

# The Emotional Language and Temperamental Traits

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**Abstract**—The aim of this study is to describe the associations between the temperamental traits and the narrative emotional expression. The Temperament Questionnaire was used: The FCB-TI of Zawadzki & Strelau. A sample of 85 persons described three emotional situations: love, hate, and anxiety. This study analyzes the verbal form of expression by means of a written account of emotions. The relationship between the narratives of love, hate and anxiety and temperament characteristics were studied. Results indicate that vigorousness (VI), perseverance (PE), sensory sensitivity (SS), emotional reactivity (ER), endurance (EN) and activeness (AC) have a significant impact on the emotional expression in narratives. The temperamental traits are linked to the form of emotional language. It means that temperament has an impact on cognitive representations of emotions.

**Keywords**—Emotional narratives, Cognitive representation, Love, Hate, Anxiety, Temperament.

## I. INTRODUCTION

ACCORDING to the literature, expression of emotions is any signal (change in body appearance, movement or sound) transmitted by an individual, which, for another individual, serves as an indicator of a particular emotion being experienced [1]. As stated by Ekman & Davidson [2], there are certain patterns for a number of basic emotions, universal in their expressive character, which are culturally independent. Having a significant communicative role, emotional expression plays an undeniable part in developing interpersonal relationships. By means of externalization, an expression also serves as a "ventage" process, since, "every mental process has a tendency to become externalized, that is to be expressed via a particular activity" [3, 4]. The emotional expression plays an integral process of regulation of human behavior. The ability to express emotions, as well as to understand and interpret them is crucial in the context of socialization and interpersonal communication. It is a fundamental element of the emotional competence. The study of expressive behavior and its determinants can, therefore, provide cognitive information, but also contribute to better understanding of the mechanisms of human affectivity and, consequently, to improving remedial and preventive programs. Emotional expression through writing (letters, literature) has been acknowledged by psychology for a considerable. Its therapeutic value has been recognized for a number of decades.

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The specialists most commonly enumerates various kinds of expressions classified on the basis of the means. The following types of expressions are discussed: mimic, pantomimic, verbal, non-verbal, vocal [5]. Wierzbicka [6] points that in natural communicative conditions, various semiotic codes take part in a process of expressing emotions, namely the kinetic code of gestures and mimics, the prosodic codes of a range of vocal phenomena (laughter, crying, pace of speaking, pitch and volume of vocalized sounds) and the proxemic code that covers time and space phenomena. It is noteworthy, that expressing emotions usually involves the use of language.

The literature suggests, that verbal emotional expression is determined by many factors, and the temperament plays among them a fundamental role. Temperament is defined as those aspects of behavior and emotion which are physiological in nature and are relatively constant. Temperament is based on a structure, which systematizes the expression of emotions, and furthermore, that the majority of temperament dimensions play a part in the emotional expressions [7, 8]. Various definitions of temperament clearly point to the fact that the sphere of emotions is strongly linked to temperament. These opinions are related to the basic emotions and nonverbal expression, but it is still unclear if temperament is linked to the complex emotions (love, hate, anxiety) and verbal expression of such complex emotions. There are some findings related to this thesis. Beatty and McCroskey [9] focused on the relationship between temperamental traits and the verbal expression of aggressiveness. Ragatt found the associations between the form of narrations, personality and temperament [10]. The style of verbal description of feelings, the ability to recognize them, the emotional memory and emotional knowledge, are influenced by temperamental traits according to Izard, Schultz, Fine, Youngstrom and Ackerman [11].

The essential question in this study was formulated: Is verbal expression of complex emotions such as love, hate, and anxiety associated with temperamental traits? We focused on the complex emotions because the associations between them and the temperamental traits are still not completely described in the literature.

## II. METHOD

### A. Participants

A group of 85 subjects of equal educational background, 17- 20-year-olds (43 males, 42 females) has been examined. The subjects did not vary as to their intellectual level. On the basis of an interview concerning their health, interests, as well as family and education, persons that displayed any dysfunctions have been excluded.

