Disabled Youth in Sport Rivalry: What are the Trends – Virtual or Real Competition?

Katarzyna Ujma-Wasowicz

Silesian University of Technology, Faculty of Architecture,
ul. Akdemicka 7, 44-100 Gliwice, Poland
katarzyna.ujma-wasowicz@polsl.pl

Abstract. A computer with properly selected software provides aid in recreation of the disabled people. Its benefits are undisputable – assistance in individual physical, intellectual and psychical development. However, it seems that like in the able-bodied environment also here one should consider more or less conscious social isolation resulting from fascination by virtual world. It is more likely since the isolation is still fuelled by a problem of architectonic and psychological barriers that still exist in the environment and are not experienced in the cyberspace. The subject of presented research is a comparative analysis of sport-oriented behaviours of disabled young people against the background of trends related to the rapid development of computer games. The first part of the study discusses problems of active recreation in the Polish society and video games development directions with particular focus on the needs and restrictions of people with disabilities. The application section presents the research work targeted on the one hand to define the role of virtual competition of disabled youth in their everyday life and on the other, to check how it may jeopardize the health-oriented sports competition in the real world.

Keywords: computer in the disabled people's environment, sports of the disabled, computer video games.

1 Introduction

We should not fight with the future but wisely and in advance prepare for its coming.

One of the targets of research conducted for the benefit of the disabled is raising our awareness of problems related to disability and of the rights and hopes of the disabled. It makes its own sense not only in the light of the society's increasing respect for these people but also because of the fact that what in a given live period for an able-bodied person seems easily accessible, in a proverbial moment may for such a person appear an insurmountable barrier. With this in mind, we must recognize that seeking universal solutions to shape the human environment should be treated as an obvious issue. This in turn means that when shaping the everyday use or architectural objects a designer should be guided by the same degree of both technical knowledge and empathy. In other words, his professionalism should be manifested in ability to adapt to the human environment and not vice versa.

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The main areas that determine human life quality is his home, work and leisure (i.e. recreation and relaxation). For the environment of people without disabilities each listed area of life may have its different and independent place of realisation. For people with disabilities it is often different. This quality is on the one hand conditioned by opportunities to overcome external barriers (i.e. of psychological, architectural and information nature) and on the other by internal ones (i.e. individual possibilities of functioning). That is why a home functions not only as the place of residence but also, somewhat forced, place of work and leisure. The same home becomes both an asylum and a "prison". In such circumstances it is hardly surprising that a computer with suitable software (i.e. the Internet, education software, games) and peripherals (consoles, pads or motion controllers) may act as an always present and true friend.

Thus it seems reasonable to identify the following issues: whether and how contemporary, revolutionary changes in digital technology influence the society of people with disabilities and especially the young generation. Do they contribute to their social isolation or maybe on the contrary are an alternative to the desired integration processes? It seems appropriate (though obviously not the only) direction of research on the given question is comparison of the disabled youth attitude to active participation in real sport confronted with virtual sport.

2 Recreational Sports vs. Virtual Sports in the Environment of People with Disabilities

Recreation which is an element of leisure may take various forms, for instance: of sports or touristic activity, a visit to a shopping mall, doing DIY, cooking, reading, playing board or computer games.

In the research presented, attention was focused on a form of active relaxation that requires taking up physical and emotional effort and competition on the one hand seeing in it a method of enhancing self-esteem (I dare to face someone to a peaceful confrontation) and on the other an undisputed way to increase fitness. It seems that in the nearest future the formula will include not only the "archaic" real recreation but also the "ultramodern" virtual recreation.

In order to develop the issue it is essential to highlight a multifaceted role brought by the recreational sports and confront it with a serious competitor of great potential: the state-of-the-art computer video games like Playstation Move or Natal which use motion controllers.

