A Case Study of Wellness IT: Therapeutic Horseback Riding

Soojung Park
Dept. of Kinesiology
Inha University
Incheon, KOREA
psy@inha.ac.kr

***Abstract*—Recently, there has been an increasing interest and demand for an effective use of leisure time. Many Koreans especially enjoy horseback riding as one way of spending leisure time. Some scholars noticed psychological, social, and emotional benefits produced by horseback riding because it is connected with various aspects of human movement and a special connection with an animal. Therefore, this study first aims to investigate how horseback riding has special meaning as a recreation therapy. In addition, this investigation will develop a horseback riding therapy program designed for the well-being and happiness of individuals. Following "screen golf" that heralded the age of indoor golf by grafting golf with IT technology, the age of indoor horse-riding is coming into existence. That is, the so called 'screen horse-riding' that enables indoor horse-riding can accelerate the popularization of horse-riding. The basic concept of the 'screen horse-riding' is the robotic terminology that is used in the rodeo games. To put it easily, one only needs to conjure up the image of horse-riding game machine in an amusement park. However, 'screen horse-riding' is different in the sense that the cutting edge IT technologies are utilized to create virtual reality that is very similar to the actual horse-riding experience. Likewise, its effect as sports is optimized instead of stopping merely at providing amusing experience.**

Keywords—Wellness IT; Therapeutic horseback; 3D platform; Converged contents

I. INTRODUCTION

Recently, there has been an increasing interest and demand for an effective use of leisure time. Many Koreans especially enjoy horseback riding as one way of spending leisure time [3]. Some scholars noticed psychological, social, and emotional benefits produced by horseback riding because it is connected with various aspects of human movement and a special connection with an animal. When it comes to health of the body and mind, horseback riding well represents the meaning of wellness in modern society among many types of recreation activities [1].

We have witnessed a rapid increase of people participating in horseback riding during the last several years. This was mainly because of support from the Korean government by advertising the "Horseback Riding for All Koreans Movement" as well as an active engagement of the horseback riding-related industry. Riding not only contributes to the health of the human body and mind, but also provides an opportunity to spend leisure time in a better way [2].

Therefore, this study first aims to investigate how horseback riding has special meaning as a recreation therapy. In addition, this investigation will develop a horseback riding therapy program designed for the well-being and happiness of individuals.

For those who experience stress such as severe competition or a perception of being overwhelmed at the workplace, one finds there should be a balance among one's mind, emotions, social needs, and intellectual well-being. In this regard, horseback riding has been recognized as an effective recreational activity which satisfies the balance. Previous study has supported this notion. For example, Yu and Lee [4] reported that a horseback riding class has a positive impact on adolescents' physical fitness and well-being. They suggested a need for horseback riding education in Korean public schools to support students' recreation and educate them about how to have a healthy lifestyle. This could be a sound baseline for the development of a horseback riding education program, which is the point of this study proposal. As well, researchers have noted the effects of horseback riding class involvement. Most of them focused on physical fitness development and psychological/emotional contributions [4].

However, the study has been limited to recreational therapy for disabilities or sports biomechanics. Thus, this research will examine the total effects of recreational horseback riding among students and design a leisure education program for the Korean school curriculum using horseback riding. In addition, this study will contribute to the promotion of a recreational horseback riding program.

II. SCREEN HORSE-RIDING, 'TOP-HORSE' THAT SYNCHRONIZED 3D SOFTWARE

Following "screen golf" that heralded the age of indoor golf by grafting golf with IT technology, the age of indoor horse-riding is coming into existence. That is, the so called 'screen horse-riding' that enables indoor horse-riding can accelerate the popularization of horse-riding.

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Fig. 1. 'Top-Horse' system, launched by SM Robotics (Source: Sports Kyunghyang (article dated August 9th, 2013))

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However, 'screen horse-riding' is different in the sense that the cutting edge IT technologies are utilized to create virtual reality that is very similar to the actual horse-riding experience. Likewise, its effect as sports is optimized instead of stopping merely at providing amusing experience.

Whereas the robot horse in the past continued to move up and down repeatedly with simple crank rotation, 'Top-Horse' system that utilizes cutting edge IT technology applies the 3DR (3 dimension rhythm) mechanism based on super precise cornering. As such, the feeling of the horse's back bouncing against human beings' buttocks was made very real depending on the type of terrain.

Accordingly, the feeling that comes from walking normally, fast, and walking uphill and downhill, and jumping is all very different. Of course, this type of movement by super precise motor gets linked to the brindle perfectly through software to control and to react. That is, user can use the bridle to control speed and to change directions. 3D system on the large screen that uses beam projector like that of the screen golf, offers multi-dimensional, real feel.

However, 'Top-Horse' is different from the similar 'screen horse-riding' system in the sense that it realized online network to showcase scalability that is one level higher. Accordingly, this system enables racing with those around the user and enables competition with anyone in the network, which makes the game even more interesting.

Moreover, series of programs can be utilized to get training for horse-riding which was not readily accessible by ordinary people. What is noteworthy is that the RPG (Role-Playing Game) element was adopted by linking with smart phone app. When the app that is in preparation today is commercialized, user can utilize smart phone to take care of user's horse, to feed and to wash it. As such, user's interest will be multiplied since the user can foster the ability to raise a horse.

Fig. 2. Horse-riding simulation, born with cutting edge IT technology (Source: Houston's Therapeutic Equestrian Centers (http://sire-htec.org))

III. 3D OPEN SIMULATION PLATFORM – DARKHORSE

Darkhorse applied multiple spindle control method to express horse' joints, and realized actual horse-riding experience with its own technological know-how, and developed horse-riding robot for education purpose and for dieting, developed so that users can enjoy the sports with a horse by applying training for horse-riding techniques, rehabilitation, health, diet and game element.

Moreover, Darkhorse offers the modes for riding horse at the outside, for tourism purpose and for racing based on the development of diverse contents. Darkhorse that utilizes 3D simulator open platform can be enjoyed at diverse locations such as welfare center, school, gym, office, indoor horse-riding center, fitness center and resort where users can enjoy both horse-riding and exercising effect.

Accordingly, Darkhorse will provide the paradigm for experiencing new health leisure sports as the leader of the screen sports industry while contributing to dieting, training for horse-riding and increased welfare of Koreans through horse-riding experience.

IV. CONCLUSION

Anticipated results of Case Study are followings;

A. Contribution to research in therapeutic recreation

This study endeavor will shed light on research which focuses on horseback riding activity as a therapeutic recreation and leisure education. Especially in Korea, research has only focused on qualitative research in therapeutic recreation. The details of the anticipated results are listed below.

- Building an academic infrastructure
- A new study investigation in horseback riding as Therapeutic recreation

B. Contributions to community and society

- Provide data and research results regarding a horseback riding curriculum to the government and Department of Education
- Suggest a database for the Korean horseback riding industry in Korea

Reference

[1] Ryu, Jaechung(2011). The Effect of therapeutic Horseback riding as a means of Health-Rehabilitation. Oceansport study. 1(2), 43-54.

[2] Ryu, Mijin & Lee, cheonhee(2011). A Qualitative study of Horseback riding experience of adolescents'. Journal of Korea Leisure & Recreation. 35(3), 127-138.

[3] Jeong, Wooyoung(2011). The effect of Horseback riding program of developmental disability children. Journal of social sport science. 46, 1003-1012.

[4] Pyo, jonghyun, Lee, geunmo, Jang, Seunghyun(2011). The effect of Horseback riding participants' Flow on leisure recognition and psychological wellbeing. Journal of social sport science. 50(4), 277-290.