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ENVIRONMENTS FOR PHYSICAL ACTIVITY: WOMEN AND SPORTS FACILITIES

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ENVIRONMENTS FOR PHYSICAL ACTIVITY: WOMEN AND SPORTS FACILITIES

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SUMMARY

Public space and sports space are used differently by men and women, depending on their experience, social background and ethnicity. Based on an investigation of 758 female and 258 male sports participants, this text calls for gender differences in psychological needs to be considered in the context of sports environments. Preventing women from stopping physical activity through sensitive planning and design of sports environments is a worthy goal.

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TAKE HOME MESSAGE:

- Women prioritise safety, intimacy and flexibility when nominating their needs regarding sports facilities. These needs require facilities to have well-lit parking areas for safe entry and exit; good lighting when facilities are in use, particularly at night; and an adequate level of privacy for users, especially older women. In addition, women need more flexibility in terms of accessing sport environments in order to combine physical activity with their private and working lives.

INTRODUCTION

In an essay in 1956, the German philosopher Günther Anders told the story of the king who gave his son a horse and carriage because the son was always running around among the animals and peasants. Researcher Gertrud Pfister retold a version of this story in which a daughter is given the horse and carriage:

> 'Now you no longer have to walk', were his words;
> 'Now you must no longer walk', was their meaning;
> Now she could no longer walk, was their effect (Pfister, 1993, p. 159)

The fairy tale, originally about technology's effects on people, now becomes a story about the girl's socialisation: her possession of, and subsequent eviction from, her physical surroundings. The story illustrates how her possibilities and experiences of physical activity became limited. In many ways, women are given less space than men are: as adults, they rarely have their own room; they do not represent a physical threat to others at night—in fact, they often avoid going outside after dark. Also, women's body language often suggests reserve and modesty; their demeanour does not claim their own space. Gender studies have overlooked the motor and bodily aspect of girls' personal development. This omission seems surprising at first glance, because a sense of one's body is crucial to the development of identity; body and movement play important roles in the development of identity and action competence. The social and spatial structures of children's life space help determine their experiences of interaction, body and movement. Bodily experiences are central to acquiring motor, social and intellectual skills—it is not a big leap from physically grabbing something to mentally grasping something.

Concerning space, another example of the difference between the genders is found in the investigation of the psychologist Martha Muchow (1892–1933) in the 1930s. She investigated children's 'life space' in the city. On a city map, she asked 14-year-old girls and boys to colour in blue all the streets that they knew well and played in. They were asked to colour the streets they knew only a little in red. She labelled the blue areas 'play spaces' and the red areas 'peripheral spaces'. Together these areas constituted the children's life spaces. It was striking that the girls' peripheral spaces were only half the size of the boys' spaces. Peripheral space is crucial to the conquest of new territories and to the readiness and initiative to meet new challenges. The boys were playing more outdoors, were more expansive and were better prepared to tackle new tasks.

Recent research also shows that public space is used differently by boys and girls, depending on their experience, social background and ethnicity; for example, the use of a public space such as a playground. In an area with a playing field, a table tennis table and green spaces, the girls gathered in a few places while the boys spread out all over the space, especially around the playing field and the table tennis table. Thus, the boys' playing behaviour covered more physical space than the girls' behaviour. The playing field was most attractive, but the open area without playing equipment also appealed to them. The girls mostly stayed by the playhouses and frequented the playing field least. However, if the playground was monitored by an adult, there tended to be a greater number of girls on the field because girls are allowed more freedom to play when an adult supervises the space. They also get less 'crowded out'.

In general, though, girls tend to perceive their surroundings as a stage or as a medium for interaction, while for boys the space is an object to be manipulated. Spaces that girls want to use are often taken by boys, who are unwilling to give up their territory. Girls also

experience their environment while on their way to particular destinations—the shops or sports venues—while for boys, exploring an area is an aim in itself. Girls use their bicycles as tools to reach a destination, while boys use their bicycles as sports equipment. Therefore, knowing that girls play less frequently than boys in public spaces, and that the areas used by girls are smaller than those used by boys, research is needed into how urban spaces and sports architecture can be designed and organised to suit women's and girls' needs for movement and physical activity.