2.1 Recreational Sports as a Method to Minimize Social Isolation Phenomenon

Pierre de Coubertin, the initiator of the modern Olympic Games revival (Athens, 1896) considered sport not only as the means to harden off the body but mainly as an universal method of contemporary human education in a spirit of peace. According to him, in a sportsman's live it is a possibility to compete which is crucial but not the victory. Sir Ludwig Guttmann, the founder of the Paralympic Movement also supported the motto. He wanted physical activity of people with disabilities not to be merely associated with rehabilitation activity but aimed at restoration of body and mind activeness of the disabled through sports. He claimed, which is hard to disagree,

that the essence of social reintegration is instilling self-esteem, self-discipline, spirit of competition and friendship. To this day practicing sports and the accompanying positive competition is for many disabled people a kind of psychotherapy giving a chance to rebuild self-esteem.

An example to confirm rightness of Guttmann's theory are conclusions of research conducted by scientists of Academy of Physical Education (AWF) in Katowice (Poland). In 2005 they surveyed students with mild intellectual disabilities whose task was to describe their attitude to the Olympic Games and PE lessons at school. The research impressed on recipients that these young disabled people often identify themselves with able-bodied athletes and eagerly experience their success with non-disabled peers. In turn, an opportunity to participate in competitions in the living environment would in the research results commentators' opinion contribute to improve their position in the peer environment. Physical Education lessons are perceived very positive by the respondents, either [1][2].

Other equally interesting studies have been undertaken in the blind teenagers environment. Answers to questions defining their attitude to participation in sports activities have been sought. It was enquired what motivates them, what type exercise they prefer and whether they perceive a relationship between physical fitness and live quality. The situation is similar to that of the youth with intellectual disabilities. Despite serious constrains caused by poor spatial orientation, the blind youth who likes sports strives to continuously improve their skills and results [4].

Research has confirmed sports being a crucial element of the disabled person's live and the adopted work methods related to physical education shape a disabled child's "strengths" . Such statements give a clear signal that the recreational sports of the disabled should be invested in.

However, the disabled youth's willingness to play sports is just a piece of the puzzle. There is another, extremely important issue: providing places of recreation. To provide them it is not enough (e.g. on the EU conditions) to assume a priori the *European Charter for Sport for All* of 1986 which specifies the Member States tasks. For instance the Chart Part B devoted to the issues of disability includes information according to which governments are expected to guarantee participation in sports opportunities to each disabled person and at any (i.e. elite, club or recreational) level. In reality it means a necessity to prepare adequate sports and recreational infrastructure which includes a project, construction, maintenance, promotion etc. Pursuant to the document, the disabled should also be guaranteed an access to regular, integrated activeness and organisation of integrating sports events [5].

Though the enumerated targets are clear (i.e. let us even chances) and seem to be an effect of empathy it is wondered to what extent they are realistic to be met. The fundamental barrier is not a reluctance particularly of the young and able-bodied society to people with disabilities [10] but also a variety of illnesses met and therefore problems with providing full sports integration [12].

Many associations which organise and encourage able-bodied and disabled people to take part in various recreation and sports events, successfully operate in Polish reality. On the other hand, sports and recreation areas that are recently being built in our country are built with an intention of creating universal architecture (i.e. without architectural barriers). It is worth wondering though why no disabled persons can be met at these facilities, why neither they compete between themselves nor with the

able-bodied ones? Can it mean that the "abled disabled" isolate themselves in their environment of their own choice and are not interested in their sports world of the disabled?

After a thorough analysis of the problem one may conclude that there are different barriers than the architectural ones which affect the difficulties in universal sports facilities organisation in modern times. These include for example dispersal of people with disabilities in the city or the mentioned variety of ailments. This means that really only the school, clubs and mentioned associations provide the disabled with a chance and an unfettered opportunity to realize sport ambitions. It moreover means that virtually only in these environments one may wait until the infrastructure is adequately prepared (i.e. gyms, swimming pools, outdoor facilities and others) and ideas of integration events are made.

On the one hand it seems logical and justified but on the other it is hard to perceive there an idea of real, broadly defined integration with able-bodied people. Sorry to say this, but the existing reality we deal with, implies an idea of pseudo integration since the activities take place exclusively owing to family, closest friends and involved activists care but are not the result of natural social interaction.

