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## Keeping Your Distance: The Relationship Between the Size of Psychological Distance and Sport Type

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### Abstract

Psychological distance (PD) measures individual responses to an intruder entering one's personal space. PD is based on four theories of human spatial behaviors - proxemics (Hall, 1990), personal space (Hayduk, 1981a, 1981b), interpersonal distance (Aiello, 1987) and privacy (Westin, 1967). The present study examined whether gender and type of sport influence the emotional attitudes towards the respective sport and the size of PD in pair dancers ( $n = 41$ ) and combat athletes ( $n = 42$ ). Dancers and females expressed a more positive attitude towards their respective sport. Moreover, combat athletes were characterized by smaller psychological distance than dancers. The results questioned the hypothesized positive relationship between positive emotions and smaller distance.

**Keywords:** psychological distance, emotional attitude, gender, sport

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## Introduction

Human interaction is largely shaped by the size of physical distance. Hall (1990) conducted numerous empirical projects focusing on various mechanisms of human functioning within social spaces. However, none of these studies included sport populations. Thus, the aim of the present study was to seek answers to the following questions: (a) how do men and women, who are represented in two different sport types (pair dance and combat sports), manage their distance from others?; and (b) does the distance size have any relationship with athletes' emotional attitude towards their respective sport?

## Psychological Distance

A number of personal distance constructs addressed different aspects of interpersonal relations as related to human spatial behaviors, and they were used in designing the measure in this study (Emotions and Psychological Distance Scale [EPDS]). These were (a) physical closeness, (b) emotions and thoughts, and (c) reactions to stimuli triggered by the intruder (or any person entering one's private areas [Bell, Green, Fisher & Baum, 2005]).

Based on Katz's (1937; as cited by Sommer, 1959) initial work, Sommer introduced the concept of *personal space* and emphasized the following features: mobility, invisible boundaries, and subject's body as a centre point. Hayduk (1981a, 1981b) conducted a few studies exploring the shape of person-specific spheres by registering the subjects' discomfort reactions to experimenter's approaching them from different directions. It was found that the larger the size of personal space, the stronger the reaction to any kind of spatial intrusions (Hayduk, 1981a). Consequently, Hayduk (1981a, 1981b) introduced four dimensions describing personal space: (a) size; (b) shape (independent of gender); (c) flexibility (the size and shape modifications determined by situations); and (d) permeability (individual differences in reactions to intrusions, unrelated to size and shape).

Nartova-Bochaver (2006, pp. 89-90) used the expression of *psychological space* to stress all the aspects of human existence bearing special meaning and representing parts of an individual's identity: territory, objects, attachments, and goals. Such a space (or sphere) could be characterized by volume, dimensions, and durability (i.e., boundary mobility). Also, she explored *life space*, taking into consideration physical distance, one's own body, the surrounding people, personal habits, preferences, and possessions. Further, Altman (1975, as cited by Bell et al., 2005) interpreted the same phenomenon in terms of *privacy*. He emphasized the function of space as a regulator in interactions between people. Elias (1993)

proclaimed privacy on a continuum between isolation and overcrowding as a tool by means of which a human portioned the excess to his/her own "I" for the entourage. Finally, Gibson, Harris and Werner (1993, as cited by Bell et al., 2005) maintained that the space surrounding a person provides the optimal level of *intimacy*. Intimacy was supposed to be interpreted as a quasi-mathematical sum of personal space and other aspects, such as visual contact, mimics, and conversation topic. Aiello (1987, as cited by Bell et al., 2005) emphasized the importance of additional factors, such as attempting to change the name *personal space* to *interpersonal distance*. According to his theory, the distance was an integral dimension constructed from body position, visual contact, and physical distance.

