

Selected Aspects of Emotionality in Medical English Lexis – Application of the Osgood Semantic Differential

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Abstract

Emotionality has traditionally been viewed as an undesirable feature in the production of specialist discourse and in word-formation processes in terminology. Nevertheless, the existence of inherent emotionality and the affective polarization of language users' view of pertinent referents in science cannot be denied, being related to the structure of extralinguistic reality as well as to collective and individual experience accrued over particular concepts. The article discusses some aspects of emotionality in medical lexis as an example of affective phenomena in professional language. The results of an Osgood semantic differential survey are presented to elucidate the extent of emotionality in health-related terminology.

Keywords: medical lexis, emotionality, Osgood semantic differential

1. Introduction and methods

Associative and emotional meanings are often overlooked as semantic components of medical naming units. The semantics of medical terms, however notional they are expected to be, cannot be conceived of without the experiential aspects which endow the terms with a more multifaceted semantic nature – especially in the area of connotative/associative/emotional meanings. It is straightforward to conceive of 'hospital' as a place where health care is provided on an in-patient basis. Nevertheless, based on pragmalinguistic assumptions, the meaning of 'hospital' cannot be deprived of individually and/or collectively accrued accessory semantic layers such as someone's impressions from a hospital

stay – either negative (e.g. due to a rude doctor or nurse) or positive (as a place where the person has recovered their health and returned to sports or other activities).

According to Samsonovich and Ascoli (6), “language can be viewed as a cumulative product of human experiences.” Such a claim corroborates an approach to lexical appraisal that accentuates the accumulation of both notional and emotional aspects of word meaning. Similarly, Maynard (4) underscores the significance of emotive aspects of linguistic signs and speaks of emotivity as “pervasive in all aspects of language”, even in seemingly ‘neutral’ lexical and grammatical structures.

To measure emotional aspects of selected health-related terms, I have employed the classical Osgood semantic differential methodology with a three-dimensional scale for an array of systematically selected expressions as shown in Table 1.

1. health	11. nursing aide	21. joint replacement
2. illness	12. senior consultant	22. abortion
3. life	13. mental illness	23. transplant
4. death	14. physical illness	24. suppository
5. influenza	15. psychosomatic illness	25. tablet
6. plague	16. waiting room	26. injection
7. Alzheimer’s	17. operating room	27. ointment
8. common cold	18. nurse’s room	28. hospital
9. doctor	19. dentist’s office	29. ambulatory care
10. nurse	20. amputation	

Table 1: Arrangement of lexical items in the Osgood questionnaire

Lexical pairs and n-tuples in Table 1 have been formed based on the following semantic relationships:

- (A) antonymy – for lexical pairs, antonymy was the key semantic relationship. This type of arrangement ensures the representation of various emotional charges (expected positive and expected negative charges) in the lexical set to be subjected to Osgood-differential investigation.
- (B) cohyponymy – all n-tuples (3-tuples and 4-tuples) in the set have been selected through the principle of cohyponymy to a given concept. Influenza, plague, Alzheimer’s and the common cold are subsumed under the category of ‘disease’; mental, physical and psychosomatic illnesses are subsumed under the category ‘types of illness based on the affected area’; waiting room, operating room, nurse’s room and dentist’s office are subsumed under ‘premises where health care is provided, health care settings’; suppository, tablet, injection and ointment belong to the hyperonym ‘dosage forms’.

Some lexemes listed in Table 1 function in two strata of language – the *non-terminological stratum* (e.g. health as a common designator of the status of well-being and fitness, illness as a common designator of the state of impaired health, life as ‘existence’, or ‘living’ in non-specialist usage, an entity in poetry and other areas of discourse, similarly death as the status of non-existence, used widely in common communication, philosophy etc.) and the *terminological stratum* (health as an entity defined by the World Health Organisation in the following manner: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Preamble) and currently being revised in terms of definition, illness as the impact of disease on the functioning of an individual, life as the biological phenomenon or status when metabolic and other relevant functions are active, and death as ‘brain death’ – which has been, and still mostly is, despite some arguments, considered the decisive, irreversible transition to non-existence, liable to assessment for legal purposes). Some other lexemes in the given set have penetrated non-specialist discourse to a smaller or larger extent, but still retain their terminological nature for health professionals (influenza as a disease caused by the influenza virus from the Orthomyxoviridae family etc.). ‘Common cold’ is a technical term for a group of diseases caused by respiratory viruses and cannot be interchanged for ‘cold’ in the non-specialist sense.

The Osgood semantic differential is a psychosemantic scale-based method invented by Osgood and colleagues (Osgood, Suci, and Tannenbaum) and further developed by successive authors who implemented various numbers of subscales (Tzeng, Landis and Tzeng 834). As the method has been subject to criticism for measuring emotional meaning by words (bipolar oppositions) that are difficult to choose appropriately for the given categories, it has been decided to abide by the original three dimensions in their ‘pure’ form of ‘good – bad’, ‘strong – weak’ and ‘active – passive’ oppositions, which have been repeatedly confirmed by factor analysis to be relevant. Such a general arrangement allows for a broad subsumption of various evaluative aspects into one category. Evaluation, potency and activity are the respective dimensions measured by each of the triad of clines. As Heise (“The Semantic Differential and Attitude Research.” 235) states, the latter three dimensions “have been verified and replicated in an impressive variety of studies.”

