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WHAT IS PHYSICAL ATTRACTIVENESS? A DISCUSSION OF DEFINITIONS AND PARADIGMS

The article raises the issue of physical attractiveness both in terms of its definition and as a theoretical construct, which forms the basis for planning empirical research. Based on a review of existing definitions and a predictive analysis of the meaning of terms, a definition of physical attractiveness as one of the types of human attractiveness is proposed. The criteria differentiating physical attractiveness from the related concept of sexual attractiveness are presented. Physical attractiveness is discussed as an object of operationalization in the process of designing research on the assessment or self-assessment of the appearance and characteristics of the human body, including a distinction between its two approaches: holistic (a set of a characteristics whose evaluations are interrelated) and elementary (one characteristic whose evaluations impact the assessment of overall physical attractiveness).

Keywords: physical attractiveness; sexual attractiveness; appearance.

INTRODUCTION

Physical attractiveness of human beings, also referred to as beauty or loveliness in poetic terms, is a complex and heterogeneous construct. The dictionary meaning of the word “attractive” is both “appealing, alluring, interesting” (Sobol, 1999, p. 49) and “possessing a force of allure and interest” (Szymczak, 1978, vol. I, p. 95). “Physical” means “pertaining to the human body, corporeal”

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and “pertaining to human organism or physical appearance,” “sexual,” “not mental” (Sobol, 1999, pp. 208-209). However, physical attractiveness is a concept that is far more complex than a simple juxtaposition of synonyms, and its definitions vary in the degree of generality. For example, in the *Encyclopaedia of Psychology*, Nęcki writes: “Despite the fact that the idea of the beauty of the human body varies between different cultures, within a particular culture and subculture there is considerable agreement on what a physically attractive person should look like. In the Western culture, its symbol is the figure represented by the most popular female and male models” (1998, p. 25). Etcoff (2002) assumes that a full definition of beauty does not exist, but its patterns exist in imagination while beauty is identified instinctually. Mehrabian and Blum (1997) place physical attractiveness in the category of emotional reactions, whereas Buss (2001) focuses on its universal criteria – physical attributes. Langmeyer and Shank (1995) claim that physical attractiveness can be one of the initial criteria for the evaluation of beauty, which in itself has a broader meaning. Finally, Pawłowski (2009) formulates an operational definition and assumes that the level of attractiveness displayed by a person or a morphological body part (its shape, smell, or color) is defined by a group of randomly selected people (a sample of respondents) – their evaluation is a measure of attractiveness.

The issues of physical attractiveness were researched mainly in the 1980s (e.g., Downs, 1983; Downs & Reagan, 1983; Giesen, 1989). Some of the more recent reports seem to pertain more to sexual attractiveness. Amos and McCabe (2015), among others, point out that there is a lack of consistency in its conceptualization. Based on the analysis of the literature, the authors conclude that the terms describing sexual attractiveness are varied and ambiguous; what is more, there are no general, standardized methods for measuring its perception. In a slightly older work, Kauth (2006) defines sexual attractiveness based on the evolutionary foundations of the development of our species and relates it to knowledge from the fields of evolutionary psychology and the psychology of sexuality. He also formulates a proposal of defining sexual orientation as a construct crucial for sexual attraction. On the other hand, Reichert and Ramirez (2000) emphasize the difficulties with specifying the characteristics of sexy appearance. They attempt to provide its precise definition for the purposes of research on the influence of commercials while accentuating differences related to the sex of the evaluators.

Contemporarily, a majority of definitions of physical attractiveness are operational definitions, formulated in order to be used in empirical research. The present article attempts to specify the meaning of physical attractiveness as

a theoretical construct. The criteria differentiating physical attractiveness from other types of attractiveness, particularly sexual attractiveness, are presented. Both holistic and elementary approaches to physical attractiveness, based on its correlates, are explained. The article concludes with a thought aimed at the researchers exploring this phenomenon.

HUMAN ATTRACTIVENESS AND PHYSICAL ATTRACTIVENESS

At the very beginning, researchers investigating physical attractiveness face the difficult task of defining the object of their study. Correct methodology requires the object of study to be defined in categories that allow for it to become operational (Brzeziński, 1999), which means that the said categories need to be unambiguous and allow for the object to be measured. Meanwhile, attractiveness itself can be understood as both an attribute of an object or a person that “elicits a reaction of approach in other people,” and also “a tendency to treat an object or a person . . . as alluring” (Reber & Reber, 2005, p. 67). Thus, the word “attractive” characterizes someone or something, but it can also be used as a category of reaction to someone or something.

Based on the analysis of dictionary meanings and definitions of the word “attractive” (e.g., Etcoff, 2002; Nęcki, 1996; Reber & Reber, 2005; Sobol, 1999; Szymczak, 1978), in the present article I assumed that it meant the following:

- (1) that we find someone or something pleasing (also in terms of esthetic experience);
- (2) that someone or something elicits an approach reaction;
- (3) that someone or something evokes pleasant emotions and experiences, both in direct contact as well as when imagined;
- (4) that someone or something attracts attention;
- (5) that someone or something is interesting or intriguing;
- (6) that someone or something is desirable;
- (7) that an object/person inspires liking.