### B. Measures

#### 1. The FCB-TI - Temperament Inventory

An examination was conducted, with the use of the Temperament Inventory (FCB-TI) Zawadzki and Strelau [12]. The FCB-TI assesses the following behavior characteristics: vigorousness (VI) (tendency to react quickly, sustain a high pace of activity and ease of substituting one kind of behavior with another), perseverance (PE) (tendency to continue and repeat certain kinds of behavior – after the stimulus has ceased), sensory sensitivity (SS) (ability to react to weak stimuli), emotional reactivity (ER)(tendency to react strongly to emotional stimuli), endurance (EN) (ability to react adequately in conditions demanding a prolonged or highly stimulating activity), activity (AC)(tendency to assume highly stimulating behaviors) [12]. The psychometric characteristics of the scales were confirmed (Cronbach alpha 77 – 84). There is the evidence for stability and validity [12].

#### 2. The emotional narratives

The subjects received three photographs representing different feelings: love, hate, anxiety. The photographs were presented individually. The following situations were portrayed: 1- love (a visibly blissful couple, a man and a woman), 2- hate (a furious, hateful man with an equally upset woman), 3 – anxiety (a lonely and frightened little boy). As each photograph was presented, the following instructions were provided: "Look carefully at the picture. Imagine that you are the person in the photograph. Try to feel into the situation. Write a story about your part in the situation and about what is happening to you". The testing was conducted individually. The written answers (the texts) were analyzed.

In order to compare the written stories the following categories were employed: the length of the text (i.e. the number of words); richness of the text (character and kind of ideas, ability to describe actions, justification of behavior, attempts to define causes or effects – assessed by competent judges, on a scale of 1-5, where 1- stands for banal, and 5 – very rich); number of words expressing emotions.

### C. Results

The narratives about love are associated with sensory sensitivity. This scale (SS) correlates with the length of the text about love ( $r^2 = .28$ ); the higher the sensory sensitivity is the longer emotional texts are. The scale of activity correlates significantly with the length of the text ( $r^2 = .39$ ), and the

richness of the text about love ( $r^2 = .44$ ). Greater activity co-occurs with longer and richer texts.

Vigorousness correlates with the length of the texts about hate ( $r^2 = .27$ ), and the number of words expressing emotions related to hate ( $r^2 = .27$ ). The nature of the relation shows that the increase of the vigorousness (VI) is correlated with longer texts and more words related to hate. Emotional reactivity (ER) is another scale that correlates with the expression of hate. It correlates with the number of words referring to this emotion ( $r^2 = .26$ ); that higher emotional reactivity is accompanied by increase in frequency of emotional words. The linguistic characteristics of the texts about hate correlate with endurance (EN); with the number of words in the texts about hate ( $r^2 = .26$ ). Higher endurance scores are accompanied by more frequent emotional words in stories about hate. The scale of activity (AC) correlates with the length and richness of the texts about hate. The higher the activity, the shorter ( $r^2 = .37$ ) and less rich ( $r^2 = .22$ ) are the texts described hate.

he verbal expression of anxiety also correlates with the temperament characteristics assessed with the FCB-TI. The scale of perseverance correlates significantly with the length of the stories about anxiety ( $r^2 = .33$ ). The nature of the correlation is the following: the higher is the tendency for perseverance the longer are stories about anxiety. Activity correlates with the length of the texts, and their richness. The higher activity, the longer texts related to anxiety ( $r^2 = .26$ ), richer in details and situational nuances ( $r = .30$ ). The scale of endurance (EN) correlates negatively with the length of the texts about anxiety ( $r^2 = .36$ ), and the richness of these texts ( $r^2 = .18$ ). The higher endurance the shorter and less rich are texts about anxiety. The higher emotional reactivity, the more frequent is the use of emotional words in the stories about anxiety ( $r^2 = .36$ ).