Currently, a positive aspect of the recreational sports of the disables which is worth continuous support is undoubtedly an effective aid in minimizing their social isolation.

2.2 Modern Computer Games as a Tool of Active Relaxation

Learning and / or playing with computer have undeniable advantages. Many studies have proven that nowadays a computer with properly selected software provides help in rehabilitation of the disabled people. For example the system operation itself which requires using a keyboard or mouse, improves hand skills, exercises visual and motor coordination. Develops mind concentration and perceptiveness skills as well as other perception functions.

In addition to providing good fun, the objective of computer games is also motivating to competition (e.g. with a virtual character) in accordance with an electronic scenario. A disabled person participates in the game with immense joy and hope since he or she might feel the same as each "normal" i.e. fully able-bodied player who having a console in front of him / her can freely compete with others, run on the screen with a virtual character which is rather impossible in real life. Furthermore, owing to the games does not feel discriminated and marginalized. The opponent nether ridicules nor reproaches the disability because he does not see a player from behind a monitor but a virtual character.

The contemporary computer games market is dominated by modern video games where a standard gamepad has been reinforced by a so called motion controller thus introducing a new use and play quality. Microsoft and Sony offer games which have earlier been come across only in science–fiction films where the mentioned motion controller is one's own body and in the future (surely will be common) also the mind. The device used for the challenge is called Kinect (earlier Natal, where the payer's body is a controller) and Playstation Move (here the controller looks like an "improved" version of the Wii console). Imagination tells that in a subsequent stage of Gears of War, Call of Duty or Battlefield the player will be able to run, playing the

characters of professional soldiers and hiding every now and then behind an an armchair to avoid firing and to attack. In FIFA or NBA games one will be able to enter into the skin of a well-known player and in front of the TV make movements that resemble real game: dribble with the ball at his feet and score goals or dribble and throw the ball to the basket.

The latest generation of these games is also seen as a future rehabilitation method of the disabled people. However one cannot hide that with marketing such a controller like Kinect but without implementation of other than used motion mapping methods, people with disabilities may be left out (especially these with restricted motor skills). They will not be able to perform movements in front of the screen like the able-bodied which means they will not feel full satisfaction and taste of fun [3].

2.3 Can Participation in Computer Video Games Replace Active Recreation?

Advantages of practicing adventure sports and participation in computer games have already been mentioned. However let us present also a negative scenario. When one is free from duties having a choice how to spend free time he may run into a dangerous trap called computer addiction (cyberholism). It means that staying in the company of the computer can (and the phenomenon is likely to be enhanced) lead to the surfer's / player's unconscious isolation from people and the real world. This increasing tendency, if not reversed early enough, may with a time give rise to a serious social problem. A certain consolation for the time being (we do not know what happens in 10-15 years) is an intuitive awareness and understanding of the younger generation that the computer is a kind of threat for the leisure time freedom of choice and one of the methods to get out of the computer addiction trap is taking part in active recreation [9].

An alarming phenomenon related to perceiving the world from the computer angle is also dealt with by British scientists for example. Their studies have revealed that less than half of little kids aged 2-5 know their address, 11% is able to lace up shoes and only two out of ten can swim, whereas 70 % kids can easily cope with online computer games, over 70 % easily use a computer mouse and one fourth naturally surfs the Internet. The researchers claim parents are to blame since they have less time and treat electronic devices as children carers [7].

The situation is paradoxical among disabled people who like the computer since it helps them to become free though they would in fact prefer to leave their homes without embarrassment. On the one hand they become isolated not by their own fault and on the other falling into cyberholism may become secondary isolation victims [10]. Here, like in the group of the able-bodied youth, active recreation may appear an antidote.

It seems in the face of such vision of the future that the latest generation computer video games which require authentic physical activeness, might in the disabled environment become an alternative to real, sports and recreation rivalry (which requires leaving one's home) without exposing the player to slow social isolation.

To fulfil it, it seems two conditions at least must be met:

- the computer video games launched to the common market together with integral consoles should be constructed to provide the disabled persons' with an opportunity to take part in the game;

– the games should be of universal and multi-player character (more than one person would have to participate).