The wide application of the term “attractive” has led to the distinguishing of various types of attractiveness. Apart from physical attractiveness, it is possible to enumerate the following:

- interpersonal attractiveness – interpersonal means “pertaining to the relations between individuals” (Sobol, 1999, p. 275), which means a person’s interpersonal attractiveness applies to relations with them;

– intellectual attractiveness – the attractiveness of intellect understood, for example, as a high intelligence quotient, eloquence, erudition, high competence in a given field, significant discoveries made by a person, or the attractiveness of an intellectually engaging activity;

– emotional attractiveness – it can be understood as the attractiveness of a person’s emotionality (e.g., positive – positive emotions usually dominate in such individuals, see Thomas & Chess, 1977), emotional sensitivity, passion, or charisma;

– spiritual attractiveness – understood in a broad sense and mostly subjective, since “spirituality” can pertain to thoughts, mental life, intellect, morality, or spirit (Sobol, 1999); sometimes it is commonly referred to as people having “kindred spirits” and meaning a person’s attractive demeanor combined with deriving satisfaction from communication and pleasing forms of spending time together;

– matrimonial attractiveness – a particular type of attractiveness, encompassing the attributes that suggest that the person will make a good husband/wife (see Barber, 1999);

– professional attractiveness – applies to people who possess particular skills, competences relevant in a given field, or professional qualifications.

I believe that physical attractiveness is not identical with any of the above types of attractiveness, though it may be related to them, influence them, or constitute one of their components. Nevertheless, in contrast to the other types, it pertains mainly to human appearance.

PHYSICAL ATTRACTIVENESS AS A COMBINATION OF TERMS

“Physical attractiveness” is a combination of the word “attractive” (which encompasses all of the meanings of the word mentioned above) with the word “physical.” As opposed to the variety of interpretations related to attractiveness, the term “physical” appears to be simpler in its definition. As an attribute of a person, “physical attractiveness” designates bodily or corporeal attractiveness related to the human organism or physical appearance. In terms of reaction, it can be defined as a person’s external appearance that people find to their liking: attracting attention, interesting, alluring, desirable, eliciting positive emotions and sympathy.

The definitions of physical attractiveness in terms of corporeality, physical appearance, and organism are used as synonymous and referring to the same term “physical” in the dictionary (see Sobol, 1999). In their essence, however, two of these definitions are significantly different from the third. Applying one of the terms while creating a theoretical construct implies a particular scope of definitions. A definition, based on the word “corporeality” assumes that the only thing taken into account while evaluating human physical attractiveness is the body – the build, height, shape, mass, proportions, condition, appearance, the color of the skin, the hair, and the eyes, and so forth. It is legitimate to assume that the attractiveness of “outward appearance” pertains not only to a person’s body, but also to their clothing, hairstyle (see Hurlock, 1985), make-up, and the observable effects of self-care (see Etcoff, 2002). Thus, “outward appearance” pertains to a wider group of variables than “corporeality.” Nevertheless, I believe it cannot be assumed to cover all of the characteristics of corporeality (e.g., the firmness, softness, or smoothness of the body cannot always be established on the basis of appearance), since it suggests that only visual stimuli determine physical attractiveness. The assumption that physical attractiveness means the attractiveness of the “organism” allows for adding more types of stimuli to the scope of the definition: auditory and sensory – such as voice (Hodges-Simeon, Gaulin, & Puts, 2010) or smell (Roberts et al., 2011; Seubert, Gregory, Chamberland, Dessirier, & Lundström, 2014); however, elements such as clothing or hairstyle (which are “extracorporeal” elements) are not included in the definition. “Organism” is a term much wider than “corporeality,” since it can pertain to plants or fungi, in the case of which the idea of a body becomes problematic. It is only in the case of humans that “body” means “human organism as a whole” (Sobol, 1999, p. 108). I see the differences in the application of these two names as very subtle. The word “organism” is generally used to emphasize that humans consist of organs which have particular functions. The word “body” is used to define something that entirely belongs to a human being (*whose body?* – *a person’s*, as opposed to: *what body?* – *a human body*, the latter being a biological rather than personal reference) and determines his or her physicality. In psychology, the word “body” is used more often than “organism,” as in “body signals/posture” (in nonverbal communication; see Birkenbihl, 1998) or “the body self” (see Kowalik, 2003). Hence my proposal to use the word “body” rather than “organism” in definitions of physical attractiveness. Clearly, any intention to emphasize the influence of particular organs on the characteristics, perception, or evaluation of physical attractiveness shall imply the use of the word “organ-

ism” in the definition, although, in my opinion, such an approach will be biological rather than psychological.

If one combines the two terms for physical attractiveness (body and outward appearance) and the two approaches to it (as a characteristic and as a reaction), the result is a definition marked by a significant degree of generality, which reads as follows: physical attractiveness means the characteristics of a person’s body and physical appearance that arouse the interest of other people, are to their liking, allure and intrigue them – characteristics associated with positive experiences, which evoke liking and at the same time are regarded as desirable by others.