After a pilot study with a sample of printed questionnaires, scales were presented with task specification and selected health-related terms to a total of 139 nursing students in the form of an on-line questionnaire at the Kwiksveys service (Kwiksveys). Students with a history of learning English for 8 years or over and a history of medical terminology university courses were eligible for the study. Out of the 139 questionnaires, 120 were filled in correctly (i.e. the respondent finished the session) and 19 were discarded due to incompleteness, i.e. 86 per cent of baseline questionnaire forms complied with the formal eligibility criterion (completeness).

Before the study proper, a pilot study was conducted with printed questionnaires to shed light on the structure of the questionnaire and its viability. Minor adjustments were made in order to better comply with the tri-dimensional structure postulated by Osgood and to fine-tune the semantic arrangement of the terms. An electronic form of the scale set was subsequently decided upon in order to facilitate compliance by respondents and to

reduce the number of incorrectly filled questionnaires. The structure of questionnaire items is illustrated in Image 1.

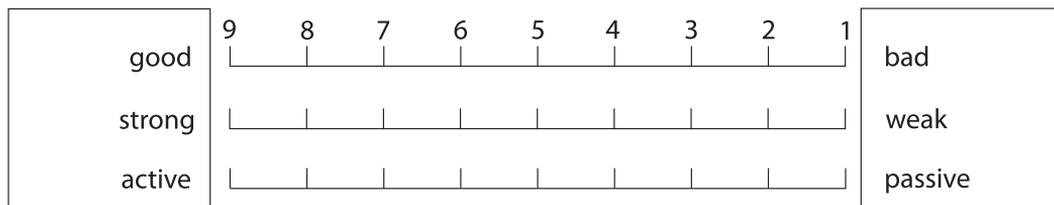


Image 1: The structure of Osgood semantic differential items

Questionnaires were available online to pre-informed students from September 2010 to November 2010. The Kwiksury calculating and data export mechanisms were used for further processing and the data were converted into a Microsoft Excel xls spreadsheet (see Appendix 2 for full descriptive statistics). Further processing of the data was based on re-calculating individual spreadsheet cells to produce symmetrical values relative to a zero point in the middle of the transposed scale to enable calculation of the polarization measure. In the next step, descriptive statistics were generated for the data set using Provalis Simstat software, Version 2.6.1 (Provalis Research). Column charts were prepared on the Microsoft Excel 2010 platform. Finally, inferential statistical operations were performed with NCSS 2007 (NCSS) to test the original hypotheses at an established significance level for each lexical item.

2. Results

The dimension of good – bad appears to be the most eloquent category in terms of ethical judgment. While a ‘strong doctor’ is socially desirable, a ‘strong cold’ is almost universally socially undesirable, hence it is the good – bad dimension that decides what social-ethical evaluation is attributed to a given lexeme. The dimension of active – passive seems to complement the strong – weak dimension, but it does not, in itself, imply an ethical judgment.

In works other than Osgood’s, the good – bad dimension has sometimes been substituted by the bipolar cline of ‘pleasantness – unpleasantness’, while the ‘active – passive’ dimension has variously been substituted by ‘arousal’ or ‘animation’ measures (Turner and Stets 134).

For the good – bad dimension, i.e. evaluation, Jenkins (278), Jenkins, Russell and Suci (693), and Heise (*Semantic Differential Profiles for 1,000 Most Frequent English Words* 18) describe positive (good) rankings for the concept of ‘doctor’ (number 9 on our list) and negative (bad) rankings for ‘illness/disease’ and ‘abortion’ (cf. numbers 2 and 22 on our list, respectively). On the 1 to 9 scale, where 1 indicates extremely ‘bad’ and 9 extremely ‘good’ evaluation, the following average scores for the three concepts have been obtained:

DOCTOR: mean 6.63 (standard deviation = 1.57), median 7.

ILLNESS: mean 1.85 (standard deviation = 2.12), median 1.

ABORTION: mean 2.51 (standard deviation = 2.13), median 2.5.

The latter results support claims by Jenkins and Heise in that ‘doctor’ is rated as strongly positive (6.63 out of a maximum of 9.00) and ‘illness’ and ‘abortion’ are rated as highly negative (1.85 and 2.51, respectively). All of the latter values lie relatively far from the neutral centre of the good-bad scale, i.e. the value of 5 (0 on the transposed scale).

Figure 3 shows mean ratings on the good-bad scale for each individual item in the lexical set. In Figure 2, the good-bad ratings are combined with ratings on the two remaining scales (strong-weak, active-passive).

The key measure of emotional charge (by which the author understands the presence of emotional ‘bias’ or affective load in a given lexeme as defined by language users’ perceptions) is polarization. Polarization was calculated for each lexical item incorporated in the Osgood-based questionnaire. Polarization is a measure of the overall emotional meaning of the given item, irrespective of how particular subsumed dimensions (evaluation, potency, activity) were scored by the respondents. It is calculated for a zero-in-the-middle cline and is indicative of the total emotional force of a given lexical item. Calculation of polarization facilitates comparison among particular lexical items involved in the survey. The formula for polarization is:

$$P = \sqrt{e^2 + p^2 + a^2}$$

where P = polarization, e = evaluation, p = potency and a = activity (Heise, “The Semantic Differential and Attitude Research” 242).

