

Is Beauty Good? A Comparison of the Semantic Differentials of the Terms Beauty and Goodness and Their Gender Specificities

Slavka Demuthova¹, Andrej Demuth²

¹University of Ss. Cyril and Methodius in Trnava, Slovakia

²Comenius University in Bratislava, Slovakia

Abstract

Beauty and Goodness are concepts that are often associated, not only in the field of aesthetic inquiry, but also in social psychology. The study examines the similarities and differences between the concepts of Beauty and Goodness among ordinary language users through the application of the semantic differential method using twenty-one pairs of bipolar adjectives. A total of 2,007 participants from 18 to 89 years of age ($M = 41.36$ years, $SD = 16.53$) took part in the research, a slight majority were women (53.3%). The basic descriptive data and graphical representation of the semantic differential profiles of the concepts of Beauty and Goodness show that both concepts have similar tendencies towards the individual poles of the bipolar adjective pairs. The concepts of Goodness and Beauty are most similar in the evaluation of the adjective pairs: Inviting/Repulsive, Fast/Slow, and Inspiring/Boring. Further analysis using Paired Samples T tests revealed differences in some adjectives – Goodness is statistically significantly perceived as more soothing and judicious than Beauty ($p < 0.001$), while Beauty is perceived to be more logical than Goodness ($p < 0.001$). The results of the analysis of intergender differences showed that for eleven out of the twenty-one bipolar adjective pairs, there were significant differences in the evaluation of the concepts of Beauty and Goodness between the genders. Women consider the differences between these two concepts to be greater than men, especially in the adjective pairs used in the semantic differential that belong to the potency dimension.

Keywords: Beauty, Goodness, semantic differential, concept

1. Introduction

The necessity to constantly evaluate the large amount of information that bombards our psyche favours the use of cognitive shortcuts and simplifications (Bojke et al., 2021). These shortcuts save time and energy (Gigerenzer & Gaissmaier, 2011) and can therefore be efficient (Gigerenzer, 2008). However, they also bring the risk that an individual comes to an incorrect or biased conclusion. Cognitive and social psychology provide numerous examples where individuals use inappropriate generalizations or various biases, such as hindsight bias, confirmation bias, overconfidence bias, etc. (Berthet, 2022). An awareness of cognitive biases and shortcuts allows their influence to be minimised in scientific thoughts and research (see e.g., Boehm et al., 2018). However, individuals find it challenging to avoid them in everyday life. An example of an area where such heuristics are applied to a greater extent is in the realm of interpersonal interactions. It is necessary to make assumptions about the characteristics and reactions of others, predict behaviour, which is, however, a complex and complicated process usually with a lack of data and data of poor quality. Therefore, individuals often rely on simplifications and shortcuts when they make judgments about others.

A very common bias used when evaluating others is the Beauty and Goodness stereotype. It is such a widespread phenomenon that in the past it became one of the “aesthetic rules” (Schiller, 2005). In psychology, these tendencies can primarily be identified in the form of two heuristics: the “what is beautiful is good” stereotype (Dion et al., 1972) and the “halo effect” (Nisbett & Wilson, 1977). The “what is beautiful is good” stereotype describes the tendency to attribute desirable interpersonal qualities to physically attractive individuals (Lemay et al., 2010). The “halo effect” relates to the tendency for people to have an overall positive impression of various (even unrelated) characteristics of a person based on the impression and evaluation of a single trait (Gabrieli et al., 2021). Neuroscience also provides a plethora of studies that elucidate the neural mechanisms of the “beauty-is-good” stereotype from its perspective. The perception of beautiful objects, such as faces (Ito et al., 2016) or paintings (Abitbol et al., 2015), activates or deactivates the same areas of the brain as goodness ratings – brain activity for aesthetic and moral judgments greatly overlap (Tsukiura & Cabeza, 2011).