3 The Method of Conducting the Research

Referring to presented issues, the author has attempted to identify the problem in the disabled youth environment available. Teenagers residing in various cities of the Upper Silesia (i.e. the area of southern Poland), attending one special school in Zabrze city participated in the survey conducted at the end of the year 2010. Among the surveyed persons a group was slightly mentally handicapped (aged 16-23) and another group with hearing defects (aged 14-20).

The research emphasis was focused on defining the computer role in the disabled youth's free time and defining the youth attitude to recreational sports.

Conclusions have been formulated in the light of the following questions:

– What is the significance for a young disabled person of sports competition in the real world and what in the virtual environment?
– Can the world of cybernetics dominate a disabled person or will his/her own physical activeness be more appreciated?
– What factors, from the disabled youth point of view, determine a choice of real or virtual rivalry?

40 questionnaires have been analysed, 25 of them were filled in by mentally handicapped persons (14 boys and 11 girls), and 15 by persons with hearing defects (9 boys and 6 girls).

The persons surveyed were asked a dozen or so both closed and open questions. A part of answers are presented in the tables, in three thematic groups:

I. 6 closed questions defined the surveyed youth's passion for sports and / or computer (Table 1),
II. 2 questions gave a picture of social isolation risk caused by lack of accompanying person while playing (Table 2),
III. 1 question was to show the predominance (or not) of one option of spending free time (Table 3).

The other data provided for final conclusions formulation.

The replies verification has been performed in the mentioned two groups of disability and with division into sex. The results[1] shown in tables picture on the one hand probably underestimated or unnoticed problems and on the other indicate development directions of physical activeness and methods of the disabled persons social integration support.

[1] The author is aware of doubts concerning the study results credibility because of probably insufficient study sample. However an argument in favour of their accuracy is firstly the respondents dispersion (i.e. they come from different cities and environments) and secondly the study objective which is merely indication of active free time spending general development tendencies as well as threats leading to social isolation which may be prevented.

Table 1. Recreational sports and computer games I – preferences (in %) of mentally disabled students (sample A1-boys, A2-girls) and students with hearing disabilities (sample B1-boys, B2-girls)

			A1	A2	B1	B2
SPORTS	1	I like rivalry in sports.	70	45	90	65
	2	I practice at PE lesson eagerly.	70	70	100	65
	3	I practice sports in my free time.	50	10	75	50
COMPUTER	1	I like playing computer games.	90	90	90	50
	2	I play computer games at home.	90	70	75	50
	3	I play computer video games.	65	10	55	15

Studies confirm that in the environment of disabled teenagers both sports and computer play a significant role. There are still objective difficulties for these activities to be treated also as entertainment in the time free from school duties. The problem exists due to mental, communication (i.e. verbal and material) and architectural barriers still omnipresent in the Polish society.

The data received make us also aware that the mentally disabled girls are the most alienated group in the „non-compulsory" sports. It seems that green light given to physical activeness and integration through sports opens opportunities to develop computer video games adapted to possibilities / restrictions of the disabled. However, so far (at least in the Polish society) their knowledge, especially among girls is very limited.

Table 2. Recreational sports and computer games II – preferences (in %) of mentally disabled students (sample A1-boys, A2-girls) and students with hearing disabilities (sample B1-boys, B2-girls)

		A1	A2	B1	B2
SPORTS	I play in my free time together with another person (other persons)	45	10	80	50
COMPUTER		30	30	30	~~70~~ [2]

Table 3. Recreational sports and computer games III – preferences (in %) of mentally disabled students (sample A1-boys, A2-girls) and students with hearing disabilities (sample B1-boys, B2-girls)

		A1	A2	B1	B2
1	Playing computer games is my passion.	27	18	0	0
2	I spend free time „in sports" most gladly.	27	18	11	33
3	I like playing computer games and being active in sports.	27	36	78	33
4	I prefer doing quite different things.	19	28	11	33

[2] The result received in the group of deaf girls is deemed not credible since half of the group does not have a comuter at home.

