Physical Activity And Psychological Well-Being Among Persons With Disability

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Abstract.
This study was conducted to find out the effect of physical activity to the psychological well-being in terms of self-esteem and self-efficacy of persons with disability. 40 students from CORD Foundation in San Jose, Occidental Mindoro were the respondents of the study. The intervention program was carried out for eight (8) consecutive Saturdays. This consisted of aerobic exercises and structured games. The effectiveness of the intervention program was determined using the One-Group Pre-test (degree of self-esteem and self-efficacy of the respondents before the intervention program and Post-test (degree of self-esteem and self-efficacy of the respondents after the intervention program) Design. Data were analysed using the t-test for dependent means. The statistical calculations showed that the difference on the self-esteem and self-efficacy were significant thus, it can be concluded that physical activity is effective in enhancing the self-esteem and self-efficacy of the PWDs. Thus it is recommended that physical activity be sustained to people with disabilities.

Keywords: *Physical activity, self-esteem, self-efficacy*

I. INTRODUCTION

Physical activity is recognized as a behavior with strong positive effects on mental, physical, and cognitive health of an individual. Aside from the health benefits derived from it, physical activity is one behavioral modality that has been shown to enhance various aspects of mental health, including self-esteem (McAuley, Blissmer, Katula, Duncan, & Mihalko, 2009). Although self-efficacy was originally thought to mediate the effects of changes in physical outcomes and subdomain self-perceptions, Mc Auley et al. have presented evidence to indicate that self-efficacy may actually operate on a parallel level with physical activity outcomes, influencing global self-esteem through the mediation of subdomain self-perceptions and physical self-worth.According to the social model of disability, society sets up barriers that include attitudes, policies, physical facilities, technology, learning environments, work opportunities, and cultural representations. These barriers are disabling, and in this sense, disabilities reside outside of the individual. In the individual/medical model of disability, a disabled person embodies a medical condition, a diseased body that needs to be diagnosed, treated, and returned to the normative order as stated by experts in medicine and education.

(Titchkosky and Michalko, 2009) The UN Convention on the Rights of Persons with Disabilities, stipulates that PWDs include people who have enduring physical, mental, intellectual and sensory deficiencies. The International Classification of Functioning, Disability and Health (ICF) defines disability as "an umbrella term covering impairments, activity limitations, and participation restrictions. A problem in bodily function is classified as impairment while difficulty in performing an action or task is considered an activity limitation and when an individual encounters problem in involvement to life situations it is referred to as participation restriction. This definition implies that there is a negative interface between the health condition of the person and the personal and environmental factors. Within these premises, an intervention is vital for persons with disabilities (PWDs) as it requires actions beyond the framework of health, but in helping them to overcome their struggles by minimizing social and environmental obstacles (WHO 2013). The most popular theoretical model for researching the development of disability is the disablement process, which is widely used, in the medical parlance. The main pathway according to this model leads from diseases and injuries to impairments, functional limitations, and disability. This approach has been challenged most particularly by models, which emphasize the social construction and determinants of disability. Numerous physical exercise interventions have aimed at preventing impairments, functional

limitations and disability, and at promoting independent living among people with disability.Social cognitive theory (SCT) provides a framework for understanding why people choose to engage in and sustain healthy behavior such as physical activity (Stacey et al., 2015). This theory considers human behavior to be a result of a dynamic and reciprocal interaction between personal, behavioral, and environmental influences as theorized by Bandura (1986). Individuals believe that they can influence their own behavior and surrounding environment with purposeful and goal directed actions which influences future behaviors (Allen, 2014). Self-efficacy enables people to acquire knowledge and develop skills; as self-efficacy improves, individuals expect positive consequences, overcome barriers, and show motivation and commitment to goals (Bandura, 2008). Self-efficacy is the most important intrinsic motivation for overcoming various internal or external environmental limitations (Glanz et al., 2008) thus allowing them to participate actively in physical activities.

verall physical activity decreases with advancing age. This concerns both physical activities in daily living and physical exercise, including planned, structured, and repetitive bodily movements with the intent of improving one or more components of physical fitness. The physical activity level of an individual can be based on frequency, duration or intensity of participation, or energy expenditure in a range of household, leisure, or exercise activities.In an era when physical activity has grown popular and recognized in terms of its importance in promoting health and preventing disease, many questions pertaining to how it affects the lives of individuals with physical disabilities has to be given attention so that these marginalized sector of our society will also benefit.About 80% of the world's PWDs live in low- income countries, wherein majority are poor and cannot access basic services. With their conditions, PWDs need greater attention and considerations in terms of health needs, without discrimination. However, reports show that PWDs have less access to health services and therefore have greater unmet needs (WHO,2012).To strengthen the existing health programs for the PWDs, a Medium Term Strategic Plan was conceptualized. After years of implementation, a review was done to evaluate the program. The findings were the flaws on operational issues and gaps that need to be addressed.