The mean polarizations of individual lexical items in the data set are presented in Figure 1.

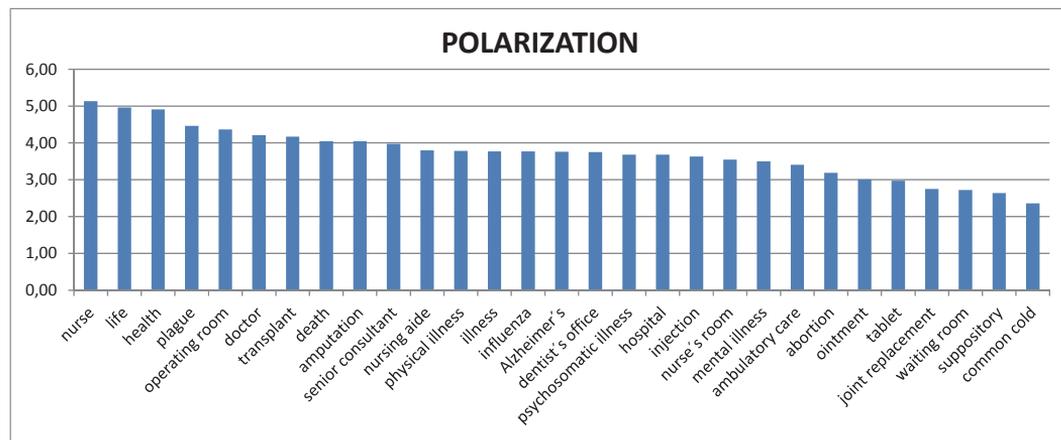


Figure 1: Mean polarization values for lexical items in the Osgood survey

As most lexical items were attributed non-normal-distribution scorings by questionnaire respondents, the median appears to be a slightly better measure of polarization for the data set (see below). Medians of the polarization variable for respective lexical items are provided in Table 2 along with standard deviation (SD), minimum and maximum for each lexical item.

Variables	Median	Standard Deviation	Minimum	Maximum
HEALTH	5.39	1.61	1.00	6.93
ILLNESS	4.30	1.81	0.00	6.93
LIFE	5.66	1.76	0.00	6.93
DEATH	4.58	1.86	0.00	6.93
INFLUENZA	3.74	1.70	0.00	6.93
PLAGUE	5.20	2.06	0.00	6.93
ALZHEIMER'S	4.12	1.73	0.00	6.93
COMMON_COLD	2.45	1.50	0.00	6.93
DOCTOR	4.69	1.86	0.00	6.93
NURSE	5.83	1.72	0.00	6.93
NURSING_ASSISTANT	4.12	1.97	0.00	6.93
SENIOR_CONSULTANT	4.36	2.03	0.00	6.93
MENTAL_ILLNESS	3.67	1.81	0.00	6.93
PHYSICAL_ILLNESS	4.18	1.87	0.00	6.93
PSYCHOSOMATIC_ILLNESS	4.12	1.98	0.00	6.93
WAITING_ROOM	2.64	1.81	0.00	6.93
OPERATING_ROOM	5.10	1.90	0.00	6.93
NURSE'S_ROOM	3.46	1.89	0.00	6.93
DENTIST'S_OFFICE	3.74	1.91	0.00	6.93
AMPUTATION	4.79	1.86	0.00	6.93
JOINT_REPLACEMENT	2.45	2.04	0.00	6.93
ABORTION	3.46	2.03	0.00	6.93
TRANSPLANT	4.69	1.85	1.00	6.93
SUPPOSITORY	2.64	1.90	0.00	6.93
TABLET	3.00	1.96	0.00	6.93
INJECTION	4.12	2.05	0.00	6.93
OINTMENT	3.16	1.75	0.00	6.93
HOSPITAL	4.12	2.05	0.00	6.93
AMBULATORY_CARE	3.61	1.85	0.00	6.93

Table 2: Medians, standard deviations, minimums and maximums of polarization for respective lexical items in the Osgood survey

Values attributed by respondents to each lexical item were subjected to normality testing. Z-scores for respective data related to particular lexemes were calculated. As normality test results indicated, the assumption of normal distribution in terms of skewness, kurtosis and/or omnibus was ruled out for most of the lexical items involved, namely HEALTH, ILLNESS, LIFE, DEATH, INFLUENZA, PLAGUE, ALZHEIMER'S DISEASE, DOCTOR, NURSE, NURSING AIDE, SENIOR CONSULTANT, MENTAL ILLNESS, PHYSICAL ILLNESS, PSYCHOSOMATIC ILLNESS, WAITING ROOM,

OPERATING ROOM, NURSE'S ROOM, DENTIST'S OFFICE, AMPUTATION, JOINT REPLACEMENT, ABORTION, TRANSPLANT, TABLET, INJECTION, HOSPITAL and AMBULATORY CARE.