PHYSICAL ATTRACTIVENESS AND NONMENTAL AND SEXUAL ATTRACTIVENESS

The definition presented in the previous section is most probably still not complete. This is because the word “physical” is ambiguous. In order to define it in the dictionary (Sobol, 1999), synonyms were used that seem not to be completely equivalent: nonmental and sexual. The term “mental” used in the definition of physical attractiveness “excludes” intellectual characteristics, such as intellect, emotionality, personality, morality, and so on. However, it is up for discussion whether the definition of physical attractiveness encompasses behavioral manifestations of mental acts in the form of physical activity (the way one moves and speaks, facial expressions, or gestures). The process of setting a precise scope of the term “physical attractiveness” should include listing all the physical activities it encompasses. A fuller definition would therefore read as follows: physical attractiveness means the nonmental characteristics of a person’s body and appearance as well as their way of speaking and moving, facial expressions, and gestures that arouse the interest of other people, are to their liking, allure and interest them, are associated with positive experiences, evoke liking and are found desirable by other people at the same time.

It is necessary to explain the use of another synonym related to “physical” – the word “sexual.” Using this word to specify the meaning of physical attractiveness suggests its equivalence with sexual attractiveness. In *Encyclopaedic Dictionary. Love and sex*, Lew-Starowicz defines sexual attractiveness as “a group of qualities that arouse the partner’s interest” (1999, p. 33) and includes “non-physical” qualities such as faithfulness or thriftiness. I believe that defining physical attractiveness as “sexual” and “nonmental” simultaneously involves

a contradiction, which supports the idea of separating the definitions and ceasing to equate the concepts of “physical” and “sexual.” It is, however, not as simple as it may seem because both are significant factors in partner choice (e.g., Jonason, 2009; Larson, Haselton, Gildersleeve, & Pillsworth, 2013; Li & Meltzer, 2015). At times, a lack of consistency in definitions can occur; for example, as proof of physical attractiveness being a salient factor in human life, the already mentioned, Lew-Starowicz (1999) cites the research on physical attractiveness conducted by Buss (2001). Some researchers do not define physical or sexual attractiveness at all and limit themselves to defining the indicators of “attractiveness” such as body symmetry, its averageness, or proportions (e.g., Langlois & Roggman, 1990; Rhodes & Simmons, 2007; Rozmus-Wrzesińska & Pawłowski, 2005; Wade, 2010). Some, however, emphasize that physical and sexual attractiveness are two separate categories, related to intersexual differences in attractiveness self-evaluation (Lipowska & Lipowski, 2012, 2013).

The inspiration to determine the criteria separating physical and sexual attractiveness was the results of pilot studies conducted on a deliberately selected group of 73 students of psychology and pedagogy (61 women, 12 men) interested in acquiring knowledge on the psychology of human attractiveness (unpublished results of my own research). The students were asked to define physical and sexual attractiveness in writing. Twelve of the respondents (16%) declared that, for them, physical and sexual attractiveness meant the same thing, 16 (22%) emphasized that they were related to each other (i.e., that they had similar components in the form of characteristics and/or influenced each other), and 20 (27%) claimed that sexual attractiveness consisted of physical and mental attractiveness. What is more, despite writing that physical attractiveness meant “the same” as sexual attractiveness, two of the participants, signaled differences between the two in their descriptions.

The above research results suggest that the distinction between physical and sexual attractiveness may also be problematic for people who use popular knowledge or intuition. In my opinion, the key factors in evaluating sexual attractiveness are: sexual desire (drive), or lust, and a set of mental qualities. Desire can be felt for a person whose outward appearance is unattractive (Meston & Buss, 2010) but who possesses certain mental (Lew-Starowicz, 1999) or social (Buss, 2014) characteristics. In the abovementioned research, 43% of the students used expressions such as “desire,” “drive,” “sexual drive,” “sexual reactions,” or “arousal” in their definitions of sexual attractiveness (7% used these words in their definitions of physical attractiveness). 41% of respondents pointed out the

significance of mental qualities (or their manifestations in behavior) to sexual attractiveness (10% pointed out their significance to physical attractiveness).

It was assumed that the responses particularly salient for the evaluation of physical attractiveness were any references to human appearance and the esthetics of that appearance (Etcoff, 2002), which may have no significance at all in the case of sexual attractiveness, since it can be assumed that a person who is negligently dressed, who has tousled hair and smeared make-up, and who is sleepy or sweaty will look physically unattractive but still be sexually attractive. 57% of the participants used the word “appearance” to define physical attractiveness, but only 4% pointed to its esthetics. This criterion seems to be less salient in the common evaluation of physical attractiveness, though this may be due to the low popularity of the word “esthetic” (23% of the participants used different expressions: “well kept,” “taking care of oneself,” or “maintaining personal hygiene”).

I believe that equating physical and sexual attractiveness in common thinking is not so much a result of deeper reflection as a simplification of both terms. In my opinion, the two types of attractiveness are not equivalent in their nature and using them interchangeably may be confusing (see Szymanik, 2014). The two definitions, with key differences emphasized, are presented below.