The first reaction to an intruder emerging into your personal space is disturbance in the equilibrium related to the most favorable distance kept from an entourage (Bell et al., 2005). Such a lack of balance results in an automatic, unconscious reaction to the invading organism: discomfort, increased level of stimulation, stress or fear. These effects are usually caused by an undesirable closeness and a sense of danger. Proshansky, Ittelson and Rivlin (1976, as cited by Elias, 1993) indicated that particular behaviors such as obstinate gaze, stubborn talking to someone not eager to continue conversation or loud listening to music might be interpreted as a violation of individual space's boundaries. Middlemist, Knowles and Matter (1976, as cited by Bell et al., 2005) conducted an experiment, where anxiety level was measured in a men's toilet facility. Results showed that the closer the experimenter stood to the participant, the later and shorter was the urination. Other physical arousal symptoms caused by space intrusions are increased heart rate and muscle tension (an organism's preparation for fight or flight), adrenaline boost, and extensive sweating (Pease, 2001; Tegze, 2006). Numerous studies focused on explorations of the more visible responses to personal space invasions, such as bursts of anger (Ryden, Bossenmeier & McLachlan, 1991, as cited by Bell et al., 2005), escape behaviors (Felipe & Sommer, 1966; as cited by Bell et al., 2005), and "poker face" and "silent suffering" phenomena (Bell et al., 2005; Elias, 1993; Pease, 2001).

Most researchers paid attention to *defensive techniques* or *compensatory reactions* used by subjects in the face of interpersonal space's deprivation (Elias, 1993). In conditions of dangerously reduced physical distance, an individual expanded psychic detachment from others as a means of protecting their well-being. This protection was achieved by eye gaze, mimics, gestures and posture (e.g., stiffening the body, muscle tightening, retracting the limbs, averting eyes, turning away, or covering oneself), muttering and wriggling, and focusing on one's own activities (see Bell et al., 2005; Elias, 1993). In the privacy theory (Westin, 1967; as cited by Bessa, dos Santos, Rocha & de Moraes, 2000), four dimensions were

distinguished and they paralleled some compensatory reactions and methods of handling space. They were (a) solitude (keeping away from being observed); (b) intimacy (isolating oneself from the surroundings, as a pair or group); (c) anonymity (non-recognition in a public place); and (d) reserve (withholding some information from the public; Westin, 1967; as cited by Bessa, dos Santos, Rocha & de Moraes, 2000). Issues of privacy and compensatory reactions were considered as diagnostic indicators and were essential in constructiong a scale measuring the size of psychological distance in the present study.

### **Proxemics**

Space, as a form of nonverbal communication was widely described by anthropologist Edward T. Hall in *The Hidden Dimension*, published first in 1966. Hall (1990) introduced the *proxemics* theory, as a form of communication between people by means of spatial language. This specific language is supposed to be a product of culture, in which it originated and was shaped. According to Hall, the perception of space is a dynamic process, and human spatial reactions can be explained by an individual's receiving and processing more or less consciously acquired information. Based on studies of white US citizens, Hall identified four fundamental spaces: (a) public distance (3.6 – to more than 7.5m), (b) social distance (1.2 – 3.6m), (c) personal distance (45 – 120cm), and (d) intimate distance (0 – 45cm). Concerning the distances between athletes in the sports selected for this study (partner dance versus combat sports), only the two latter spaces became crucial.

### **Personal Distance**

Hall (1990) described personal distance as space where people can touch one another. Intensive eye contact, speech as an important communication channel, and faint sensations are central characteristics of this distance. An individual can feel relatively secure inside it. This space plays a major role in “contact sports”, such as selected pair dance and combat sports, where athletes in their respective dyads can either cooperate or compete “at arm's length”.

### **Intimate Distance**

According to Hall (1990), intimate distance is a unique sphere and the intruder who crosses its borders, might be either a very close friend or an attacking enemy. In the intimate distance, the organism's reactions are immediate and space invasions may no longer be mutely “accepted”. It is a distance where touch and the

other person's scent or body heat experienced by thermoreceptors are far more important communicators than speech (Eliasz, 1993; Hall, 1990). In a sense, in "contact sports", bodies of two partners or rivals communicate with each other. Questions of importance to this study emerge: Do any significant differences occur in disciplines that involve an athletes' sensitivity to such stimuli as temperature or smell? Do pair dancers and combat athletes differ in reception and interpretation of signals which, in turn, can imply dissimilarities in psychological distance?