From the previous data, it is evident that Beauty and Goodness share many common characteristics. Is this experience also reflected in natural languages? Are the concepts of Beauty and Goodness perceived to be similar, and if so, in which features? Studies into the understanding of the concepts of Goodness and Beauty in language are lacking, while investigation into natural languages may highlight significant similarities and differences in concepts that may not be identified by other types of research. Methods that are frequently used in the research of a specific concept in natural languages include the investigation of its connotations (see, for example, Manchiaiah et al., 2015; Demuthova & Demuth, 2021). Through methods such as word association or through the use of semantic differentials. The concept of Beauty has been studied in this context, for example, by W. Menninghauss et al. (2019), but only in comparison with the concepts of elegance, grace, and sexiness. On the

other hand, Gyoba et al. used semantic differentials to capture the concept of Goodness; they found that it produced the highest loading on the evaluation factor within the semantic differential and that the psychological concept of Goodness showed large individual differences (Gyoba et al., 1985). These differences may stem from various factors – subsequent studies have shown that the perception of Beauty and Goodness, for example, is influenced by gender (González-Álvarez & Cervera-Crespo, 2019; Whyte et al., 2021).

2. Objective

The aim of the study is to identify differences/similarities in the meaning of the concepts of Beauty and Goodness using a bipolar adjective semantic differential, specifically:

- similarities/differences in the evaluation of the connotations (adjectives) of the concepts of Beauty and Goodness;
- gender differences in the similarities/differences in the evaluation of the connotations (adjectives) of the concepts of Beauty and Goodness.

3. Method

3.1 Procedure

Data collection took place in companies, corporations, universities, and field settings through non-probability convenience sampling of participants who were willing to complete the questionnaire. Participants were given the option to provide data and were informed of the purpose and nature of the information to be collected prior to filling out the questionnaire voluntarily and anonymously. They were also informed of their right to withdraw from the research or data collection without consequences. Furthermore, the questionnaire included a clear introduction that contained information about the research and obtained informed consent in writing.

3.2 Instruments

The questionnaire was made up of three parts: the first part included the informed consent and some basic demographic questions. The second part was questions for the semantic differential of the term “Beauty”, and the third part for the term “Goodness”. The semantic differential method (Osgood, 1957; Osgood et al., 1957) allows the measurement of subjective evaluations of a specific term through a series of bipolar adjective pairs. In practice, this means that an individual rates the chosen term on a scale, usually a seven-point scale, based on their assessment of how near or far the term is to one of the two opposing adjectives (e.g., beautiful–ugly, fast–slow, etc.). Based on this rating, a value can be attributed to the term on a specific scale (e.g., a scale of impulsiveness or calmness), which can then be displayed in the space between two points that correspond to the two opposing adjectives. The advantage of this method is that, in addition to providing information about the nature of the relationship between the two terms (the evaluated term and the adjective),

the result is quantifiable (indicating how close the term is to the adjective) and the clear ratings that result can be used for comparative purposes with other terms. In our case, the terms Beauty and Goodness were assessed using twenty-one bipolar adjective pairs in three dimensions – for the complete list and internal consistency, see Table 1.

Table 1. Bipolar adjectives used to describe the concepts of Beauty and Goodness and their categorisation into the dimensions of activity, evaluation, and potency plus data on internal consistency

Dimensions	Activity	Evaluation	Potency
Bipolar Adjectives	Exciting/Soothing	Inviting/Repulsive	Orderly/Chaotic
	Aggressive/Moderate	Inspiring/Boring	Balanced/Unbalanced
	Erotic/Romantic	Kind/Hateful	Understandable/Unintelligible
	Expressive/Inconspicuous	Calm/Restless	Logical/Illogical
	Strict/Lenient	Pure/Dirty	Knowable/Unknowable
	Impulsive/Judicious	Pleasant/Unpleasant	Familiar/Strange
	Fast/Slow	Good/Bad	Simple/Complicated
Cronbach's α			
Beauty	0.553	0.751	0.738
Goodness	0.619	0.820	0.756

Source: Authors

The participants were asked to evaluate each term, Beauty and Goodness, to indicate the extent to which they relate to each adjective on a seven-point scale (for an example, see Table 2).