Physical attractiveness means nonmental characteristics of the body and human outward appearance (including the esthetics expressed by self-care) together with the person’s way of speaking and moving, facial expressions, and gestures that arouse the interest of other people, are to their liking, as well as allure and intrigue them; they are associated with positive experiences, evoke liking and are desired by other people though they do not need to occur for sexual desire to be evaluated as high.

Sexual attractiveness means both mental and physical human characteristics that arouse the interest of other people, are to their liking, allure them, and intrigue them; they are associated with positive experiences, evoke liking, and are simultaneously regarded as desirable by other people, and their high evaluation is connected with the evaluator experiencing sexual desire.

Such definitions make it possible to assume the following:

(1) physical and sexual attractiveness may have certain physical characteristics in common;

(2) esthetics and self-care are necessary defining criteria for physical attractiveness, but they may (though they do not have to) be significant also for the evaluation of sexual attractiveness due to the physical characteristics common to both terms;

(3) sexual desire is a necessary criterion only in the case of evaluating sexual attractiveness but also a possible one in the case of evaluating physical attractiveness due to the physical characteristics common for both terms, which is why in this definition their sexual influence is not excluded;

(4) the condition for a particular person being regarded as sexually attractive by the evaluator is the evaluator's experience of sexual desire towards this person; however, a person's sexual attractiveness for another person (or for other people) can also be inferred if it is known or suspected that the person arouses sexual desire in others (e.g., a woman can be regarded as sexually attractive for men by another woman, who does not feel sexually attracted to her).

**A DEFINITION OF PHYSICAL ATTRACTIVENESS AS THE BASIS
FOR THE OPERATIONALIZATION OF THE RESEARCH PROBLEM:
THE HOLISTIC AND ELEMENTARY APPROACHES**

I believe that distinguishing physical attractiveness from other types of attractiveness is a precondition for the operationalization of the research problem (Brzeziński, 1999). Operationalization consists in determining the indicators of physical attractiveness that would make it possible to measure the diversity of this characteristic in the population. The measurement pertains to the evaluation (or self-evaluation) of physical attractiveness in yes/no terms (someone is physically attractive or not) or with the use of a rating system – from very low scores (indicating that a person is physically unattractive) to very high scores (in the case of people considered ideal in terms of physical attractiveness). The aforementioned indicators become the characteristics of physically attractive people – the qualities of their body (organism) and outward appearance, their way of speaking and moving, as well as their facial expressions and gestures.

Studies on the influence of a single quality of a person on the evaluation of their physical attractiveness are an example of the elementary approach. In this paradigm, the main subjects of discussion are: the appearance of the face (e.g., Hönekopp, 2006; Patel & Fitzgerald, 2010), whose characteristics seem to be crucial for the evaluation of physical attractiveness, the shape of various parts of the body, such aspects of the organism as proportions or symmetry (e.g., Buggio et al., 2012; Wade, 2010), as well as the way of speaking and moving, facial expressions, and gestures (e.g., Cappelle & Fink, 2013; Ferdenzi, 2013; Mueser, Grau, Sussman, & Rosen, 1984; Wells, 2013).

The elementary approach is also adopted by researchers who attempt to define the significance of certain qualities of physical attractiveness that are related to self-care, such as clothing (e.g., Creekmore, 1980; Guéguen, 2014; Lennon, 1990; Nielsen & Kernaleguen, 1976; Townsend & Levy, 1990), make-up (e.g., Korichi, Pelle-de-Queral, Gazano, & Aubert, 2011; Egan & Cordan, 2009; Mulhern, Fieldman, Hussey, Le, & Pineau, 2003; Stephen, 2010), and hairstyle (e.g., Mesko & Bereczkei, 2004).

In contrast to the elementary paradigm, the holistic one encompasses the significance of many human characteristics and the relations between them to attractiveness. Researchers who adopt the holistic approach emphasize that the evaluation of physical attractiveness is influenced by more than simply preferences developed through evolution and cultural canons of beauty (e.g., Buss, 2014; Etcoff, 2002). The evaluator's individual preferences are also salient (see Szymanik, 2014), as well as some of his or her qualities, such as age (Connolly, Slaughter, & Mealey, 2004; Cooper, Geldart, Mondloch, & Maurer, 2006; Szymanik, 2014), sex (Buss & Schmitt, 1993), sexual orientation (Nash, Fieldman, & Hussey, 2005), or personality traits (Sorokowski, Sabiniewicz, & Sorokowska, 2015). Their state of knowledge and their visualizations (Keisling & Gynther, 1993; Sorokowski, 2005; Swami et al., 2010), their self-perception and self-evaluation (Jonason, 2009), the models of attractiveness encountered in the course of development and upbringing (e.g., Little, Penton-Voak, Burt, & Perrett, 2003; Wiszewska, Pawłowski, & Boothroyd, 2007), time-varying characteristics such as mood (Szymanik, 2014) or the level of hormones related to the ovulation cycle in women (Pawłowski, Jasińska, 2005), and many others. Additional factors important in self-evaluation of attractiveness are general attitude towards oneself and self-esteem (see Doroszewicz, 2002; Głębocka & Kulbat, 2003), which are not always related to a given person's perceived physical attractiveness in a simple manner (Stroebe, 1977).