These gender differences in the use of space prompt the question of how urban planning can be used to give girls more chances to acquire the tools and characteristics that are associated with conquering more territory. Other topics for investigation are to understand how girls and women experience their surroundings, and to determine if they have particular environmental needs and how various environments meet those needs.

ENVIRONMENTAL PSYCHOLOGY: ARCHITECTURE AND HUMAN NEEDS

Since the early 1970s, the discipline of environmental psychology has explored the overlap between the environment and psychological needs. In the 1950s and 1960s, a research team investigated how best to plan the architecture of psychiatric hospitals to underpin the therapeutic work with the patients. The research soon extended to questions about the general relationship between people and the spaces, buildings and urban districts they inhabit; for example, the relationships between space and social behaviour, and people's need for both intimacy and privacy; and the suitability of cities for human habitation. These discussions produced new insights into the effect of light and colour on perception, and continued the health-related discussions of the 1950s about the significance of architecture in the successful cure of patients.

Architects create structures for human community and action, based on their knowledge and experience. Creating appropriate new environments for physical activity and exercise is important; the classic rectangular halls of traditional sports centres are not always suited to women and children, or to activities such as dance or martial arts. Sports centres are often designed without considering the wide range of human needs. Physical activity is much more than physical training—it is also an expression of the need for community and social interaction.

Physical activity can be a tool for maintaining or building health, for social meeting and for learning about our bodies. Modern work and life structures create new challenges in organising the time and space to accommodate people's need for movement. Physical exercise must be incorporated into daily life as freely and flexibly as possible. These challenges require new forms and new facilities.

When environments and psychology enter into dialogue, the aim is to approach the design of spaces from the user's world and expectations. Psychology can be a tool in the building process because it contributes knowledge of how humans perceive through their senses, and how they develop and interact socially. To design playgrounds and schoolyards for children's movement needs, architects and planners require knowledge of small children's sense of space. They also need knowledge of how to regulate social distance and of the relationship between intimacy and distance in connection with physical activities. Information

about human perception and analyses of the differences between appropriate environments for females and males are also required.

QUESTIONS TO EXPLORE

In terms of human movement and physical activity, this text will attempt to answer the following questions. Our discussion is supported by the research findings of an investigation into female needs in sporting environments.

- Through environmental planning, can we prevent girls and women from withdrawing from physical activity?
- Do women and men have different psychological needs in relation to environments, including indoor and outdoor environments?
- Which facilities and environments best support women's physical activity?

ENVIRONMENTAL PSYCHOLOGICAL NEEDS

No-one can remain indifferent to a place. Hospitals, houses or sports arenas are not just places with particular types of flooring, lighting and marking. They are also places where different kinds of people meet. Whether the participants feel good or feel insecure depends on whether their needs are met. However, it is not always easy to identify the users' needs. People have many needs, and these vary between individuals. Needs can be divided into primary (physiological) and secondary (acquired) needs. Almost 50 years ago, the psychologist Abraham Maslow set up a 'hierarchy of needs' in the form of a pyramid. At the bottom of the pyramid are the basic needs (food, drink, sex); above these basic needs are the needs for safety, love and being valued. At the top of the hierarchy pyramid is the need for self-realisation, which, according to Maslow, can only be achieved when the other needs have been met. We can consider a similar hierarchy of human needs in the planning of new architecture. For this purpose, we propose the following needs: the need for safety, the need for clarity, the need for privacy, the need for social interaction, and the need for identity.

The need for safety

The need for safety is a central human need, and so the design of every space must consider this need. The environment should be experienced and respected as a protected territory by both users and strangers. However, this is not always the case. For example, when a woman goes for a jog at night, her need for safety is not always met. She may be tense while running, always looking for unexpected events and potential threats. Another example is the situation of 'playing away', which often includes lack of audience support and referee help, sometimes even hooliganism and violence. In these examples, sports architecture could meet the need for security by creating a system of well-lit running paths, or designing an arena or stadium to prevent assaults.

The need for clarity

The need for clarity encompasses the need for the physical space and its signage to be easily interpreted. Spaces, especially those used by many people at the same time, should be designed to easily allow an overview of the space. Signage should depict the hierarchy of the functions, so that users can differentiate between important and less important

information. For example, Europeans describe feeling very alienated in Japan when they are unable to interpret even the most trivial signs.