Table 2. An example of adjective evaluation within the semantic differential

	Strongly Agree	Agree	Slightly Agree	In the Middle	Slightly Agree	Agree	Strongly Agree	
Good	1	2	3	4	5	6	7	Bad

Source: Authors

For the graphical representation of how near or far a given term is to the opposing poles of the individual adjectives, the mean (M) of the values attributed to each adjective will be used (see Table 2). The difference (δ) between the mean of the observed terms (MBeauty minus MGoodness) for each adjective indicate the similarity/difference between the terms. A Paired Samples Test will be used to identify the significance of the differences in the ratings of the correspondence of the adjectives to the terms Beauty and Goodness.

To evaluate whether the similarities/differences between the concepts of Beauty and Goodness are gender-specific, the differences in the ratings of each individual adjective of the terms Beauty and Goodness will be subject to further evaluation using an Independent Samples T Test, the grouping variables will be female and male.

3.3 Participants

The study collected data from a sample of 2,220 adult participants from the whole of Slovakia. Of these participants, 176 were excluded from further analysis as they provided

incomplete responses, while an additional 37 were eliminated as they had improperly completed the questionnaire. Consequently, the final sample of 2,007 participants (53.3% of females) from 18 to 89 years of age ($M = 41.36$ years, $SD = 16.53$) was used in the statistical analysis.