No less important problem is connected with an opportunity to spend free time in the family circle and /or with friends. Among the respondents, virtually only boys with hearing disabilities live an integration way of life with sports playing a crucial role. The others, irrespective if the competition takes place in the real or virtual world do not have an opportunity and / or occasion with somebody else.

In the theme of pro sports behaviours the surveyed youth overall result was positive[3] and this is a result adequate to similar tendencies among the Polish able-bodied youth[4]. The results presented in Table 3 also indicate that „a computer" has neither dominated the mentally disabled youth nor the youth with hearing disabilities which should be treated as a positive phenomenon. An argument that boys with the hearing disability do not very significantly feel (at the background of other respondents) inconveniences related to disability and do not confine themselves in "their own" world.

4 Conclusions

Integration processes are extremely arduous and unrewarding. They may be successful only if their able-bodied and disabled participants will be mentally trained from an early age. So far, a stopgap of such activities are kindergartens and schools offering integration groups. Nevertheless this direction of searching for bonds seems insufficient, especially since the mentally disabled, deaf and blind persons are in fact excluded from the process.

The greatest hope in the subject matter is brought in the case of real recreation by school education with its foundations in a well-thought-out educational strategy whereas in virtual recreation the empathy of video games originators and producers.

In both circumstances the point is not to by an assumption be guided by dissimilarities and even worse programme distinct solutions in that spirit. Searching for mutual sports competition plane is a key to positive changes. However such thinking should not be associated only with lowering standards for the able-bodied people (though it cannot be excluded). In many situations it might be just the opposite. The priority should be to indicate and use strong points of people with disabilities.

Would teaching the able-bodied children and teenagers the rules of games and organizing integration competitions in disciplines the disabled cope with excellently be for instance such a big problem? In the case of real sport it might be sitting volleyball, wall climbing, goalball (discipline for the blind), recreational bicycle races and many others [12]. Virtual competition also has its future. Still popular "ordinary" computer games have for a long time given a chance to widen the integration processes although their drawback is a limitation to virtual but not real integration. This may be changed by video games based on motion controllers which would play in parallel the role of rehabilitation and strengthening social habits (it would work in both ways), if the disabled person could participate "live" in the mutual play. The games would have to use tools enabling the disabled participant to obtain similar effects on the screen like these obtained with the use of a gamepad.

[3] If in each respondent group replies to questions 2 and 3 are summed up, it appears that over a half of the respondents likes physical activity.

[4] Among Poles aged 15-17 physical activity is 76%, and aged 18-24 decreases to 56% [research of PBS (Social Studies Laboratory) of 2006].

The author's studies conducted (enclosed in tables and analysed in the context of other responses) confirm a conviction that the disabled youth practices sports enthusiastically. Unfortunately, playing possibilities are restricted mainly to activities at school. The problem on the one hand is an outdated sports infrastructure located close to the place of residence and on the other difficult to manage the disabled friends dispersion throughout the city and even the region. In an overwhelming majority of cases it means the need of travelling and often (somehow automatically) carers engagement. It does not foster spontaneous enjoyment in recreational sports.
Almost all respondents have a computer at home. which is their companion for a good way of spending leisure time. However, those who have a playing opportunity, do play individually. Though an offer of accessible computer video games for more participants and participation in which would require physical effort is wide and fairly easily accessible (i.e. in online shops), a limited budget of the carers and too little advertising seems an insurmountable barrier.
The studies presented in chapter three showed also that trends referring to the real and virtual rivalry go hand in hand. So far, common social isolation in the disabled people environment caused by computer addiction has not been a problem.

It seems that both promotion of opportunities to the disabled participation in the real sports (through relevant education and spatial organisation of physical activity facilities) as well as fostering virtual competition (through adapting the software to expectations, individual possibilities and mutual fun) is a proper direction of social integration.

Therefore the direction to consolidate the environment of the disabled people with the able-bodied by means of real and virtual competition seems to make sense. The movement should support the integration processes thus preventing social isolation.

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