Normality could not be ruled out for COMMON COLD, SUPPOSITORY and OINTMENT; nevertheless, the parametric test applied showed identical results to the Wilcoxon test, hence, no major adjustments in the statistical algorithm were necessary.

Further, the non-parametric Wilcoxon Signed-Rank Test for Difference in Medians was selected and applied to the Osgood differential data set. For each lexical item, the null hypothesis of 'median P (polarization) being equal to the half of the maximal polarization value possible, i.e. 3.464' was tested.

H_{A0} : The polarization value of the given lexeme as rated by the cohort of respondents is equal to half of the maximal polarization value possible, i.e. $\frac{\sqrt{4^2+4^2+4^2}}{2} = 3.464$.

In connection with H_{A0} , alternative hypotheses were tested for P being smaller or greater than 3.464 (H_{A1} : $P < > 3.464$), P being smaller than 3.464 (H_{A2} : $P < 3.464$) and P being greater than 3.464 (H_{A3} : $P > 3.464$).

For our purposes, H_{A3} is of crucial importance, as P results are expected to exceed the value of 3.464. Exceeding this critical value is equivalent to a strong emotional load, or, in the author's terminology, 'charge', i.e. a load in the upper half of the span of possible values. Lexical items that statistically complied with the H_{A3} hypothesis are marked with a grey background in Table 2. Apparently, 66 per cent of the lexical items explored prove a statistically significant excess of the critical value (3.464), while for the remaining 34 per cent the H_{A3} could not be proved. For some of the 34 values (e.g. values attributed to 'mental illness'), the results were close to being statistically significant, whereas median Osgood scoring of other lexical items (e.g. values attributed to 'joint replacement') appears lower than the critical value.

The results of the Osgood assessment of emotional charge in the sample terminology collected from 120 respondents show that there is a fairly strong tendency for the summative emotional charges (expressed by means of the polarization value) to be in the upper half of the scoring field, i.e. exceeding the critical value of 3.464. This tendency indicates that health-related terms should be approached with caution if we presume that terminology is 'emotionally neutral'. Rather, it appears that medical terms can be strongly emotionally biased on all the key axes of the Osgood multidimensional scale and need to be considered in a broader semantic perspective, with conceptual meaning being one, but not the sole, component of the lexical semantics in this province. Further, it can be surmised that in other terminologies in existentially relevant fields (biology, psychology etc.), many terms can also be emotionally loaded. Further research is warranted in this area, as well as in such apparently 'neutral' domains as chemistry (cf. the emotional value of 'arsenic trioxide' or 'nitrous oxide').

Despite its value as an indicator of overall affective load, i.e. emotionality, of individual lexemes, polarization is a 'flattened' measure and separate average values for the three dimensions of the Osgood scale need to be calculated. Table 3 shows arithmetic means for each lexical item on each of the three axes (good-bad, strong-weak, active-passive, respectively) along with pertinent standard deviations.

The data in Table 3 indicate that the greatest statistical dispersion level expressed by standard deviation was found in the good-bad dimension ($SD = 2.01$), which may be interpreted as a tendency of value judgments to vary among individual lexical items to a greater extent than the remaining two measures. The active-passive dimension data exhibit a standard deviation of 1.32 ($SD = 1.32$) while the lowest value of standard deviation ($SD = 0.96$) can be found in the strong-weak dimension, i.e. the potency of lexical items in the set showed the lowest dispersion of all three dimensions, whereas the evaluation dimension was graded more discordantly for particular lexemes.

Item	Good/bad	Strong/weak	Active/passive
health	7.25	6.47	6.45
illness	1.85	3.22	3.30
life	7.10	6.41	6.89
death	1.87	3.48	2.25
influenza	2.25	3.58	3.15
plague	1.12	4.50	3.28
Alzheimer's	1.53	4.07	3.14
common cold	3.18	3.85	3.61
doctor	6.63	5.88	6.11
nurse	7.06	6.60	6.98
nursing aide	6.12	5.73	5.98
senior consultant	6.48	5.90	5.88
mental illness	2.01	4.16	3.39
physical illness	1.85	4.28	3.53
psychosomatic illness	2.08	4.11	3.38
waiting room	4.55	3.93	3.38
operating room	5.88	5.91	6.26
nurse's room	6.23	5.43	5.31
dentist's office	4.53	5.28	5.23
amputation	1.76	3.86	3.16
joint replacement	4.40	4.57	4.18
abortion	2.51	4.32	3.55
transplant	6.42	5.85	5.66
suppository	4.84	4.92	4.82
tablet	5.39	5.28	4.90
injection	5.37	5.70	5.44
ointment	5.75	4.81	4.68
hospital	5.04	5.40	5.49
ambulatory care	5.80	5.43	5.52
MEAN	4.37	4.93	4.65
SD	2.01	0.96	1.32

Table 3: Mean scoring of individual dimensions on the Osgood scale

Further calculations of means and standard deviations for each dimension of each lexical item show that the highest average value occurs on the good-bad axis of the HEALTH lexeme ($e = 7.25$), which means a strong tendency toward ‘good’ (the maximum of 9) on a scale of 1 to 9. This value is in harmony with common perceptions of health as something treasured and desirable. On the other hand, the lowest of all average values was that of evaluation for PLAGUE ($e = 1.12$), i.e. a strong tendency toward ‘bad’ (with 1 as extreme bad) on the good-bad axis. Similar strongly negative judgments were attributed to ALZHEIMER’S ($e = 1.53$), DEATH ($e = 1.87$) and ILLNESS ($e = 1.85$). – See also Figure 2 for graphical comparison of all mean values for the dimension triples.