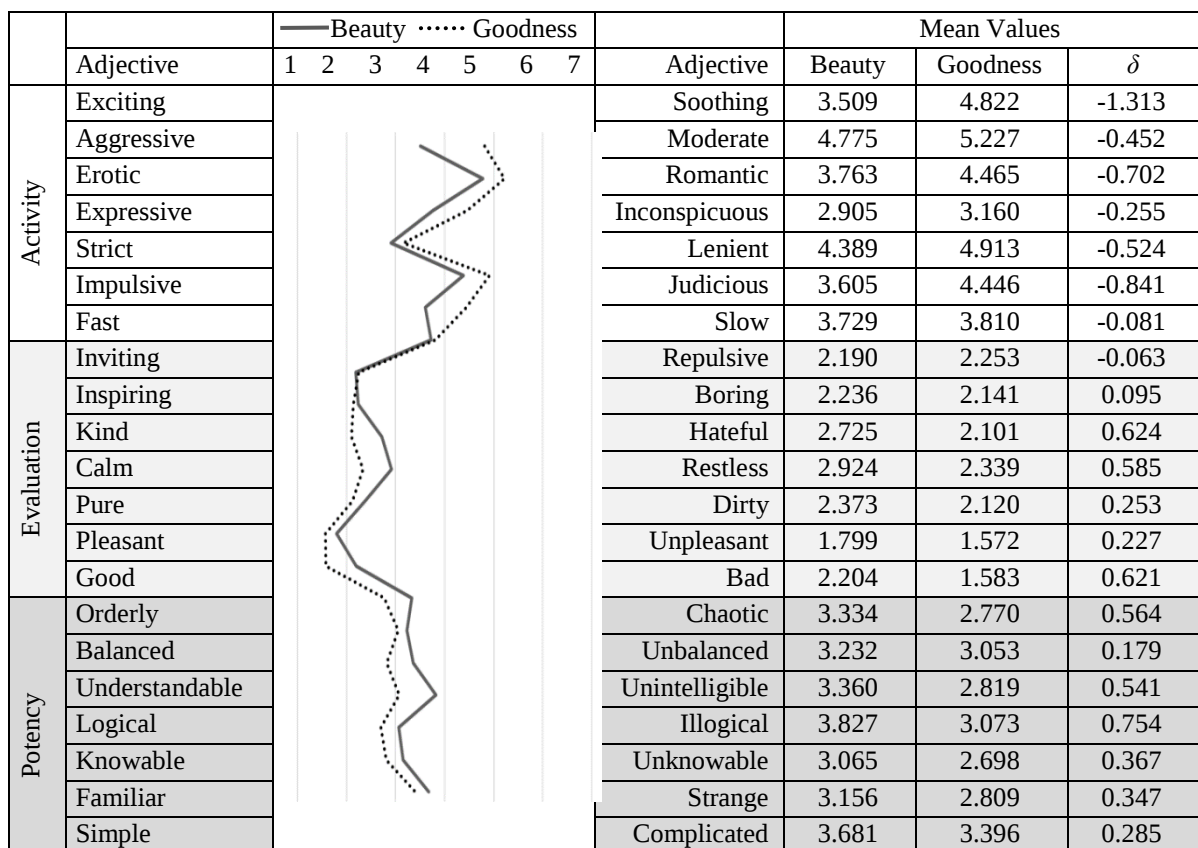
3.4 Data analysis

The statistical analyses in this study were performed using the IBM Statistical Package for Social Sciences program (SPSS), version 28. The threshold for statistical significance was set to 95%, corresponding to a significance level of 0.05.

4. Results

The average values for the bipolar adjectives and their graphical representation indicate that the concepts of Beauty and Goodness show similar profiles (see Figure 1).

Figure 1. Differences and similarities in the semantic differentials of the terms Beauty and Goodness



Note: δ = the difference between the mean value of Beauty and Goodness evaluation

Source: Authors

From the graphical representation, it is also evident that Beauty elicits higher levels of Activity than Goodness. On the other hand, the assessment of Goodness is more positive in the areas of Evaluation and Potency. In the analysis of the specific connotations, the concepts of Beauty and Goodness showed their highest degree of similarity for the adjective pairs:

Inviting/Repulsive (mean difference at 0.063), Fast/Slow ($\delta = 0.081$), and Inspiring/Boring ($\delta = 0.095$). In contrast, the greatest degrees of difference were found in the adjective pairs: Exciting/Soothing ($\delta = 1.313$), Impulsive/Judicious ($\delta = 0.841$), and Logical/Illogical ($\delta = 0.754$). The values of these differences were found to exceed the level required to be considered to be statistically significant (see Table 3). Goodness was found to be more soothing and judicious ($p < 0.001$) than Beauty, while Beauty is statistically significantly more logical than Goodness.

Table 3. The results of the Paired Samples T test for the mean of selected adjective pairs
Paired Differences

