EXERCISE FURNITURE DESIGN PROMOTED HEALTHY LIFESTYLE?

Abu Bakar Abdul Aziz  
Faculty of Art & Design  
Universiti Teknologi MARA, Melaka  
abubakaraziz.ide@gmail.com

Muhammad Muizzuddin Darus  
Faculty of Art & Design  
Universiti Teknologi MARA, Melaka  
muhammad.muizzuddin.darus@gmail.com

ABSTRACT

This paper discusses the application of physical exercise on furniture design. Physical exercise is important for people to maintain the health and prevent from the chronic disease. Physical exercises can be categories into aerobic exercise, anaerobic exercise, and flexibility exercise. Each of categories of physical exercises has a benefit itself. Recently, people in urban dwelling spent more time sitting on furniture that causes unhealthy behaviour prior to sedentary lifestyle. Sedentary behaviour is best defined as a distinct class of behaviour that involves sitting and low levels of energy expenditure, typically less than 1.5 metabolic equivalents (METs). The application of physical exercise on furniture is one of the solutions to decrease the sedentary lifestyle. In design process, design development is more integrated with several aspects of design as aesthetics, functionality and technicality. The aesthetics aspects applied into furniture design were more to emphasize the design appearance and emotion. Functionality aspects on exercise furniture are focus on usability in design. The applications of physical exercises in furniture design can divided into aerobic exercise, anaerobic exercise, and flexibility exercise. Technicality aspect on exercise furniture is more on the application of technology and material. It is plays the role to make design more functional. The application of technology and material into exercise furniture can influence the design appearance and function. Finally, the aesthetic improvements and enhanced functionality of the design can give the better impact in the application of physical exercise on the furniture design. The integrated function of furniture such as sitting, reclining and lying with physical exercise can encourage and give the awareness for people to make the body movement and reduce the sedentary lifestyle. Exercise furniture can be use as daily activities for support various people activities such as sitting, rest, and relaxing and the same time promote and encourage people for healthy behavior in their lifestyle.

Keywords: aesthetics, functional, furniture design, physical exercise

1. Introduction

Healthy lifestyle can defined as any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage (Kasl & Cobb, 1966). Exercise is a one of the components of healthy lifestyle (Marilyn & Sharon, 2004). Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final or an intermediate objective the improvement or maintenance of physical fitness (Carl, Kenneth, Gregory, 1985).
Exercise can be categorized to Aerobic, Anaerobic and flexibility. Aerobic, literally meaning ‘with oxygen’, refers to the use oxygen in a generating process. Anaerobic means ‘without air’ and refers to the energy exchange in living tissue that is independent of oxygen. Flexibility is stretching exercises for the purpose of increasing one’s range of motion (Kevin, 2008 & Carole, 1998).

In this paper, we intend to provide some viewpoints about Exercise Furniture based on the following structure: (1) introduction; (2) sedentary lifestyle; (3) exercise furniture; (3) comparative study of exercise furniture based on different application physical exercise; (4) discussion; and (5) conclusion. The aim of this study is to determine how furniture exercise designs promote healthy lifestyle.

2. Sedentary Lifestyle

Sedentary behavior is best defined as a distinct class of behavior that involves sitting and low levels of energy expenditure, typically less than 1.5 metabolic equivalents (METs). The word sedentary derives from the Latin verb sedere, meaning to sit (Simon & Ernesto, 2011). Sedentary lifestyles are related with the obesity and a major risk factor for the metabolic syndrome or obesity (Earl, Harold, Ali & Umed, 2005). The Statistic of Malaysian overweight and obese is quite high. 30 per cent of Malaysians are overweight while another 30 per cent are obese (Liow, 2010).

In addition, only 11.6 percent Malaysians exercised regularly while 70 percent did not take any form of exercise (Chua, 2000). The statistic about the overweight and obese among Malaysian adult are disturbing situation. According Liow Tiong Lai stated that the obesity problems are faced by 5.8 million Malaysian, aged between 25 and 64. These ages are involved with the workers population. The recent studied are showed that 3 out of 4 Malaysians doing more mental work than physical work (Wan, 2011). This situation is tending to sedentary lifestyle at workplace especially at the office. Physical inactivity and sedentary lifestyle is a major office workers problem that effect their health and productivity. Physical activities and exercise will give a long-term benefit to the healthy. It is also influence work productivity both directly and indirectly through the facilitation of a more stable and dedicated workforce (Leon, James & Amity, 2009). This is importance to office worker to apply healthy lifestyle such as exercise and physical activity.

3. Exercise Furniture

With advancement of science and technology, people are adopting a sedentary lifestyle in which they spend more and more time watching television or sitting in front of personal computers (Leon, James & Amity, 2009). It is desirable for people to be able to perform exercises while watching television or working on the computer. Indeed, there is a need for exercise equipment that enables a user to perform indoor exercises, particularly when a user is engaged in an otherwise sedentary activity, such as watching television (Charles, 2010).

Furthermore, many people who live in small homes or apartment do not have a space for bulky exercise equipment. It is thus desirable to have exercise equipment that is designed as an attractive piece of furniture which calls “Exercise Furniture”. Exercise furniture development involved into several approaches in terms of aesthetics, functionality and technicality.
4. **Comparative Study of Exercise Furniture Based on Different Application of Physical Exercise**

In design process, design development is more integrated with several aspects of design such as aesthetics, functionality and technicality. Aesthetics, functionality and technicality have their own approach towards application of physical exercise on furniture design. This paper will discuss the approach in application of physical exercise on furniture design in term of aesthetics, functionality and technicality.