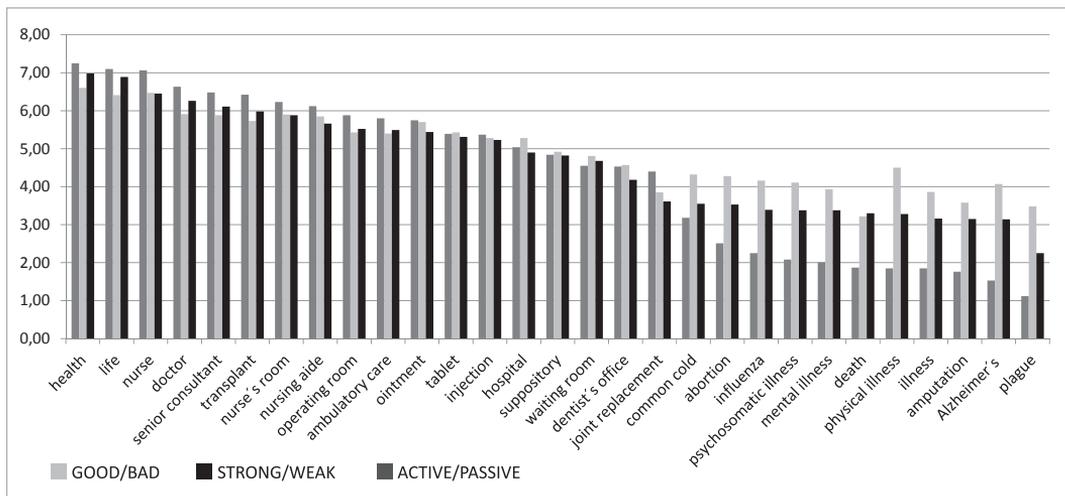


Figure 2: Mean scoring of individual lexemes on the Osgood scale

The lowest statistical dispersion as expressed by standard deviation was found in the NURSE lexeme on the good-bad axis ($SD = 1.21$), which indicates a relatively high level of concord (agreement) by individual respondents over the evaluation of this item. Psychologically, this can be explained as a manifestation of an auto-stereotype (positively valuing one’s own professional or social group), yet the general evaluation of NURSE by the non-specialist public may be expected to be highly positive due to the prototypical picture of the members of this profession as caring, helping and nurturing persons (Carpenter, 1995).

Contrarily, the highest level of dispersion, indicative of respondents’ discord, was calculated for the PLAGUE lexeme on the strong-weak axis ($SD = 2.88$). This result may be indicative of varied perceptions and accentuations of the different aspects of the strong-weak bipolar opposition – if the position of the afflicted person (plague sufferer) is accentuated, ‘weak’ may come to the foreground and the potency (p) value may be reduced toward ‘weak’ (closer to 1), whereas if the power of the disease itself is accentuated, the ‘strong’ pole may be inclined to (values close to 9). This instance shows how multifaceted the judgments yielded from the Osgood semantic differential can be and how ramified the interpretations can become, warranting further research in this area.

For particular dimensions (good/bad, strong/weak, active/passive), where the value of 1 corresponds to a maximum of ‘bad’, ‘weak’ and ‘passive’, respectively, and the value of 9 corresponds to a maximum of ‘good’, ‘strong’ and ‘active’, respectively, Figure 3, Figure 4 and Figure 5 have been computed to facilitate comparison of mean values for consecutive lexemes included in the questionnaire.