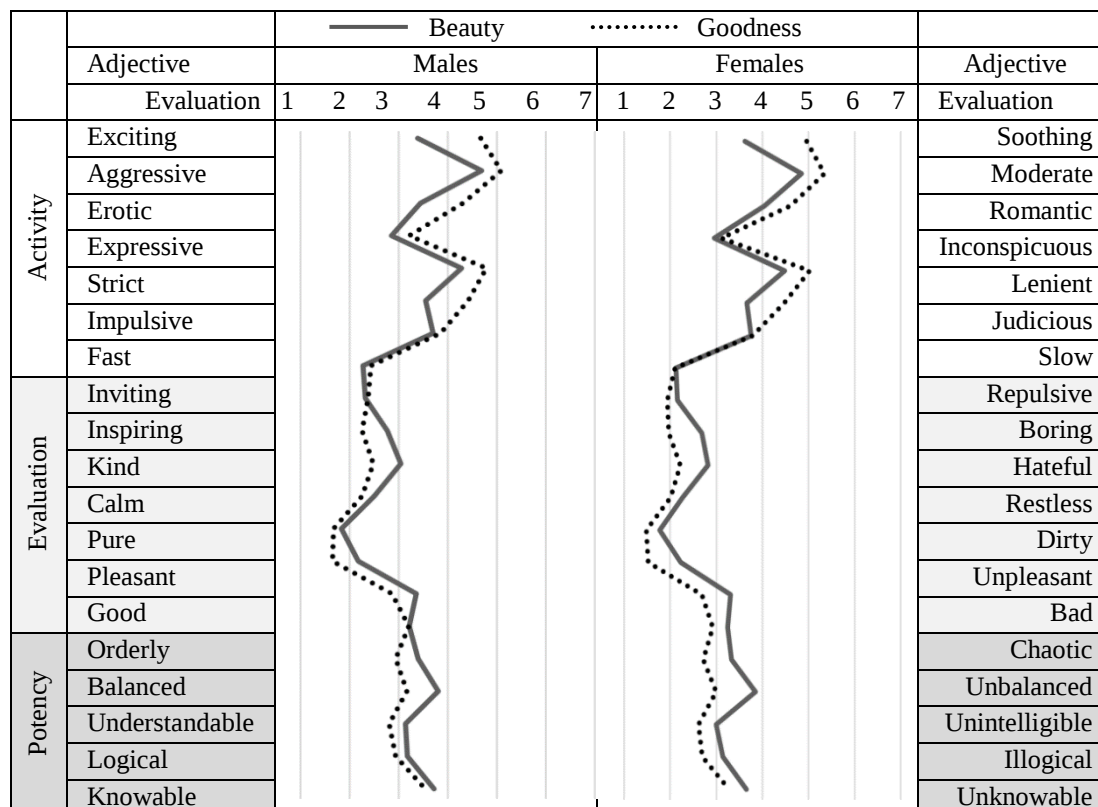
Adjective	Pair of Mean Values	Mean	Std. Deviation	t	Sig.
Exciting/Soothing	M_{Beauty} vs. M_{Goodness}	-1.3129	2.6188	-22.460	<0.001** *
Impulsive/Judicious		-0.8411	2.2121	-17.033	<0.001** *
Logical/Illogical		0.7539	1.9777	17.076	<0.001** *

Note: *** $p \leq 0.001$

Source: Authors

Figure 2 shows a graphical representation for the separate evaluations of the terms Beauty and Goodness by male and female participants.

Figure 2. Differences and similarities in the semantic differentials of the terms Beauty and Goodness for male and female participants



	Familiar			Strange
	Simple			Complicated

Source: Authors

Gender differences are apparent in how male and female participants assess Beauty versus Goodness. For instance, it can be seen that the disparity between the evaluation of Beauty and Goodness within the bipolar adjective pair Balanced/Unbalanced is minimal for the male sample, while it is more visible for the female sample. Conversely, the adjective pair Expressive/Inconspicuous appears to exhibit differences in the Beauty versus Goodness evaluation in the male group, but not in the female.

To evaluate the potential impact of gender on differences or similarities in the assessment of the terms Beauty and Goodness, an Independent Samples T test was conducted (see Table 4).

Table 4. Gender differences, assessed through an Independent Samples T test, in the evaluation of Beauty and Goodness (part 1)