The need for privacy

The need for privacy is met through planning that divides facilities into private, semi-public and public spaces. Changing rooms are semi-public spaces that are neither open to everyone nor totally private. Sports centres are often public or semi-public spaces where people must buy a ticket to enter; a fitness centre is also a semi-public space because users must pay to get in. The space is not open to everyone, which gives the members a sense of security. The fitness machines and treadmills are arranged to meet the need for privacy: not so close that users are bothered by the proximity of the other users, but not so far away that the individual user feels exposed. The need for privacy must also be met in urban sports settings. Finding the optimal balance between privacy and distance requires knowledge of the social routines and rituals of different sports environments.

The need for social interaction

From birth, human beings are social creatures with a need to communicate. Environments designed to facilitate contact makes social interaction easier, while environments that are centralised or hierarchically organised make interaction more difficult. Auditoriums are often designed so that the audience will focus primarily on the speaker. In contrast, a circular formation promotes eye contact and exchanges. Sports environments can differ markedly in how they organise social interaction. In Denmark, popular gymnastic gatherings in the summer are social occasions where people sit on rugs with thermoses and chat while they wait to perform. They move freely around the landscape, not staying in a set place, and change roles from participants to spectators.

The need for identity

Most people remember places from their childhoods that were very important to them. These might be a tree house, a gravel pit or—in my own case—a large oak tree beside the long jump track where we gathered after athletics training to talk about the really important things in life. Architectural planners should investigate which architectural qualities make it easier for people to bond with their surroundings emotionally. Sport has an important identity-forming function, which puts great demands on the design of sports facilities: they must fulfil expectations for progress and flexibility and simultaneously give users a sense of belonging. A shiny, brand new fitness centre may satisfy the users' need for comfort and clarity, but can also contribute to feelings of loneliness and alienation. Creating a balance between the need to provide new and appropriate sports environments and preserving old environments filled with the memories of generations is especially challenging.

AN INVESTIGATION OF FEMALE NEEDS IN SPORTS ENVIRONMENTS

In 2005, the Danish Foundation for Culture and Sports Facilities (Lokale- og Anlægsfonden) convened an expert committee on women's needs in sports architecture. Committee members included two architects (Dorte Mandrup and Mette Mogensen), a consultant (Laura Munch) and a psychologist (Kirsten Kaya Roessler). The committee initially launched an investigation into general environmental psychology, and later an investigation into

women's use of sports facilities. The results of this investigation were examined and further developed, and are briefly presented here.

The investigation was based on the hypothesis that gender differences exist concerning expectations, barriers and wishes regarding indoor and outdoor sports facilities. A total of 758 female and 258 male sports participants (aged above 18 years) were asked about their use of sports facilities in a questionnaire. The survey aimed to highlight differences in the psychological needs of men and women in relation to sports environments, and to determine if these needs differed between indoor and outdoor environments. The results showed both similarities and differences between the needs of the genders. Men and women had similar motivations for exercising, such as health, fitness, social interactions, fun and relaxation. When asked which environments needed change, they mentioned the changing rooms; both men and women wanted renovated and cleaner facilities. Both genders, especially the older respondents, mentioned the lack of toilets in outdoor facilities.

However, men and women showed significant differences in the psychological factors associated with sports participation. Factors such as fear and embarrassment especially determined women's exercising behaviour. For example, the fear of violation leads to a feeling of insecurity on a dark running track; such feelings are important barriers to participating in outdoor physical activities. When exercising indoors, awkwardness was frequently named as a barrier. For example, when lying on their backs doing Pilates exercises, women feel more exposed to an observer's gaze than when training with weights. Thus, women feel a need for privacy and safety, because some positions and movements make them feel more vulnerable and visible in their surroundings. Here, for example, the light from an un-curtained window is viewed as frightening rather than 'enlightening'. The fear of losing control was especially associated with the outdoor environment.

The above description is only a short summary of the results from our investigation. However, on the basis of the study, we make the recommendations discussed below.