Both approaches have their advantages and imperfections. Conducting research in the elementary paradigm is characterized by slightly more precision in deduction accompanied by a reduced workload related to conducting statistical research and performing statistical analyses. In this case, the field of variability is significantly narrowed (an example might be the classical study of the impact of build type on the evaluation of attractiveness in women, by Singh and Young, 1995). One should be aware that the results of research conducted using this approach are only one of the possible perspectives on physical attractiveness, since they are limited to one or a few characteristics crucial for the evaluation of physical attractiveness. The holistic approach leads to a more complete picture

of human physical attractiveness but it involves a significantly increased workload due to the need to take many different variables into account. Research conducted in this paradigm includes the comparison of the impact various qualities have on the evaluation of physical attractiveness – for instance, a discussion of the significance of WHR (type of build) in the context of BMI (body mass index) (e.g., Wilson, Trip, & Boland, 2005), defining the physical characteristics of varying significance for physical attractiveness (for example the face, the characteristics of which were studied, among others, by Baudouin & Tiberghien, 2004; Tatarunaite, Playle, Hood, Shaw, & Richmond, 2005) as well as analyses that aim to determine the influence of the evaluations of physical characteristics on the general evaluation of a given person's attractiveness (e.g., Currie & Little, 2009; Szymanik, 2014). It is worth remembering that, along with the increase in the complexity of relations between the correlates of physical attractiveness in the holistic approach, there is a decrease in the certainty of inference about their individual impact, which may, as a consequence, lead to formulating incorrect or ambiguous conclusions.

CONCLUSION

The area of research pertaining to physical attractiveness is incredibly wide and the number of empirical reports is continuously increasing. Researchers encounter new challenges, discover relations that were not previously assumed and that question the existing conclusions and accepted interpretations. Simultaneously, they encounter problems in the comparison and generalization of results, start definitional debates, and voice concerns about the adopted methodologies. A clear-cut, unequivocally accepted definition of physical attractiveness that sets the direction of research is undoubtedly a very useful tool. It allows for precise formulations of the object of research, helps narrow down or widen the field of variability, as well as makes it possible to postulate main variable interactions and to determine the possible impact of secondary variables. To other researchers it offers the possibility of comparing and discussing results.

A simple conclusion can be drawn from the present article: the assumption that everyone can identify physical attractiveness is not reflected by its universal understanding. I believe that, despite their usefulness in empirical research, operational definitions of physical attractiveness are insufficient in explaining the essence of this phenomenon.

REFERENCES

- Amos, N., & McCabe, M. P. (2015). Conceptualizing and measuring perceptions of sexual attractiveness: Are there differences across gender and sexual orientation? *Personality and Individual Differences*, 76, 111-122. DOI: 10.1016/j.paid.2014.11.057
- Barber, N. (1999). Women's dress fashions as a function of reproductive strategy. *Sex Roles*, 40(5/6), 459-471. DOI: 10.1023/A:1018823727012
- Baudouin, J. Y., & Tiberghien, G. (2004). Symmetry, averageness, and feature size in the facial attractiveness of women. *Acta Psychologica*, 117(3), 313-332. DOI: 10.1016/j.actpsy.2004.07.002
- Birkenbihl, V. F. (1998). *Sygnaly ciała: podstawy komunikacji niewerbalnej dla trenerów i ludzi sukcesu* (K. Ciolkosz, Trans.). Wrocław: Wydawnictwo ASTRUM.
- Brzeziński, J. (1999). *Metodologia badań psychologicznych*. Warsaw, PL: Wydawnictwo Naukowe PWN.
- Buggio, L., Vercellini, P., Somigliana, E., Vigano, P., Frattaruolo, M. P., & Fedele, L. (2012). "You are so beautiful": Behind women's attractiveness towards the biology of reproduction: A narrative review. *Gynecological Endocrinology*, 28, 753-757. DOI: 0.3109/09513590.2012.662545
- Buss, D. M. (2001). *Psychologia ewolucyjna. Jak wytłumaczyć społeczne zachowania człowieka? Najnowsze koncepcje* (M. Orski, Trans.). Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Buss, D. M. (2014). *Ewolucja pożądania. Jak ludzie dobierają się w pary*. (B. Wojciszke & A. Nowak, Trans.). Sopot: Gdańskie Wydawnictwo Psychologiczne.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204-232. DOI: 10.1037/0033-295X.100.2.204
- Cappelle, T., & Fink, B. (2013). Changes in women's attractiveness perception of masculine men's dances across the ovulatory cycle: Preliminary data. *Evolutionary Psychology*, 11(5), 965-972.
- Connolly, J. M., Slaughter, V., & Mealey, L. (2004). The development of preferences for specific body shapes. *The Journal of Sex Research*, 41(1), 5-15. DOI: 10.1080/00224490409552209
- Cooper, P. A., Geldart, S. S., Mondloch, C. J., & Maurer, D. (2006). Developmental changes in perceptions of attractiveness: A role of experience? *Developmental Science*, 9(5), 530-543. DOI: 10.1111/j.1467-7687.2006.00520.x
- Creekmore, A. M. (1980). Clothing and personal attractiveness of adolescents related to conformity, to clothing mode, peer acceptance, and leadership potential. *Home Economics Research Journal*, 8(3), 203-215. DOI: 10.1177/1077727X8000800306
- Currie, T. E., & Little, A. C. (2009). The relative importance of the face and body in judgments of human physical attractiveness. *Evolution and Human Behavior*, 30, 409-416. DOI: 10.1016/j.evolhumbehav.2009.06.005
- Doroszewicz, K. (2002). O atrakcyjności fizycznej kobiet. In E. Stojanowska (Ed.), *Możliwości i ograniczenia w kreowaniu własnej atrakcyjności interpersonalnej* (pp. 61-76). Warsaw, PL: Wydawnictwo Akademii Pedagogiki Specjalnej im. Marii Grzegorzewskiej.
- Downs, A. C. (1983). Viewing attractiveness socialization from a social network perspective. Paper presented at the Annual Meeting of the Southwestern Psychological Association (San Antonio, TX, April 21-23, 1983).
- Downs, A. C., & Reagan, M. A. (1983). *Recognition, development and correlates of self-defined physical attractiveness among young children*. Paper presented at the Annual Meeting of the Western Psychological Association (San Francisco, CA, April 6-10, 1983).