### **Spatial Behaviors in Sports**

So far, only a few studies have been conducted to examine spatial behaviors in the athletic population. Passos, Milho, Fonseca, Borges, Araújo and Davids (2011) verified the interpersonal distance tendencies of a rugby team's attacking subunits. The results showed that grouping patterns of attacking players were sensitive to different constraints, such as distance to the nearest opponents from the defensive line. Davis and Jowett (2010) examined the interpersonal relationship between coaches and athletes and revealed that the coach is a figure fulfilling three basic components of attachment: a secure base, safe haven, and proximity maintenance. Conversely, Heckel (1993) conducted observations of postcontest handshaking and other forms of physical contact between tennis and racquetball players showing the latter group as less frequently engaging in this tactile interaction. Locker rooms as a specific territory of athletes' privacy were also objects of a few studies (Curry, 1991, 2001; Fuller, 1992). Curry (1991) called the locker room a team's back-stage, a special space where fraternal bonding can be created, however afflicted by a competitive spirit. Finally, Schinke and Hanrahan (2009) introduced their book with "recipes" on how to interact with athletes, stressing proper forms of nonverbal communication (eye contact, physical distance, touching) in order to avoid any misunderstandings.

As presented above, previous attempts to understand how athletes negotiate spatial behaviors have produced important yet isolated insights. Clearly, little is known about athletes' space management in sport-settings, even less in everyday life - the subject of the present research. Hanrahan (2005) reported that after working with performers from different sports, dancers were characterised by less obvious rules of personal space compared to other athletes (extensive use of kissing, hugging and touching). These findings suggest that performers in pair dance might indeed keep closer distances to their entourage than do athletic performers, including combat athletes, a question warranting further investigation.



## **Emotions**

Human functioning can be described as a specific biorhythm of getting closer or further from one's surroundings, in order to keep well-being and arousal in equilibrium (Tegze, 2006). Distance to objects in the surroundings depend on time, mood, and individual need for recovery. Additionally, every intrusion into personal space causes an imbalance that requires explanation (Bell et al., 2005). There are two possible reasons for increased arousal: (a) a lover, family member or friend enters the subject's space, evoking positive emotions, or (b) a rival assaults the boundaries of personal distance, inducing a negative affect. The body's thermal sphere plays a major role in these instances, as through someone's heat and scent an individual can sense the feelings, or even be under their influence (Hall, 1990). Sympathy (e.g., liking or loving) and antipathy (e.g., disliking or hatred) are the primary origins of felt emotional arousal.

According to Dutton and Aron's (1974) famous studies, it is possible that emotional arousal caused by one stimulus (fear after crossing a suspension bridge) might be misattributed to another stimulus (attractiveness of a female interviewer). Excitation transfer and affect misattribution were objects of numerous studies (Barclay & Haber, 1965; Oikawa, Aarts & Oikawa, 2011; Payne, Cheng, Govorun & Stewart, 2005; Schwarz & Clore, 1983). Some were administered with the use of distance where positive or negative stimuli were moved towards or away from participants by using manipulation (Mühlberger, Neumann, Wieser & Pauli, 2008), priming (Williams & Bargh, 2008), or imagination (Davis, Gross & Ochsner, 2011). In all cases, the further away the negative stimulus, the weaker and less negative the emotional responses. Is it possible then that emotions, positive or negative, caused by the intruder entering the athlete's personal space, whether in training or a contest, might be misattributed to the general attitude of one's respective sport? Could the attitude be shaped by distance through means of misattribution?

Many studies have suggested that distance itself can shape people's attitudes and behaviors. According to Crusco & Wetzel (1984; as cited by Elias, 1993), a waitress's touch increased the tip's size. Jacob and Guéguen (2012) showed that closer interpersonal distance was associated with more frequent and higher tipping. The closer to each other four- and five-year-old children were, the more frequently they invited one another to join a game or play (Bokus, 1986; as cited by Elias, 1993). In adult samples, distance limitation intensified reciprocal sympathy (Storms & Thomas, 1977; as cited by Bell et al., 2005), improved the impression of confederacy (Patterson & Sechrest, 1970), and facilitated helping behaviors

(Baron & Bell, 1976), and aided compliance with small requests (Glick, Demorest & Hotze, 1988).

Results of studies on athletes' emotional attitudes towards intruders entering their psychological space have not been yet reported. It is assumed that in the case of "contact sports" such as pair dance and combat sports, the closeness of two bodies evokes individual affect reactions and feelings aroused by the other person's emotional influence. Would that cause any significant differences in general emotional attitude towards particular types of sport? Would such potential differences be related to perception of distance between people? We hypothesized that pair dancing (i.e., cooperation in a dyad, thus potentially succeeding together) would cause a more positive affect than combat sports (i.e., competition in a dyad where only one person can win).