	Bipolar Adjective	“Beauty” Minus “Goodness” Value (difference in evaluation)				T Test	
		gender	N	Mean	Std. Dev.	t	Sig.
Activity	Exciting/ Soothing	male	937	-1.2818	2.67659	0.497	0.619
		female	1,070	-1.3402	2.56809		
	Aggressive/ Moderate	male	937	-0.4013	1.88763	1.131	0.258
		female	1,070	-0.4953	1.82475		
	Erotic/ Romantic	male	937	-0.8666	2.12039	-3.318	<0.001***
		female	1,070	-0.5579	2.03154		
	Expressive/ Inconspicuous	male	937	-0.3607	2.03969	-2.129	0.033*
		female	1,070	-0.1617	2.14555		
Evaluation	Strict/ Lenient	male	937	-0.5016	2.01603	0.478	0.633
		female	1,070	-0.5449	2.03002		
	Impulsive/ Judicious	male	937	-0.8677	2.15470	-0.506	0.613
		female	1,070	-0.8178	2.26195		
	Fast/ Slow	male	937	-0.1494	1.84179	-1.540	0.124
		female	1,070	-0.0271	1.71392		
	Inviting/ Repulsive	male	937	-0.1601	1.52262	-2.795	0.005**
		female	1,070	0.0215	1.38767		
Evaluation	Inspiring/ Boring	male	937	-2.2714	2.13328	-0.356	0.722
		female	1,070	-2.2373	2.13730		
	Kind/ Hateful	male	937	0.5123	1.71473	-2.728	0.006**
		female	1,070	0.7224	1.72923		
	Calm/ Restless	male	937	0.5635	1.77424	-0.529	0.597
		female	1,070	0.6037	1.63165		
	Pure/ Dirty	male	937	0.2412	1.65686	-0.243	0.808
		female	1,070	0.2589	1.59492		
Potency	Pleasant/ Unpleasant	male	937	0.1547	1.21007	-2.577	0.010**
		female	1,070	0.2897	1.12385		
	Good/ Bad	male	937	0.5197	1.35001	-3.147	0.002**
		female	1,070	0.7084	1.32862		
	Orderly/ Chaotic	male	937	0.4973	1.80817	-1.527	0.127
		female	1,070	0.6224	1.85777		
	Balanced/	male	937	0.0117	1.85272	-3.786	<0.001***

	Unbalanced	female	1,070	0.3262	1.85971		
	Understandable/ Unintelligible	male	937	0.4504	1.92818		
		female	1,070	0.6206	1.92418	-1.975	0.048*
	Logical/ Illogical	male	937	0.6382	1.99689	-2.451	0.014*
		female	1,070	0.8551	1.95615		
	Knowable/ Unknowable	male	937	0.3404	1.82820	-0.601	0.548
		female	1,070	0.3907	1.91022		
	Familiar/ Strange	male	937	0.2337	2.15525	-2.411	0.016*
		female	1,070	0.4467	1.74482		
	Simple/ Complicated	male	937	0.1793	2.14483	-1.989	0.047*
		female	1,070	0.3766	2.27879		

Note: * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Authors

The means of the variable 'difference between Beauty and Goodness evaluation' for each bipolar adjective pair were compared, using gender as the grouping variable. The results of the Independent Samples T test and the gender-based differences in the evaluation of Beauty and Goodness in the semantic differential are presented in Table 4.

The Independent Samples T test revealed notable gender-specific differences in the evaluation of Beauty and Goodness, as assessed using semantic differential adjectives. Specifically, in the activity dimension, the assessment of two bipolar adjective pairs, Erotic/Romantic and Expressive/Inconspicuous, exhibited significant differences between the genders. In the assessment of Beauty and Goodness using the Erotic/Romantic bipolar adjective pair, men reported a significantly larger difference ($p < 0.001$) between them compared to women. In other words, the differentiation between Beauty and Goodness was more pronounced in men than women when they considered the Erotic/Romantic aspects. Similar findings were observed with the Expressive/Inconspicuous bipolar adjective pair. Both men and women reported that Beauty was closer to expressive than Goodness, but the difference was significantly larger in male subjects than female subjects ($p = 0.033$). Table 5 summarises the bipolar adjectives in which there were significantly larger differences in the assessment of the terms Beauty and Goodness in comparison to the opposite sex.