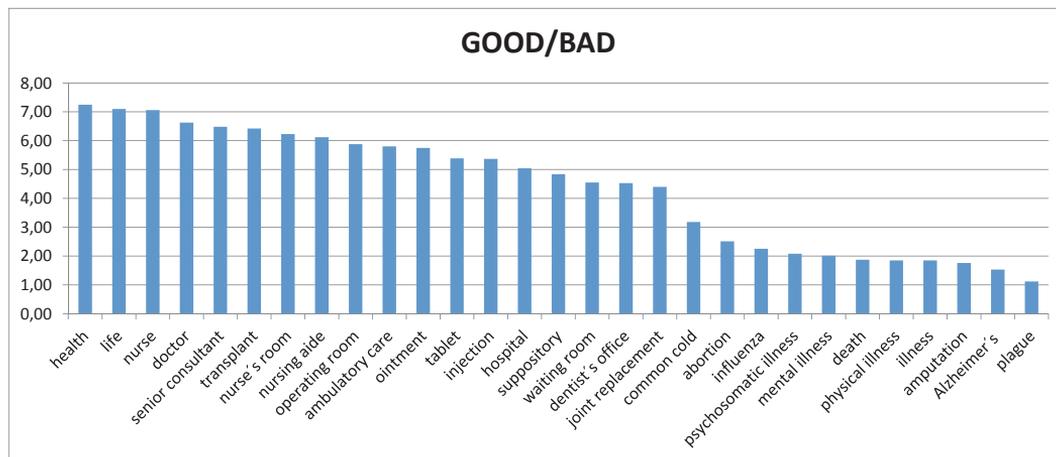


Figure 3: Mean scorings of individual lexemes in the good-bad dimension

The highest average scoring on the good-bad axis, i.e. a tendency towards ‘good’, was achieved for ‘health’, ‘life’, ‘nurse’, ‘doctor’, ‘senior consultant’ and ‘transplant’. Apparently, the good-bad scoring is interrelated with moral judgment and culturally embedded values. Health and life are generally viewed as positive values and, for the health professionals even more, as something to be desired and strived for. Nurses and doctors are generally viewed as highly esteemed professions and evaluation of these professional positions in society is reflected, quite expectedly, in the sample (Carpenter 151). ‘Senior consultant’ is a hyponym of ‘doctor’ and as such might have been expected to rank among the top ‘good’ lexemes. Unlike ‘amputation’, which is an act of removing something desirable from the person and hence has an ablative sense, ‘transplant’ is generally viewed as an addition of something desirable and is evaluated positively (toward the 9 value on the Osgood scale).

Nouns and adjectival-nominal clusters on the opposite, i.e. negatively evaluated, pole of the bipolar scale include ‘abortion’, ‘influenza’, ‘psychosomatic illness’, ‘mental illness’, ‘death’, ‘illness’, ‘physical illness’, ‘amputation’, ‘Alzheimer’s disease’ and ‘plague’. Interestingly, the item viewed as the worst is not ‘death’ or ‘illness’ but ‘plague’, perhaps due to its historically bad reputation (Slack 111). ‘Illness’ is a hyperonym for ‘psychosomatic illness’, ‘mental illness’ and ‘physical illness’, all of which rank among the ten items closest to the ‘bad’ pole of the Osgood evaluation subscale. Logically, these items are judged similarly by the respondents. ‘Death’ is evaluated with a strong negative accent (a mean of 1.87 on the subscale) but, surprisingly, does not occupy the rightmost position on the scale.

The most prominent tendencies toward ‘strong’ emotional perception by respondents were identified for the following lexemes: ‘nurse’, ‘health’, ‘life’, ‘operating room’ and ‘senior consultant’. Multiple aspects may have been involved in such scoring tendencies. For ‘nurse’, the self-perception of prospective nursing professionals might have played a role; nevertheless, ‘health’ and ‘life’ may have derived their ‘strong’ scoring from more universal perceptions (‘health’ as something that can be fortified and can overcome illness, ‘life’ as a powerful phenomenon that tends to sustain itself). ‘Operating room’ can

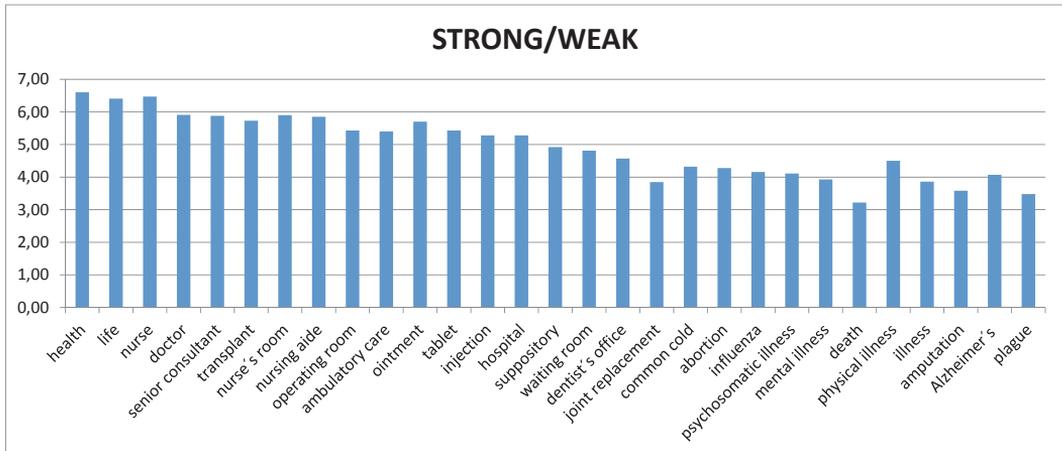


Figure 4: Mean scorings of individual lexemes in the strong-weak dimension

be interpreted as ‘strong’ in terms of its being a place for major surgical procedures of an interventional nature, while the power of these interventions toward renewing health and removing ‘unwanted’ objects (inflamed parts of organs etc.) may also have been involved. ‘Senior consultant’ is a lexeme deriving its strength most likely from authority (as the head of a professional team on the ward).