TABLE I  
CORRELATIONS BETWEEN TEMPERAMENTAL TRAITS AND  
TEXT CHARACTERISTICS (R - PEARSON)

Text characteristics	VI	PE	SS	ER	EN	AC
Love – length	.23	.35	.53**	.13	-.35	.63**
Love - richness	.34	.36	.36	.00	-.32	.67**
Love – no. words	.32	.38	.40	.07	-.34	.21
Hate - length	.62**	-.28	.62**	.29	-.41	-.61**
Hate – richness	.15	-.29	.42	.14	-.40	-.47*
Hate – no. words	.52*	-.23	.52*	.51*	-.51*	-.38
Anxiety – length	.12	.58*	.36	.22	-.60**	.51*
Anxiety – richness	.14	.40	.34	.08	-.43*	.55*
Anxiety – no. words	.11	.38	.06	.60**	-.21	.08

Note: \* -  $p < .05$  \*\* $p < .01$

VI = vigorousness, PE = perseverance, SS = sensory sensitivity, ER = emotional reactivity, EN = endurance, AC = activity

## III. DISCUSSION

The narrative expression of complex emotions is associated with temperament characteristics. The analyses of correlations between the texts' characteristics and the FCB-TI, indicate, that the biologically conditioned features: perseverance, vigorousness, sensory sensitivity, emotional reactivity, endurance, activity – remain in close relation to the verbal expressions of love, hate and anxiety. The greatest number of correlations was observed with the scale of activity. Active people are expansive and sociable. They undertake many activities, have more positive frame of mind and need stimulation [13]. They express love adequately and with linguistic richness. Their texts were longer than those of non-active people. It is noteworthy, that their texts about hate and anxiety were also longer and rich.

Persons characterized by emotional reactivity use more words to express hate and anxiety. This may be due to their tendency to undergo various tensions. People characterized by sensory sensitivity, thus more delicate, emotionally subtle, express themselves in a longer and more intensive form about love. It is interesting to notice, that persons characterized by vigorousness, i.e. having a tendency to react quickly [12, 13], and sustain a high pace of activity, express hate in a longer form and use a greater number of words referring to that state. Possibly, a situation of hate or anger generates their more impulsive reactions [14, 15].

People showing perseverance are characterized by a tendency to analyze situations in detail, to repeatedly refer to past events, feel emotions over a long period of time [12, 16]. This temperamental trait was related to the narrative characteristics of anxiety. Interesting results were obtained by use of the scale of Endurance. It is noteworthy, that it correlates with the verbal expressions of hate and anxiety, i.e. negative emotions, and that the correlations were negative. People who show high endurance are resilient to life's hardships and dangers, and capable of persistent actions [13]. They have a tendency to express hate and anxiety in shorter forms; they describe the affective states in a less rich way. It seems that negative emotions do not raise their particular interest; in fact they seem to employ some type of strategies of minimizing the influence of negative emotions on their behavior. No correlations were found between endurance and the expression of love, which may imply that the temperament feature of endurance raises the sensitivity threshold. In consequence, a detailed analysis of positive emotions is neglected, while the impact of negative emotions is minimized.

The presented results indicate that the narrative expression of complex emotions is significantly associated with temperament. The verbal expression of emotions requires the awareness of emotions, the ability to differentiate them, and describe them. It is connected to the language and verbal code [17]. The mental linguistic representation of emotions may be analyzed on the basis of the richness of phraseology employed in the description of emotions, its character, and the manner of relating to the emotional context [18, 19, 20].

## IV. CONCLUSION

The analysis of narratives may be used in the description of human emotionality [21, 22]. The presented technique of discourse analysis may be applied in the analysis all types of emotions such as love, hate, and anxiety. These results show that the emotional language and the affective mental representations are considerably influenced by the temperamental features.

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