- Egan, V., & Cordan, G. (2009). Barely legal: Is attraction and estimated age of young female faces disrupted by alcohol use, make up, and the sex of the observer? *British Journal of Psychology*, *100*, 415-427. DOI: 10.1348/000712608X357858
- Etcoff, N. (2002). *Przetrwają najpiękniejsi. Wszystko, co nauka mówi o ludzkim pięknie.* (D. Cieśla, Trans.). Warsaw, PL: Wydawnictwo CiS, Wydawnictwo WAB.
- Ferdenzi, C. (2013). Voice attractiveness: Influence of stimulus duration and type. *Behavior Research Methods*, *45*(2), 405-413. DOI: 10.3758/s13428-012-0275-0
- Giesen, C. B. (1989). Aging and attractiveness: Marriage makes a difference. *International Journal of Aging and Human Development*, *29*(2), 83-94. DOI: 10.2190/84BR-WXBN-29F1-LF0J
- Głębocka, A., & Kulbat, J. (2003). Różnice między kobietami i mężczyznami w spostrzeganiu kształtów ciała. *Studia Psychologiczne*, *41*(2), 209-217.
- Guéguen, N. (2014). High heels increase women's attractiveness. *Archives of Sexual Behavior*, Nov 19. DOI: 10.1007/s10508-014-0422-z
- Hodges-Simeon, C. R., Gaulin, S. J., & Puts, D. A. (2010). Different vocal parameters predict perceptions of dominance and attractiveness. *Human Nature*, *21*(4), 406-427. DOI: 10.1007/s12110-010-9101-5
- Hönekopp, J. (2006). Once more: Is beauty in the eye of the beholder? Relative contributions of private and shared taste to judgments of facial attractiveness. *Journal of Experimental Psychology: Human Perception and Performance*, *32*(2), 199-209. DOI: 10.1037/0096-1523.32.2.199
- Hurllock, E. B. (1985). *Rozwój dziecka* (B. Hornowski, K. Lewandowska, & B. Rosenmann, Trans.). Warsaw, PL: Państwowe Wydawnictwo Naukowe.
- Jonason, P. K. (2009). The value of physical attractiveness in romantic partners: Modeling biological and social variables. *The Journal of Social Psychology*, *149*(2), 229-240. DOI: 10.3200/SOCP.149.2.229-240
- Kauth, M. R. (2006). The evolution of human sexuality: An introduction. *Journal of Psychology & Human Sexuality*, *18*(2/3), 1-22. DOI: 10.1300/J056v18n02_01
- Keisling, B. L., & Gynther, M. D. (1993). Male perceptions of female attractiveness: The effects of targets' personal attributes and subjects' degree of masculinity. *Journal of Clinical Psychology*, *49*(2), 190-195. DOI: 10.1002/1097-4679(199303)49:23.0.CO;2-F
- Korichi, R., Pelle-de-Queral, D., Gazano, G., & Aubert, A. (2011). Relation between facial morphology, personality and the functions of facial make-up in women. *International Journal of Cosmetic Science*, *33*, 338-345. DOI: 10.1111/j.1468-2494.2010.00632.x
- Kowalik, S. (2003). Ja-cielesne – próba nowego spojrzenia. *Polskie Forum Psychologiczne*, *8*(1-2), 5-29.
- Langlois, J. H., & Roggman, L. A. (1990). Attractive faces are only average. *Psychological Science*, *1*(2), March, 115-121. DOI: 10.1111/j.1467-9280.1990.tb00079.x
- Langmeyer, L., & Shank, M. D. (1995). Body and soul: Beyond physical attractiveness – Implications for consumer behavior. *Advances in Consumer Research*, *22*, 746-752.
- Larson, C. M., Haselton, M. G., Gildersleeve, K. A., & Pillsworth, E. G. (2013). Changes in women's feelings about their romantic relationships across the ovulatory cycle. *Hormones & Behavior*, *63*(1), 128-135. DOI: 10.1016/j.yhbeh.2012.10.005
- Lennon, S. J. (1990). Effects of clothing attractiveness on perceptions. *Home Economics Research Journal*, *18*(4), 303-310. DOI: 10.1177/1077727X9001800403
- Lew-Starowicz, Z. (1999). *Słownik encyklopedyczny. Miłość i seks.* Wrocław: Wydawnictwo Europa.