RECOMMENDATIONS FOR THE DESIGN OF PHYSICAL ENVIRONMENTS

If sports environments are to serve as more than just a physical location for sports activities, they must meet other important needs of the users and promote the users' mental wellbeing. As we have discussed, form can also embody meaning and content. We list here factors to consider in relation to the intended sports or physical activities, either when analysing an existing environment or when planning new environments.

Infrastructure and accessibility

The infrastructure of a sports facility influences user behaviour. For example: How easy is it to get to the facility? Are there bicycle stands and parking places? Is the facility far from public transport? Figure 12-1 shows how an outdoor space can be designed to provide accessibility for outdoor training. Especially for women aged between 31 and 50 years, it is important that sports facilities are accessible, which includes being close to the private home, having easy and convenient parking, and having reasonable user fees.

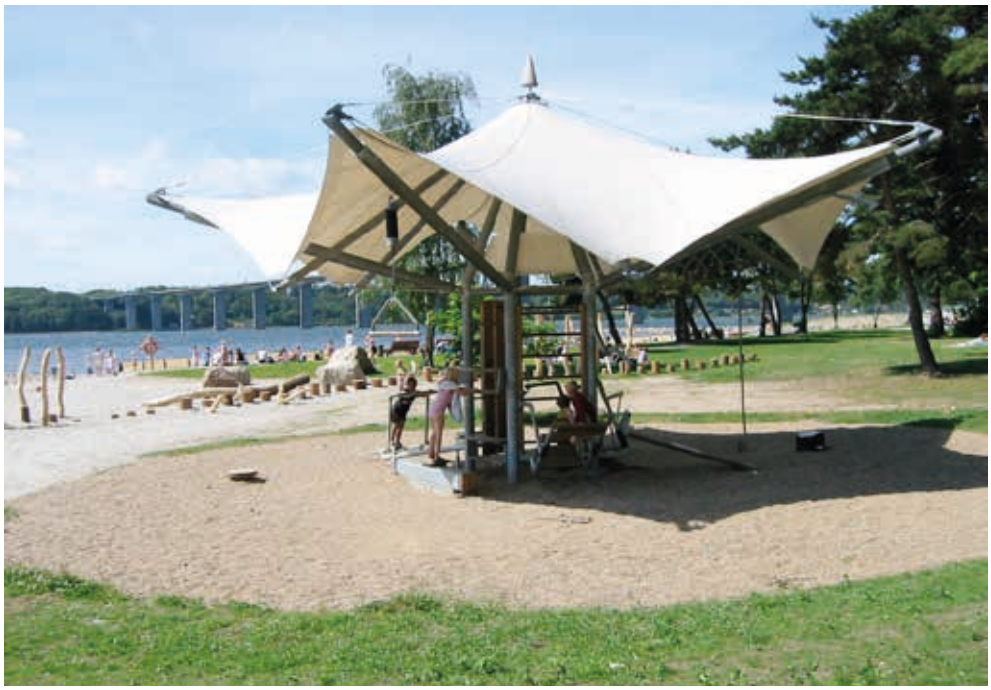

Figure 1. Pavilion for outdoor training, Vejle, Denmark [Photo: Hans Lyngsgaard]

Building materials

The various types of building materials—wood, concrete, brick and synthetic materials—are experienced differently. The experience often depends on the properties of the material's surface. For example: What is the material's structure or texture like? Is it smooth concrete, is the wood varnished or untreated? The material and its treatment communicate different signals. Wood, for example, is a natural building material that is experienced as aesthetically pleasing. Glass can be used architecturally to create transparency or lightness in a building.

Light and privacy

It is important to consider how the environment can protect its users, can separate or link activities, and can promote social contacts or privacy. Lighting also needs to provide an overview of the facility and contribute to the aesthetics of the environment. Therefore, the distribution of light sources in the environment is important. Car parks must be well lit to allow safe entry to the facilities. Indoors, users need to be able to look outside without being watched by strangers.

Women are more likely to suffer embarrassment or shame when exercising; privacy is especially important to older women because many physical activities are performed on the floor. Figure 12-2 shows how an outdoor and an indoor space can be designed to provide both adequate natural lighting and a private area for activities that may be embarrassing to some women.