### **Gender Differences**

Previously conducted studies mostly confirmed the existence of gender differences in keeping personal space. As early as 24-month-old girls preferred to stay in closer proximity to their mothers than did boys at that age (Buss, Brooker & Leuty, 2008). Women's toleration of improperly proximate distances was higher than men - they will come, and let others approach, closer (Aiello, 1987; as cited by Bell et al., 2005; Elias, 1993). Females were also more experienced in receiving and sending intimate nonverbal communications (Crawford & Unger, 2000; as cited by Bell et al., 2005). Further, men's reactions to intruders were more negative but with some exceptions (Patterson, Mullens & Romano, 1971; as cited by Bell et al., 2005). Reciprocal sympathy tended to diminish the distance between women (Heshka & Nelson, 1972; as cited by Bell et al., 2005), a phenomenon not detected among men (Crawford & Unger, 2000; as cited by Bell et al., 2005). Men also paid more attention to one's own territory (Nartova-Bochaver, 2006). Bleda and Bleda (1978; as cited by Bell et al., 2005) showed that a male intruder was perceived as more troubling than a female's invasion into that space. Byrne, Baskett and Hodges (1971) as well as Fisher and Byrne (1975; as cited by Bell et al., 2005) studied gender differences in spatial positioning. More often men took places opposite to someone they liked, while women chose to sit next to friends. Interestingly, intruders sitting in these preferable locations for persons who were liked caused more discomfort than anywhere else.

The results reviewed above presented gender differences in the general population. In the case of athletes, there are only two experiments showing dissimilarities caused by sex. In the first one, Lee and Roberts (1981) by using a modification of the Comfortable Interpersonal Distance Scale, indicated that squash players and

females let a stranger approach closer than badminton players and males did. Similarly, Kneidinger, Maple and Tross (2001) showed that women from softball teams used touch more often than did male baseball players.

For purposes of the present study, it was expected that gender dissimilarities should occur in psychological distancing. Further, possible differences between men and women in emotional attitudes towards their respective sports were important questions as well. Our focus was on two affect signs (positive or negative) and on dyad sports. Thus, two groups of performers were included in the study: pair dancers (i.e., cooperation as the driving force in performance, stereotypically connected with more positive emotions) and combat athletes (i.e., competition as the driving force in performance, stereotypically associated with a more negative affect). Therefore, the purpose of the study was to examine whether the type of sport and gender would significantly impact emotional attitudes towards one's sport and the size of PD.

## **Materials and Methods**

### *Participants and Procedures*

Forty-one pair dancers (22 women, 19 men; age  $M = 26.41$  years;  $SD = 5.38$ ) and forty-two combat athletes (21 women, 21 men; age  $M = 24.50$  years;  $SD = 3.17$ ) participated in the study. They were active athletes, selected from respective sport-fan groups via internet social portals. Volunteering participants gave informed consent and, next, received the survey attached to an e-mail. They completed the EPDS and sent the survey back as an attachment in a reply message. Going through all procedures took about 20 minutes.

### *Materials*

The *Emotions and Psychological Distance Scale* (EPDS) was designed by the first author for the purpose of this study. Part 1 gathered general information about the participants (e.g., age, sex, and education level). Part 2, "Emotions", measured the athletes' emotional attitude towards their respective sport. Based on *Judgments of Environmental Quality Scale* and *Personal Space Evaluation Scale* (Fisher, 1974), as well as results of the pilot study, 18 bipolar adjective items were selected as the most often used to describe the two types of sport (pair dance and combat sports). The items were negative-positive, stimulating-boring, tense-relaxed, comfortable-uncomfortable, delicate-brutal, depressing-cheerful, good-bad, pleasant-unpleasant, crowded-uncrowded, roomy-cramped, painful-soothing, far-close, invading-noninvading, liberating-restricting, threatening-safe, convenient-inconvenient,



gentle-aggressive, and closed-open. Participants marked their choice on the 100 mm axis, representing a continuum between two possible antonym-ends. In each pair, the “positive” emotion was specified, and the distance from it to the marking was measured. The positive adjectives were situated on different sides of the paper in order to prevent automatic answering. The mean was calculated from all items, created “Emotions” (“EMO”) indicator, and portrayed the emotional attitude of an individual athlete towards his or her respective sport. The lower the value of the indicator, the closer to “positive” emotions were the participant’s markings. In the current sample, Cronbach’s alpha for this subscale was acceptable (.86).