Table 5: Gender differences in Beauty vs. Goodness evaluation (part1)

	Bipolar Adjective	Gender	Beauty vs. Goodness (difference in evaluation)	Significant gender Differences
Activity	Erotic/ Romantic	males	Beauty more Erotic than Goodness	Differences bigger in males
		females	Beauty more Erotic than Goodness	
	Expressive/ Inconspicuous	male	Beauty more Expressive than Goodness	Differences bigger in males
		female	Beauty more Expressive than Goodness	
Evaluation	Inviting/ Repulsive	male	Beauty more Inviting than Goodness	Differences bigger in males
		female	Goodness more Inviting than Beauty	
	Kind/ Hateful	male	Goodness more Kind than Beauty	Differences bigger in females
		female	Goodness more Kind than Beauty	
	Pleasant/ Unpleasant	male	Goodness more Pleasant than Beauty	Differences bigger in females
		female	Goodness more Pleasant than Beauty	
	Good/ Bad	male	Goodness more Good than Beauty	Differences bigger in females
		female	Goodness more Good than Beauty	

Potency	Balanced/ Unbalanced	male	Goodness more Balanced than Beauty	Differences bigger in females
		female	Goodness more Balanced than Beauty	
	Understandable/ Unintelligible	male	Goodness more Understandable than Beauty	Differences bigger in females
		female	Goodness more Understandable than Beauty	
	Logical/ Illogical	male	Goodness more Logical than Beauty	Differences bigger in females
		female	Goodness more Logical than Beauty	
	Familiar/ Strange	male	Goodness more Familiar than Beauty	Differences bigger in females
		female	Goodness more Familiar than Beauty	
	Simple/ Complicated	male	Beauty more Complicated than Goodness	Differences bigger in females
		female	Beauty more Complicated than Goodness	

Source: Authors

5. Discussion

In the overall overview of the profiles of the semantic differentials, the concepts of Beauty and Goodness produced similar trajectories. This finding is consistent with the assumption that frequent biases (e.g., “halo effect”, “what is beautiful is good” – for an overview, see Langlois et al., 2000) also extend to the concepts of Beauty and Goodness and subsequently influence the connotations which are associated with these concepts. A more detailed statistical analysis revealed differences in the connotations (bipolar adjective pairs) of the concepts of Beauty and Goodness – a Paired Samples T test revealed that Beauty is more exciting, impulsive, and illogical than Goodness. These differences can be attributed to the nature of the concepts under investigation – while Beauty is predominantly associated with aesthetic evaluations, goodness is related to morality. Aesthetic evaluations (Beauty) are characterised by their intensity and immediacy, which explains the association with excitement and impulsiveness (Schindler et al., 2017). On the other hand, moral assessments also involve evaluative aspects (Tangney et al., 2007) and engage reasoning (a closer association with the adjective “logical”), which, on the contrary, may be less well represented in aesthetic evaluations.

In the general population, the tendencies in the evaluation of the polarity of the concepts of Beauty and Goodness were similar with regards to the inclination towards bipolar adjectives. However, results from the gender analyses indicate that men and women have different perceptions of the proximity of the concepts of Beauty and Goodness from the perspective of the connotations. In the activity dimension, two adjective pairs were identified where men and women significantly differed in their perception of differences between Beauty and Goodness. While both men and women considered Beauty to be more erotic and expressive than Goodness, this preference was more pronounced among men. Men perceive Beauty to be more erotic and expressive in comparison to Goodness than women. Data on gender preferences for the most frequent connotations of the concept of Beauty (see Vavrova & Demuthova, 2021) suggests that men (unlike women) more often associate Beauty with the opposite sex and the attributes associated with them. Therefore, it is possible that for men, the concept of Beauty is generally more associated with physical attractiveness and is also more expressive. This interpretation is indirectly supported by the findings of González-Álvarez

(2017) and González-Álvarez & Cervera-Crespo (2019) in studies focused on the evaluation of the attractiveness and morality of potential partners. Their outcomes showed that sexual attraction is relatively less permeable to moral factors in men – men dissociate sexual attraction from moral judgment to a greater extent than women do. Therefore, in the evaluation of individuals of the opposite sex, Beauty and Goodness are more distinct concepts for men than women, and thus men may perceive Beauty to be more erotic and expressive in comparison to women.

