associated with global information processing, whereas emotions with high motivational intensity facilitate attending to details (Gable & Harmon-Jones, 2010b). Building upon these findings, we suggest that in sadness, with its low motivational intensity, participants were more likely to consider diverse aspects of an emotional scenario, leading to the generation of a higher number of labels that encompassed all those aspects. In contrast, in anger and happiness, the narrowed scope of attention directed participants to focus on specific parts of the content, thereby generating fewer labels.

Another possible explanation relates to subjective evaluations of the ease or difficulty of coping with emotional situations (Richter et al., 2016). Individuals are often optimistic about their coping potential in response to anger (Lerner & Keltner, 2001) and happiness (Richter et al., 2016), while situations involving sadness are perceived as more challenging, requiring substantial effort (Freydefont & Gendolla, 2012). It is likely that in sadness, participants generated a greater number of labels in order to better understand and manage the situation. This assumption is based on Barrett et al.'s (2001) results, which suggest that appropriate action selection is correlated with clear recognition of the experienced emotion.

It is notable that although the difference in the number of generated labels between sadness and the other two emotions (i.e., happiness & anger) was observed in both genders, this difference did not reach statistical significance for male participants. One possible explanation for this finding is the high variance in individuals' ratings of the motivational dimensions of different emotions. While individuals' ratings of emotional pleasantness were generally consistent, Campbell et al. (2023) found that ratings of motivational dimensions of emotions varied significantly across participants. Although Campbell et al. (2023) did not explore the influence of gender on this variance, it is plausible that men and women differ in their evaluations of the motivational dimension of emotional situations. This assumption is likely, as previous investigations revealed gender differences in other aspects of emotional experience. For example, Deng et al. (2016) observed that men exhibited higher physiological responses to anger and positive emotions, while women reported these emotions as more intense in self-report measures. Furthermore, despite exhibiting similar physiological responses, women reported a higher level of arousal in response to sadness than men. These findings support the idea that emotional experience

and expression are different constructs that elicit different responses in men and women, potentially accounting for the observed patterns in our results.

We also observed that women generated more labels in general than men, which was consistent with previous findings about gender differences in recognizing and expressing emotional experiences (see Kret & Gelder, 2012, for a review). We suggest that women's higher level of emotional awareness (Barrett et al., 2000) enables them to verbalize their emotional experiences in greater detail. This could explain the generation of more labels by women in our study. Interestingly, recent research has demonstrated that emotional vocabularies vary in terms of accessibility and that more available vocabularies correlate with a person's experiences (Vine et al., 2020). While these findings are based on analyzing texts created by individuals in everyday settings (e.g., public blogs), rather than using controlled task situations, they suggest that more accessible emotional words reflect the topics with which individuals are more mentally engaged. These results open the door for future research to explore whether the development of different emotional words in women is a function of their mental engagement with prior experiences.

In the last part of our results, we observed that inhibitory control – assessed through Stroop and NP effects – was not related to the number of affective labels generated in different emotional situations. In the previous studies, AL has been associated with emotion regulation by reducing uncertainty of emotional experiences (e.g., Lindquist et al., 2015). However, given the possibility that excessive generation of labels could interfere with emotional clarity (Vine et al., 2019), we predicted that inhibitory control would regulate the number of generated labels. However, our results did not support this hypothesis. One possible explanation is that the number of generated affective labels alone may not fully capture the clarity or confusion of an emotional experience. This aspect might need to be considered in conjunction with the semantic convergence among the generated labels. An alternative explanation for the lack of a relationship between AL and inhibitory control is that AL might not influence emotional experiences solely through reducing uncertainty. Some researchers have suggested that AL's regulatory effect could stem from its capacity to direct attention away from the source of emotional information (see Torre & Lieberman, 2018, for a detailed discussion). In this case, attention is diverted towards materials not related to the emotional information (Strauss et al., 2016). Therefore, the number of generated labels may not necessarily be linked to inhibitory control.

Limitations and Future Directions

We believe this research contributes to the AL literature, though there are limitations that require future attention. In this study, following Vine et al. (2019), we used the free labeling method and focused on the number of generated labels. Although we demonstrated that the labels' contents aligned

with the intended emotion, future research should also evaluate the level of specificity or generality of the labels, as well as whether their meanings converge towards a common core. This, however, would necessitate the existence of rich and comprehensive linguistic tools in the language in which the study is planned to be conducted.

Another important limitation of the current study pertains to the extent of research on the development of sentiment lexicons in Persian. Although HesNegar is the most comprehensive lexicon developed in Persian to date, it did not include all the labels generated by participants, resulting in the exclusion of nearly 20% of the labels when calculating the average prior polarity score in each scenario. This exclusion might explain the relatively low polarity scores for the labels, which, according to linguistic intuition, convey sentiments that are far from neutral.

Future research should assess inhibitory control using different tasks and paradigms. The Stroop and Stroop with NP paradigms are among the most commonly used methods for studying inhibition. However, theories propose that the underlying mechanism of the negative priming effect may be attributed to retrieval processes (for a comprehensive review, see D'Angelo et al., 2016; Frings et al., 2015). While these theories differ in their explanations of NP, they are not mutually exclusive. Tipper (2001) has argued that evidence supporting one account does not necessarily disprove the other. Thus, we believe that using different experimental paradigms would tap into different aspects of inhibitory control, potentially revealing additional insights about the relationship between inhibitory control and AL.

One interesting implication of our findings concerning the higher affective labels generated for sadness compared to happiness and anger pertains to the lexicalization of evocative events within language. Our findings challenge the widely held view that a negativity bias predominates emotional vocabulary, with a greater abundance of words expressing negative emotions than positive ones (Schrauf & Sanchez, 2004). By taking the participants' generated labels as reflective of a Persian lexicon for emotions of sadness, anger, and happiness, one can discern how motivational intensity, rather than emotional valence, governs the lexicalization of emotional events. This finding opens new avenues for future research in language and emotion, inviting exploration of motivational intensity as a potentially influential factor.

Conflict of Interest Disclosure

The authors report no conflicts of interest.

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Research Ethics Statement

The procedures employed in this study adhered to the regulations set forth by the Bio-Medical Ethics Committee of Shahid Beheshti University and were in accordance with the Declaration of Helsinki.

Approval was granted by the Bio-Medical Ethics Committee of Shahid Beheshti University (No. IR.SBU.REC 1401.012).

Data Availability Statement

Data associated with the current study will be made available upon reasonable request to the corresponding author. Dataset available at: <https://cstr.cn/31253.11.sciencedb.12837>.

Authorship Details

Setareh Mokhtari: research concept and design, data analysis and interpretation, writing the article, critical revision of the article, and final approval of the article.

Amin Jahani: collection and/or assembly of data, data analysis and interpretation, writing the article, and final approval of the article.

Asiyeh A'lam Hakkakan: data analysis and interpretation, critical revision of the article, and final approval of the article.

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