- Li, N. P., & Meltzer, A. L. (2015). The validity of sex-differentiated mate preferences: Reconciling the seemingly conflicting evidence. *Evolutionary Behavioral Sciences*, 9(2), 89-106. DOI: 10.1037/ebs0000036
- Lipowska, M., & Lipowski, M. (2012). *Narcyzm jako moderator zadowolenia z własnego wyglądu wśród kobiet ze skrajną niedowagą i otyłością*. Paper presented at the conference "The human body. Formerly and today." Oct 25-26, 2012, Gdańsk.
- Lipowska, M., & Lipowski, M. (2013). Polish normalization of the Body Esteem Scale. *Health Psychology Report*, 1, 72-81. DOI: 10.5114/hpr.2013.40471
- Little, A. C., Penton-Voak, I. S., Burt, D. M., & Perrett, D. I. (2003). Investigating an imprinting-like phenomenon in humans: Partners and opposite-sex parents have similar hair and eye colour. *Evolution and Human Behavior*, 24(1), 43-51. DOI: 10.1016/S1090-5138(02)00119-8
- Mehrabian, A., & Blum, J. S. (1997). Physical appearance, attractiveness, and the mediating role of emotions. *Current Psychology*, 16(1), 20-42. DOI: 10.1007/s12144-997-1013-0
- Mesko, N., & Bereczkei, T. (2004). Hairstyle as an adaptive means of displaying phenotypic quality. *Human Nature*, 15(3), 251-270. DOI: 10.1007/s12110-004-1008-6
- Meston, C. M., & Buss, D. M. (2010). *Dlaczego kobiety uprawiają seks* (A. Nowak, Trans.). Sopot: Wydawnictwo Smak Słowa.
- Mueser, K. T., Grau, B. W., Sussman, S., & Rosen, A. J. (1984). You're only as pretty as you feel: Facial expression as a determinant of physical attractiveness. *Journal of Personality and Social Psychology*, 46(2), 469-478. DOI: 10.1037/0022-3514.46.2.469
- Mulhern, R., Fieldman, G., Hussey, T., Le, J.-L., & Pineau, P. (2003). Do cosmetics enhance female Caucasian facial attractiveness? *International Journal of Cosmetic Science*, 25, 199-205. DOI: 10.1046/j.1467-2494.2003.00188.x
- Nash, R., Fieldman, G., & Hussey, T. (2005). The influence of sexual orientation on participants' judgements of facial attractiveness in older women. *Sexualities, Evolution and Gender*, 7(2), August, 135-152. DOI: 10.1080/14616660500175680
- Nielsen, J. P., & Kernaleguen, A. (1976). Influence of clothing and physical attractiveness in person perception. *Perceptual and Motor Skills*, 42(3), 775-780. DOI: 10.2466/pms.1976.42.3.775
- Nęcki, Z. (1996). *Wzajemna atrakcyjność*. Warsaw, PL: Wiedza Powszechna.
- Nęcki, Z. (1998). Atrakcyjność. Atrakcyjność wzajemna. In W. Szewczuk (Ed.), *Encyklopedia psychologii* (pp. 23-27). Warsaw, PL: Fundacja Innowacja.
- Obuchowski, I., & Jaczewski, A. (2002). *Rozwój erotyczny*. Warsaw, PL: Wydawnictwo Akademickie "Żak".
- Patel, U., & Fitzgerald, R. (2010). Facial shaping: Beyond lines and folds with fillers. *Journal of Drugs in Dermatology*, 9, 129-137.
- Pawłowski, B. (2009). Wstęp. In B. Pawłowski (Ed.), *Biologia atrakcyjności człowieka* (pp. 1-10). Warsaw: University of Warsaw Press.
- Pawłowski, B., & Jasińska, G. (2005). Women's preferences for sexual dimorphism in height depend on menstrual cycle phase and expected duration of relationship. *Biological Psychology*, 70(1), 38-43. DOI: 10.1016/j.biopsycho.2005.02.002
- Reber, A. S., & Reber, E. S. (2005). *Słownik psychologii* (1st Polish edition; I. Kurcz & K. Skarżyńska, Eds.; B. Janasiewicz-Kruszyńska et al., Trans.). Warsaw, PL: Wydawnictwo Naukowe Scholar.
- Reichert, T., & Ramirez, A. (2000). Defining sexually oriented appeals in advertising: A grounded theory. *Investigation. Advances in Consumer Research*, 27, 267-273.