In the evaluation dimension, larger differences were only found among men in the bipolar adjective Inviting/Repulsive. Although this adjective falls into the evaluation dimension, it inherently contains a significant element of the activity dimension. Therefore, it is possible that it could be reclassified, where men typically express greater differences between the concepts of Beauty and Goodness. However, this would need to be verified; in this context, this could be an opportunity for further research into the implementation of factor analysis for bipolar adjectives (or the inclusion of new adjectives in the analysis) and the subsequent identification of factors – dimensions – of semantic differential. For the other adjectives in the activity dimension (Kind/Hateful, Pleasant/Unpleasant, and Good/Bad) women perceived larger differences between the concepts of Beauty and Goodness. This finding can primarily be explained by the fact that beauty evaluation is gender-conditioned, as confirmed by several studies (see e.g., Townsend & Wasserman, 1997; Nestor et al., 2010; Foos & Clark, 2011). These findings explain the existence of differences, but not why women perceived these differences, in the assessment of these attributes, more intensely than men. Research evidence for the interpretation of this tendency does not currently exist – an analysis of the differences in the semantic differentials of the concepts of Beauty and Goodness has not been conducted so far. However, Dziobek & Hülser (2007) (and later, e.g., Schaefer & Rotte, 2010) suggest that the evaluation dimension should be understood more as a “social competence factor”, an area in which women significantly dominate across all age categories (Hajovsky et al., 2022). Therefore, it is expected that, in comparison to men, women will more intensely differentiate in the evaluation dimension of the semantic differential during assessments, which is reflected in the larger differences found between the concepts of Beauty and Goodness.

The potency dimension is more neutral than the evaluation dimension. While in the evaluation dimension individuals express their tendencies to attribute positive or negative attributes to a concept, in the potency dimension they express the power with which the concept affects them within the evaluated categories (Rosenberg & Navarro, 2018). In five out of seven bipolar adjectives of the potency dimension, women significantly more strongly than men assessed Goodness as more balanced, understandable, simpler, logical, and familiar than Beauty. It is evident that understanding the concept of Goodness is simpler for women than the concept of Beauty. This can be interpreted within the context of the sociocultural determinants in which the data was collected. Western societies continue to exert pressure on women from early childhood to conform to appearance standards (Helfert & Warschburger, 2013). Throughout their lives, women are often judged and evaluated based on their appearance (Dilmaghani, 2020), which emphasises the importance of beauty in their lives.

These social pressures are often unrealistic (MacCallum & Widdows, 2018), harmful (Rodgers et al., 2023), and subject to change as fashions change (Turner et al., 1997; Ngo, 2019; Anderson et al., 2022), thus women often fail to meet societal expectations. Such failures negatively impact a women's concept of Beauty, making it less understandable, less familiar, less logical, more complicated, and more unbalanced in comparison to the concept of Goodness. Although societal influence also affects men, it is generally less pronounced. As a result, women may perceive greater differences in listed attributes related to Beauty and Goodness in comparison to men.

6. Conclusion

Research into the concepts of Beauty and Goodness using the semantic differential method has yielded several important findings. From the results of the internal consistency of the semantic differential dimensions, it is evident that this method is able to capture the meanings of the studied concepts and as such may serve as inspiration to investigate the semantic differentials of other concepts. When evaluating Beauty and Goodness through a series of bipolar adjective pairs, using the semantic differential method, it was found that, within the general population, these concepts exhibit similar tendencies (trajectories) towards the individual poles of the assessing adjectives. Possible differences between the concepts can be identified through a comparison of the evaluations made by women or men. Women generally perceive that there are greater differences between these two concepts than men, particularly in those adjectives that are in the potency dimension. On the contrary, for two adjective pairs in the activity dimension, men reported greater differences between Beauty and Goodness than women. This suggests that gender may have a significant impact on the understanding of the concepts related to aesthetic and moral evaluations, and this should be taken into consideration in future research into these areas.

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