Part 3, “Psychological Distance”, was a list of 29 sentences describing athletes’ spatial behaviors in everyday life as determined by the first author (see Table 1). Participants indicated to what extent the statement describing him or her was true, using the 5-point Likert scale with answers ranging from 1 (*Definitely not*) to 5 (*Definitely yes*). The total mean for all the item responses was generated by the “Psychological Distance” (“PD”) indicator. The lower the mean value represented, the smaller the psychological distance that was kept by the athlete from the social entourage. Several items were constructed with an inversion to prevent automatic answering. Cronbach’s alpha for this subscale reached a satisfactory level (.85).

## **Results**

Two (gender: men/women) x 2 (discipline: pair dance/combat fighting) analyses of variance (ANOVA) were conducted. All calculations were done using the *Statistical Package for the Social Sciences* (SPSS) 14.0.

### *Emotions (EMO)*

The analysis of variance revealed no significant interaction between gender and type of sport. The main effect of the type of sport on the “EMO” indicator was significant,  $F(1, 79) = 37.85; p < 0.001; \eta^2 = 0.32$ . The pair dancers showed a more positive attitude towards their sport ( $M = 20.23; SD = 9.38$ ) than combat athletes did ( $M = 34.51; SD = 11.76$ ). Also, the main effect of gender was detected,  $F(1, 79) = 5.37; p < 0.05; \eta^2 = 0.06$ . Women perceived their sport closer to a positive affect ( $M = 24.64; SD = 12.93$ ), than men ( $M = 30.48; SD = 12.08$ ; see Figure 1).

### *Psychological Distance (PD)*

Table 2 shows the mean “PD” values for each group. In every case, means are below 3; therefore the most frequent answers were 1 (*Definitely not*), 2 (*Rather not*) and 3 (*Don’t know*). Furthermore, the analysis revealed a significant main effect of the sport type,  $F(1, 79) = 4.58; p < 0.05; \eta^2 = 0.06$ . Combat athletes denied the

statements given in the “Psychological Distance” subscale more frequently ( $M = 2.26$ ;  $SD = 0.40$ ), than pair dancers ( $M = 2.47$ ;  $SD = 0.50$ ). Because the subscale items were created so higher general score in answers would connect with his or her larger PD’s size, thus combat athletes may be characterized by smaller PD than pair dancers (see Table 2). No significant gender effect was revealed with regard to PD.

## **Discussion**

The aim of the present research was to examine whether gender and type of sport differentiated the athletes’ emotional attitudes towards their respective sport and the size of psychological distance (PD).

First, the results confirmed hypotheses that pair dancers would describe their own sport as more connected with positive affects than combat athletes. In case of both sports, the presence of each person in a dyad is essential and desired. Crossing the intimate space borders causes increased arousal (Bell et al., 2005; Hall, 1990), which leads to emotional attributions: a positive affect sign is given to friends, negative to rivals. Consequently, it is supposed that in dancing pairs, repetitive reciprocal sympathy adds to a more positive emotional attitude towards the sport. On the other hand, combat athletes deal with rivalry, which might influence more often a negative evaluation of the triggered affect.

Second, women considered their sport as evoking more positive feelings than men did regardless of the type of sport. Most recent studies showed females as more pessimistic than males (Chang, Tsai & Lee, 2010; Helweg-Larsen, Harding & Klein, 2011), which stands in opposition to current results. On the other hand, this increased positivity in affect can be explained by women’s more intense processing and expressing emotional experiences (Wojciszke, 2003).

From the two sport types selected for the present study, combat athletes appeared to maintain a smaller psychological distance towards others than did pair dancers. This effect continues in its opposition to conclusions from previous studies linking positive emotions with smaller PD’s. For example, Strayer and Roberts (1997; as cited by Bell et al., 2005) showed that people receded from each other when the conversation’s topic seemed unpleasant. On the other hand, Allgeier and Byrne (1973; as cited by Bell et al., 2005) demonstrated a decrease in distance in cases of similarity or attraction between the participant and experimenter. Clearly, further research is needed to establish more robust findings including athletic populations.