Major tendencies toward ‘weak’ scoring appear in the lexical items ‘amputation’, ‘common cold’, ‘influenza’, ‘death’ and ‘illness’. While for ‘amputation’, ‘influenza’, ‘death’ and ‘illness’ this tendency may likely be attributed to the resultant state of ‘being weak’ or ‘powerless’, for ‘common cold’ the interpretation may also take the form of ‘a less severe illness’, as this association is fairly widespread with both laymen and some health professionals. ‘Weak’ may, hence, reflect both the nature of the disease (as opposite to ‘severe’) and the status of the patient in some cases, depending on the affective perceptions of the respondent.

Lexemes scored as highly active include ‘nurse’, ‘life’ and ‘health’. Interestingly, all pharmaceutical forms included in the scoring process except ‘injection’ (i.e. tablet, ointment, suppository) ranked in the middle of the field and have been viewed as items with a similar degree of activity. For ‘injection’, the activity score is somewhat higher, which is in harmony with the perceptions of injection as the most efficacious route for the administration of medicines (Cf. Rajagopal 186, who states that “placebo injections have more effect than oral placebos, capsules are perceived as being stronger than tablets.”)

At the opposite end, ‘amputation’, ‘influenza’, ‘Alzheimer’s’ and ‘death’ appear as the most passive lexemes. As, based on the semiotic triangle, lexemes are paired with concepts, it is apparent that mental representations and their affective correlates are the key to understanding lexico-semantic properties of language and that more than ‘pure language’ is involved in the investigation of lexemes and in the operation of what may be termed ‘medical linguistics’. Death is a conspicuously passive state in current medical theory (the opposite of life) and is defined relative to brain death (Sherrington and Smith 48), although

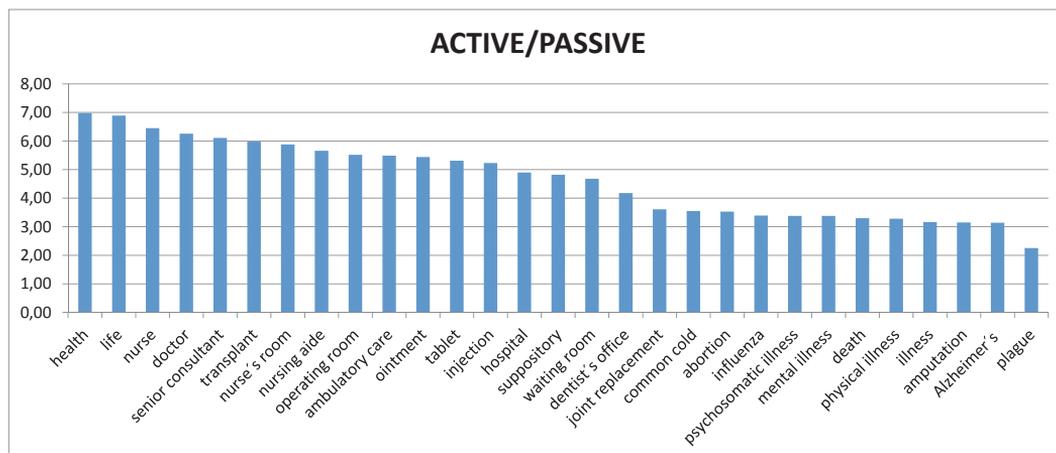


Figure 5: Mean scorings of individual lexemes in the active-passive dimension

some reconsiderations of this boundary line are under way. We may subsequently ask why ‘amputation’, ‘influenza’ and ‘Alzheimer’s’ are perceived as passive. The face-value explanation could, again, be based on an association with the resultant state of the patient, who becomes bed-ridden and/or limited in many daily activities. Also, the act of amputation, as well as the status of being down with influenza or suffering from Alzheimer’s disease, are caused by external forces and, hence, are inflicted upon the patient without their will, making them a passive victim of the process. Further exploration of the component aspects of the ‘passive’ scoring for these items would, however, be necessary.

Analogically to Osgood’s dimensions, Samsonovich and Ascoli, in harmony with numerous other authors, suggest three pivotal dimensions that accentuate the psychological aspect of lexical perception, namely valence, arousal and dominance (Samsonovich and Ascoli “Augmenting weak semantic cognitive maps with an “abstractness” dimension” 5). In the light of this perspective, lexical items are endowed with a ‘lexical charge’ that manifests itself in both spoken and written discourse and is not limited to naming units lying outside professional registers. Valence is the most evaluative dimension that steers the lexeme somewhere between ‘pleasant’ and ‘unpleasant’, or ‘desirable’ and ‘undesirable’. Arousal expresses a fairly independent dimension based on the ‘strength’ of the denoted object or phenomenon (as reflected in the pertaining concept). In the present survey, ‘health’ and ‘life’ demonstrated high levels of arousal, along with terms denoting the health professions.¹ Finally, the dimension of dominance reflects how a particular lexeme

is positioned in the perceptual field in terms of inherent motility or activity. Although these three dimensions do not reflect all affective aspects of lexemes and concepts, they indicate that absence of emotionally oriented components of meaning is not a typical feature of medical (health-related) naming units.