Figure 2. Designing facilities for light and privacy. The second option combines indoor and outdoor spaces and provides adequate natural lighting, but also includes a private exercise area that is not visible from outside. [Source: Dorte Mandrup, architect]

In outdoor facilities used for walking, biking and running, safety and security are issues especially important (Figure 12-3). Artificial running tracks are attractive for users when they are adequately lit and other users are present. The width of a running track must allow for possible communication. A running track around a football field might encourage parents to be physically active while waiting for their children to finish playing.

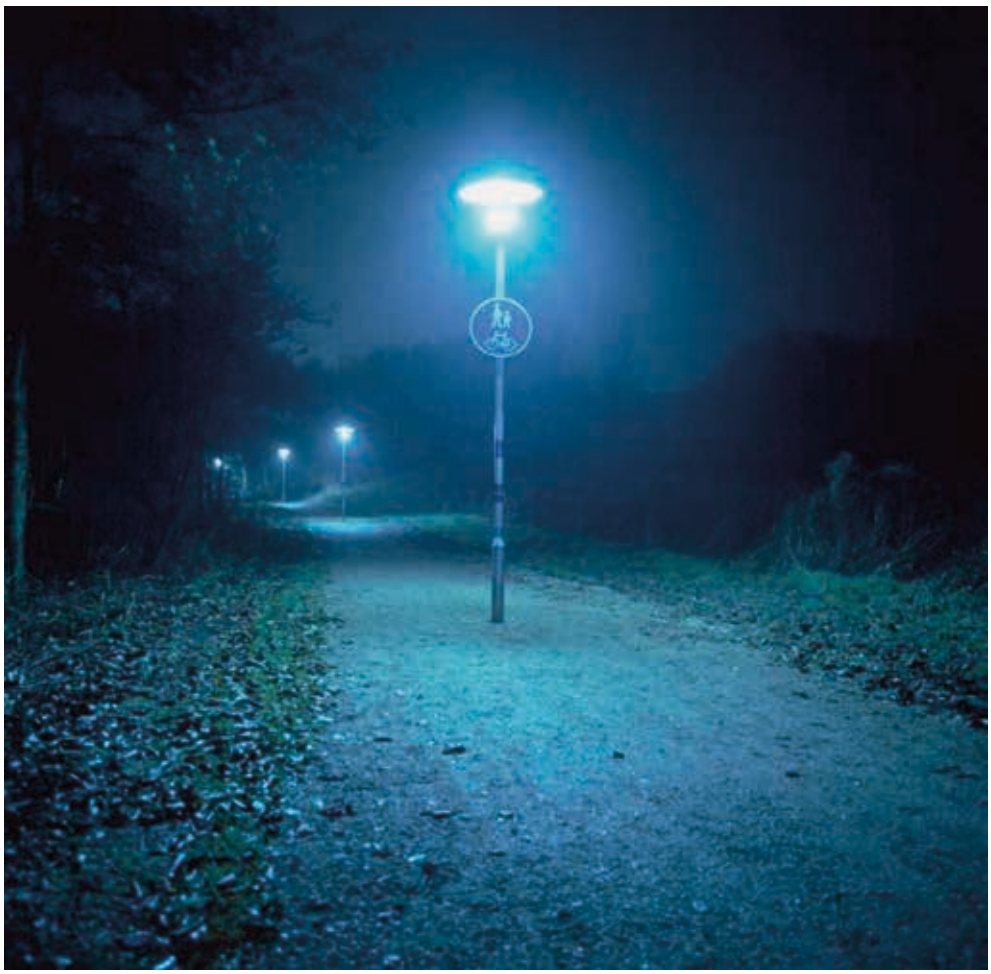

Figure 3. An uncomfortable and scary exercise track at night. [Photo: Christine Capetillo]

CONCLUSION

Environments for physical activity can offer the opportunity to change and to challenge physical activity, even in densely populated areas. Movement should not be forced into a particular framework but allowed freedom to develop. A space is considered challenging if it makes potential users want to test it right away—to invade it, feel the surface, climb up, slide down or run across it. Whether or not people consider a space challenging depends on many factors, including their age, gender, knowledge and interests.

Female-oriented design and planning of sports facilities should create:

- opportunities for social activities, such as sitting together and communicating
- environments that are easy to access; facilities must be close to home, with good transport connections
- environments that are experienced as safe, with regard to both traffic and other people.

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