One of the basic issues raised by the present study was the relationship between emotional attitude and size of psychological distance. Contrary to expectations

combat athletes who, in addition, showed a less positive affect towards their sport, kept a smaller PD than the pair dancers. Possibly, the unspecified definition of “emotional attitude” towards the respective sport could have contributed to this pattern in the data. The adjectives used in the “Emotions” subscale in the EPDS assessed the affect induced by sport in a more general way. In future investigations, this part of the questionnaire should enclose more adjectives applied to emotions triggered by intruders (partners or rivals) who enter athletes’ intimate distance during practice or competition.

Alternatively, the principle that the more negative the feelings the bigger the PD might itself be incorrect. The possibility of an opposite relationship occurring between emotions and PD must be taken into account in light of the current results. Namely, combat athletes who theoretically were supposed to experience more hostility towards their rival, let the intruders come closer and felt less discomfort caused by space violations than dancers. The ideas of habituation and adaptation could partially explain this phenomenon. Sosnowski (2000) defined habituation as a gradual or complete loss of orientation reflex as a result of frequent stimulus exposure. In the case of combat athletes it is possible that stimuli evoked by an intruder’s penetration of intimate space might be habituated, leading to arousal vanishing and the PD’s size decreasing. Hartmann (1958/1939; as cited by Kofta & Doliński, 2002) distinguished autoplasmic adaptation (one adjusts to the surroundings), alloplasmic adaptation (one modifies and influences the surroundings to improve his/her own conditions), and adaptation through environment selection (one seeks and chooses the setting that suits him/her best). Based on these concepts, combat athletes might have displayed autoplasmic adaptation (adjustment), searched for a suitable sport (adaptation via environment selection), or both, which allowed them to keep preferable distances from others. Future investigations need to address these two potential adaptation mechanisms. These examinations should factor in the nature of the task in combat sports that thrives on the close presence of the rival (given requisite preparation for the competition: technical skills and physical conditioning). Combat athletes might be alert to signals preceding any kind of attack in a special, sport specific way (i.e., a welcoming of those signals), thus, ignoring the proximity of the other body and letting the intruders approach closer so as to respond to them with a well learned counter-attack. On the other hand, dancing could evoke the kind of excitement similar to sexual arousal. Increased sensitivity to stimuli might lead to a higher reception of the intruder’s presence: scent, body heat, muscles or skin contact, each contributing to a bigger PD among pair dancers.

No gender differences were revealed in the PD size, contrary to previous experiments in sports where such dissimilarities were indicated (Kneidinger, Maple

& Tross, 2001; Lee & Roberts, 1981), and in the general population where women were presented as more tolerant towards smaller distances (Aiello, 1987; as cited by Bell et al., 2005), thus allowing intruders to come closer (Eliasz, 1993), and where men reacted to personal space violations in a more negative way (Patterson, Mullens & Romano, 1971; as cited by Bell et al., 2005). According to Atsuko (2003) there is not enough evidence to prove that women are always characterised by allowing smaller personal distances -- it rather depends on the sex of the approaching person and on the situation. Future explorations should focus on personal variables and variables that impact athlete space management in different sports. Potential variables taken into consideration might be temperamental differences, and such personal traits as self-esteem, self-image or need for social approval.

It might be essential to study the patterns of psychological distance and its relation to emotions in a population of professional and amateur athletes, since surrounding space may influence the well-being of a disciplined person. In a fast-paced world, with its stresses and multiple frustrations, people are looking for peace. Maybe by modifying psychological distances it would be possible to ease one's tensions instead of accumulating them.