- Rhodes, G., & Simmons, L. W. (2007). Symmetry, attractiveness and sexual selection. In R. I. M. Dunbar & L. Barrett (Eds.), *The Oxford Handbook of Evolutionary Psychology* (pp. 333-364). New York: Oxford University Press.
- Roberts, S. C., Kravovich, A., Ferdenzi, C., Saxton, T. K., Jones, B. C., DeBruine, L. M., Little, A. C., & Havlicek, J. (2011). Body odor quality predicts behavioral attractiveness in humans. *Archives of Sexual Behavior, 40*(6), 1111-1117. DOI: 10.1007/s10508-011-9803-8
- Rozmus-Wrzesińska, M., & Pawłowski, B. (2005). Men's ratings of female attractiveness are influenced more by changes in female waist size compared with changes in hip size. *Biological Psychology, 68*(3), 299-308.
- Seubert, J., Gregory, K. M., Chamberland, J., Dessirier, J., & Lundström, J. N. (2014). Odor valence linearly modulates attractiveness, but not age assessment, of invariant facial features in a memory-based rating task. *PLOS ONE, May 29; 9*(5), e98347, 1-7. DOI: 10.1371/journal.pone.0098347
- Singh, D., & Young, R. K. (1995). Body weight, waist-to-hip ratio, breasts, and hips: Role in judgments of female attractiveness and desirability for relationships. *Ethology and Sociobiology, 16*, 483-587. DOI: 10.1016/0162-3095(95)00074-7
- Sobol, E. (Eds.) (1999). *Ilustrowany słownik języka polskiego*. Warsaw, PL: Wydawnictwo Naukowe PWN.
- Sorokowski, P. (2005). Czy piękno jest w oku patrzącego? Oznaki zamożności i zainteresowania osobą oceniającą jako wyznaczniki atrakcyjności fizycznej osób płci przeciwnej. *Studia Psychologiczne, 43*(4), 71-80.
- Sorokowski, P., Sabiniewicz, A., & Sorokowska, A. (2015). The impact of dominance on partner's height preferences and height-related mate choices. *Personality and Individual Differences, 74*, 220-224. DOI: 10.1016/j.paid.2014.10.034
- Stephen, I. D. (2010). Lip colour affects perceived sex typicality and attractiveness of human faces. *Perception, 39*(8), 1104-1110. DOI: 10.1068/p6730
- Stroebe, W. (1977). Self-esteem and interpersonal attraction. In S. W. Duck (Eds.), *Theory and practice in interpersonal attraction* (pp. 79-104). London: Academic Press.
- Swami, V., Furnham, A., Chamorro-Premuzic, T., Akbar, K., Gordon, N., Harris, T., Finch, J., & Tovée, M. J. (2010). More than just skin deep? Personality information influences men's ratings of the attractiveness of women's body sizes. *The Journal of Social Psychology, 150*(6), 628-647. DOI: 10.1080/00224540903365497
- Szymanik, A. (2014). *Uroda czy ubranie? O atrakcyjności fizycznej młodych kobiet w percepcji dorastającej młodzieży*. Bydgoszcz: Kazimierz Wielki University Press.
- Szymczak, M. (Ed.) (1978). *Słownik języka polskiego* (vol. 1-3). Warsaw, PL: Wydawnictwo Naukowe PWN.
- Tatarunaite, E., Playle, R., Hood, K., Shaw, W., & Richmond, S. (2005). Facial attractiveness: A longitudinal study. *American Journal of Orthodontics and Dentofacial Orthopedics, 127*(6), 676-682. DOI: 10.1016/j.ajodo.2004.01.029
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York, NY: Brunner/Mazel.
- Townsend, I. M., & Levy, G. D. (1990). Effects of potential partners' costume and physical attractiveness on sexuality and partner selection. *Journal of Psychology, 124*, 371-389. DOI: 10.1080/00223980.1990.10543232
- Wade, T. J. (2010). The relationships between symmetry and attractiveness and mating relevant decisions and behavior: A review. *Symmetry, 2*, 1081-1091. DOI: 10.3390/sym2021081

- Wells, T. (2013). Perceptions of human attractiveness comprising face and voice cues. *Archives of Sexual Behavior*, 42(5), 805-811. DOI: 10.1007/s10508-012-0054-0
- Wilson, J. M. B., Tripp, D. A., & Boland, F. J. (2005). The relative contributions of waist-to-hip ratio and body mass index to judgements of attractiveness. *Sexualities, Evolution and Gender*, 7(3), 245-267. DOI: 10.1080/14616660500238769
- Wiszevska, A., Pawłowski, B., & Boothroyd, L. G. (2007). Father-daughter relationship as a moderator of sexual imprinting: A facialmetric study. *Evolution and Human Behavior*, 28(4), 248-252. DOI: 10.1016/j.evolhumbehav.2007.02.006



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