4.1 **Application of functionality in exercise furniture**

Functionality aspects in exercise furniture are focus on usability in design. The applications of physical exercises in furniture design can categories into aerobic exercise, anaerobic exercise, and flexibility exercise. Diagram 1 shows the comparison between the applications of each types of physical exercise on the exercise furniture design. Each type of physical exercises plays the role in exercise furniture design. Different types of physical exercise that applied into furniture can give the different impact to the exercise furniture design. In furniture design, the development of furniture needs to consider the direction of practicality, multifunction, comfort, and health. It is will increase the additional value of furniture.

![Diagram 1: The application of type of physical exercise on the furniture](image)

4.2 **Application of aesthetics in exercise furniture**

The aesthetics aspects applied into furniture design are more to emphasize the design appearance and emotion. In furniture design, consideration of the user emotion and aesthetic experience are important. It is will influence the emotion and design appeal.
Exercise will be a lot harder to maintain motivation to keep it up if the exercise is not fun and enjoyable (Graeme, 2007). By applying the comfort and fun experience into exercise furniture design, it will make design more attractive and enjoyable experience for the user. Attractive can affect the user emotion to make the design much better. It enhances the value of design and attracts the user to use exercise furniture for physical exercise. For example exercise furniture designed by Tobias Fränzel (see figure 2). Champ sofa is combining the exercise and sitting function into on design. Tobias Fränzel is applying the fun and enjoys experience such as boxing into the furniture. On the other hand, the exercise furniture that invented by Charles Bolick (see figure 1) is applying the exercise such as resistance band into the recliner chair and still maintains the comfort (Charles, 2010). Charles Bolick recognized a need for an easy-to-use exercise furniture that is aesthetically pleasing. It is will motivation and a passion to help people embrace a more healthful lifestyle.

![Figure 1: Exercise furniture by Charles Bolick](image1)

![Figure 2: Exercise furniture by Tobias Fränzel](image2)

4.3 Application of technicality in exercise furniture

Technicality aspect on exercise furniture is more on the application of technology and material. It is plays the role to make design more functional. The application of technology and material into exercise furniture can influence the design appearance and function. Although the function between exercise stool design by Josef Glockl (see figure 3) and Alan Heeler (see figure 4) are similar but the different materials applied into both furnitures making the design appearance different. It is because the target areas for both of exercise stool are different. Exercise stool design by Josef Glockl were used for office area and Alan Heeler’s design is for public area. It also enhanced the form of the exercise stool more unique and attractive. Both of the designs are encourage user for the body movement. It is can improve healthy lifestyle by reducing the sedentary lifestyle.

![Figure 3: Stool by Josef Glockl](image3)

![Figure 4: Stool by Alan Heeler](image4)
5 Discussion

An analysis based on the existing products that have been design by the designer and inventor in field of design.

5.1 Exercise furniture design promote healthy lifestyle

Exercise furniture should be an easy way to communicate people between the object (exercise furniture). Figure 5 shows how the fun and enjoys experience used by designers to encourage, attract and promote people to start their exercise without follow any complex instruction and give the positive affect to user emotion. Designer should not only focusing on technical and functional, but the aesthetic aspect which is important part to give user first affections on exercise furniture. If the exercise furniture design is focusing on functionality, it could the designer lack to apply the aesthetic aspect in the design consideration. Functionality and aesthetics of design should go parallel because the both aspect will affect each other’s (Norman, 2002).

5.2 Implication of emotion in exercise furniture

![Figure 5: The Champ Sofa](image_url)

Furniture is important thing that always related with daily people activities. The integrated function of furniture such as sitting, reclining and lying with physical exercise can encourage and give the awareness for people to make the body movement and reduce the sedentary lifestyle. Exercise furniture not only should consider the application of types of physical exercise, but also should consider the attractive and product experience. It should be integrate the aesthetic and functionality into exercise furniture. Both design aspect in design give the good impact to increases the positive affection of user to the exercise furniture design. Experience such as fun, pleasure, comfort, and enjoyment will encourage maintaining motivation and promote people to exercise. It makes a people feel good, relaxed and energized.
5.3 Advantage of exercise in furniture design

Exercise can help improve the quality of life. There are many potential advantage of exercise in furniture design. It can be divided into three components which is environment, human and product. The first component was environment. The advantage of exercise in furniture will make the environment to healthy space. It can educate and encourage people towards enjoyable exercising. The environment can make a big difference to how much people enjoy exercising. It can affect the emotion of people (Graeme, 2007). The second advantage is related for human. Exercise can help human to improve their physical and mental. It can help preventing illness, slowing down the ageing process, better state of mind, increase sports performance and improve on physical body. The last component was products which exercise furniture. The advantage of exercise furniture design was created as a tool to help people for healthy lifestyle. People live with the surrounding of furniture design which is one of them can give good advantage and benefit. The pleasure environment and attractive product can encourage and motivate people to enjoy exercising.

Figure 6: Three components

6. Conclusion

In conclusion, in this context of comparative study there are three aspects that need to be considered when designing exercise furniture which is aesthetic, functional and technical. As the first attraction and expression for user, aesthetic plays an important role to encourage users to try the product. The lacking of aesthetics aspect and preferring only for functional and technical aspects without grab the attraction and impression of users. It is going to be harder to maintain motivation to keep it up with exercise if pleasure experience like fun and enjoyment were not applied. Exercise furniture can promote people for healthy lifestyle in many ways but how people interact and communicate between the user and exercise furniture is more important to inculcate them for healthy behavior in their lifestyle.
References