The high level of polarization detected in the present survey suggests that the domain of medicine and allied health is fairly emotional, despite the specific nature of this emotional perception – which seems to stem from the nature of the signified and its ontological and axiological standing, rather than from secondarily endowed properties (that can be identified in common core expressions with morphological and other signs of expressiveness – cf. the suffix *-ie* in diminutives, reduplication as a word-formation process, etc.). From this point of view, emotivity in the medical domain predominantly stems from the position of the denoted objects and phenomena in the ontology of the external world (extralinguistic reality) and is not primarily a matter of language itself (unlike other types of expressiveness). In other words, the typical medical emotional/affective meaning components stem from the ontologically embedded conceptualization of the world and take the form of inherent lexical expressivity.

3. Discussion

Affective meaning has often been neglected as a part of the complex semantic profile of medical terms. Although the main function of medical terms is to communicate conceptual meanings, and although the naming processes in medicine and allied professions predominantly rest upon this requirement, the experiential base of the language user community shapes the semantic profile of many terms in current use even further, adding various layers of connotative meanings (cf. Peprník's inclusion of affective, stylistic and associative semantic components in the umbrella concept of the 'connotative' – see Peprník 11).

The axes proposed by Osgood as quantitative measures of affective meaning, based on his extensive factorial analysis of lexical items scored by informants, appear to be a practical tool for grasping basic emotional aspects of lexical meaning. Especially the dimension of evaluation (good – bad axis) seems to be highly important for understanding the making of a lexeme, including the seemingly 'neutral' terminology of medicine. As items closely linked to existential phenomena, the lexemes 'illness', 'life', 'death', 'amputation', 'operating room' and the like exhibit relatively significant emotional properties and strong biases on the good – bad axis.

It appears that terminologies should be conceived of as subsystems of lexical items endowed with an emotional charge, be it a positive bias (in a majority of cases: good, strong, active) or a negative bias (in a majority of cases: bad, weak, passive). However, some of these dimensions can be relativized – cf. a 'weak cold' is more socially acceptable than a 'strong cold', whereas a 'weak doctor' is less acceptable than a 'strong doctor'.

Investigations based on the Osgood semantic differential indicate that emotionality is an important inherent factor in the making of medical terminology and health-related terms. For 19 out of 29 selected naming units, the Osgood-based polarization index ranked in the upper half of the interval of possible values (confidence interval 95%), showing a strong tendency to emotionality in health-related and medical terms. Although

interpretation of the latter results might become more complex if we were to separate the terminological and non-terminological use of certain items, the perception of most terms by prospective health care workers appears to be a natural mixture of professional and extraprofessional elements.

Research conducted by other linguists also shows a significant tendency to emotionality in selected medical terms ('doctor', 'disease' and 'abortion' in Jenkins (278) and Heise (*Semantic Differential Profiles for 1,000 Most Frequent English Words* 18)). In this contribution, the author ventured to test the hypothesis of highly emotional medical terms on a broader set of monolexical and polylexical nominal expressions. For 66 per cent of the terms, the affective ratings recalculated as polarization rank in the upper half of the interval of possible values with statistical significance.

Decomposition of affective meaning of given lexemes based on Osgood's fundamental three axes (good – bad, strong – weak, active – passive) yields further details on the linguistic 'behaviour' of particular terms.

Seen through the prism of the Osgood differential, medical terms emerge as not-so-neutral naming units, given the strong potential of medical lexemes to assume experiential semantic layers and the existential nature of many health- and illness-related concepts.

As a specific type of naming units, medical terms claim a high degree of professional 'detachment' or 'objectivity', yet at the same time they do not cease to ignite affective reactions in the language user. The nature of this emotionality is, in a vast majority of cases, based on lexical-semantic expressivity (Hauser 49). Expressivity linked to word-formation and specific morphemes, as well as phonic expressivity, is rarely encountered in medical terminology (cf. the predominantly notional nature of derived medical diminutives such as 'šišinka' and 'mozeček' in the Czech medical repertory).

It is obvious that the former type of emotionality cannot be separated from extralinguistic reality and conceptualized segments of its complexity, i.e. from the referents of particular language signs. It is not 'amputation' as a linguistic form that is abhorred by the listener/reader, but the entity/process it refers to. At the same time 'amputation' can bring hope of survival to the diabetic patient or the injured. In this respect, affective meanings in the medical register are specific in that many breaches of integrity threaten the human body and entail negative emotional assessment, while a large number of medical interventions aspire to counteract pathological changes and, hence, can be viewed positively (or negatively, if side effects such as pain or surgical wounds prevail).

Considering the complementary, rather than contradictory nature of affective meanings with respect to the notional meaning, it may be concluded that emotionality as a psychological-linguistic phenomenon in lexis need not necessarily be viewed as a threat to the predominantly notional communicative function of scientific language. The point that the author intends to make underscores the multifaceted nature of medical lexis and relativizes its 'neutral', 'objectivist' or 'purely notional' attributes. This text is but a modest contribution to these efforts, and further research is warranted in the area of emotionality in scientific terminologies and professional lexis, including prospective Osgood surveys based on terms embedded in minimal context.

Notes

¹ Cf. Kensinger and Corkin (2003), according to whom experiences of lexemes and concepts with high arousal scores are better remembered for prolonged periods of time.

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