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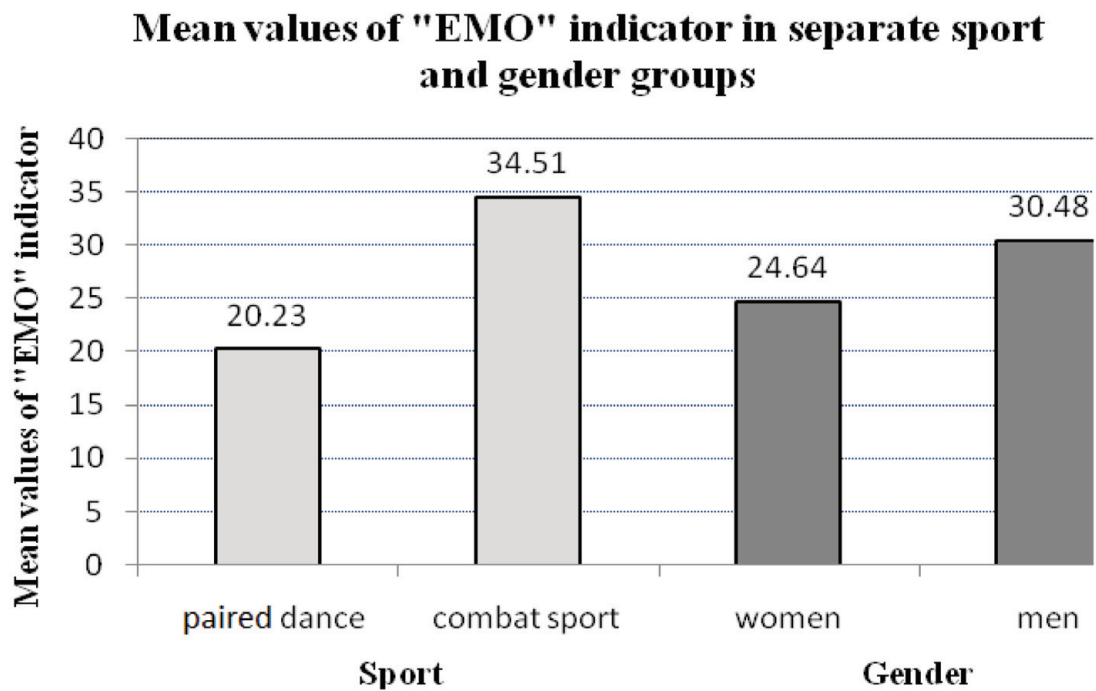


Figure 1. The mean values of “EMO” indicator in separate groups (sport and gender).

**Table 1.** *Items from the “Psychological Distance” Subscale.*

1.	I like to be surrounded by other people.
2.	A few times in my life I felt uncomfortable in the presence of someone else.
3.	I cuddle and kiss my partner only when we are totally alone to avoid spectators.
4.	At a disco club, I feel very good in an unknown crowd.
5.	It disturbs me when a stranger touches me by accident.
6.	I feel embarrassed when I sense another person's breath on my neck.

7. When a stranger stands or sits next to me, I remain in my place.
8. Only my partner has a right to embrace me.
9. I feel uncomfortable in a bus while taking a seat in a “warm” place vacated by someone few seconds before.
10. I avoid eye contact with other passengers in a subway.
11. I prefer to stop and listen to a saleswoman when she is attractive.
12. In a crowd, I sweat more intensively.
13. I like isolation, that is. being away from other people.
14. Using public toilets is a problem for me, as I feel uncomfortable in an unfamiliar place and, additionally, in being surrounded by strangers.
15. In an overcrowded bus I keep as far from anyone as possible to prevent physical contact.
16. I behave aggressively when someone suddenly approaches me and asks me to lend him\her money.
17. Feeling I might be put at risk, I stay away from strangers in order to protect myself - and also not to be a threat to others.
18. When someone unknown joins my conversation with friends, I start to wriggle and make needless gestures.
19. Anger triggers my willingness to escape and separate from others.
20. It’s stressful for me when in a subway someone grabs a holder just next to my hand.
21. I prefer to wait than get into a packed elevator.
22. I’m distracted each time someone takes a seat opposite me in a library.
23. I can talk with anyone, even about the most personal matters.
24. While shaking hands with a newly acquainted person, I stay as far away from him/her as possible.
25. It disturbs me when someone next to me listens to very loud music.
26. I like to be lost in a crowd, to feel anonymous, for instance at concerts or during lectures.
27. In a new place, while taking a seat I put my bag on the chair next to me so that no one can occupy it.
28. The intensive scent of another person’s perfume irritates me.
29. I have problems with concentration when someone stands too close to me in a queue.

**Table 2.** *The mean values of “PD” indicator in separate groups (by sport and gender).*

		Sport	
		Pair dance	Combat sport
Gender	Women	2.44	2.21
	Men	2.51	2.31
		2.47	2.26