Among the recommendations were the need to strengthen and harmonize multi-sectoral participation; clarify definition of the roles and responsibilities of government agencies concerned with working for PWDs, strengthen national capacity in terms of manpower and facilities, provide reintegration services for PWDs; afford access to health care services and facilities; and reinforce databank for PWDs (Manjula,2016). In recent studies, it was found that people with disabilities were excluded from the Millennium Development Goals which paved a way for the inclusion of people with disabilities in the recently agreed Global Goals for Sustainable Development (SDGs) 2015-2030). Given the current agenda for disability inclusion, it is crucial to increase the understanding of the situation of people with disabilities in the Philippines.(Manjula, 2016).As an institution of higher learning, OMSC is mandated to come up with extension programs that will redound to the betterment of the quality of life among its beneficiaries. Results of this study can be a vital input to course curriculum development as an "educative tool for scholars to educate society at large about barriers and empowerment issues related to disability, societal responses to disability, artistic expressions, [and] representations (Johnstone, Lubet and Goldfine, 2008). The findings of the study can also be used in designing extension program specifically for the PWDs.This paper will try to investigate the effect of physical activity to people with disability and how it relates with their psychological well-being in terms of their self-esteem and self-efficacy.

II. OBJECTIVES OF THE STUDY

1. To determine the profile of the respondents in terms of:
   a. Sex;
   b. Age; and
   c. Type of disability
2. To determine the psychological well-being of the respondents before and after the intervention program in terms of:
   a) Self-esteem; and

b) Self-efficacy

3. To test the significant difference on the self-esteem of the respondents before and after the intervention program
4. To test the significant difference on the respondents' self-efficacy before and after the intervention program

III. METHOD

Research Design

The study made use of pre- experimental method using pre-test (pre-assessment) and post test (post-assessment) design in order to find out the effectiveness of the intervention program to the self-esteem and self-efficacy of the respondents. This method was used to determine the significant difference on the degree of motivational level and self-esteem before and after the intervention program.

Respondents

The respondents were the students of CORD (Christian Organization for Rehabilitation of the Disabled) Foundation located in San Roque 1, San Jose, Occidental Mindoro. These are group of learners who have different impairments. Forty (40) PWDs participated in this study using the quota sampling technique.

Ethics and permissions

Ethical considerations were properly observed in the conduct of the study. Letters of consent were sent to the school principal and to the parents or guardians of the respondents to ensure that the respondents are willing to participate in this undertaking.

Instrument

The questionnaire used to gather the data was translated in Filipino to make it easier to understand

Descriptive statistics were used to interpret and analyse the data. T-test for dependent means determined the significant difference of both variables before and after the intervention program.

The Intervention Program

The intervention program were the conduct of Zumba sessions and structured games for the PWDs for eight weeks. This was conducted every Saturday so that it will not interfere with their academic subjects. The physical activity was conducted for two (2) hours per session.

Session 1 – Orientation

The researchers met the participants for the orientation program. After the orientation the participants were given a pre-assessment using the Self-Esteem Inventory Scoring Instrument and the Self-Efficacy Questionnaire for School Situations. These instruments were adopted from the study of D. Heyne, et al.(2006). Some modifications were made to suit the situation of the respondents.

Session 2 - Commencement of the eight- week Intervention Program

The physical activities were executed by the respondents with the help of the Bachelor of Physical Education (BPE) students. The first activity was the conduct of Zumba for an hour. A student was assigned to each row of the respondents to assist them in executing the movements. The respondents were arranged in such a way that they can see the leaders.The second activity was the structured games. Before the start of each game, instructions were given to the students. The researchers made sure that the respondents were grouped differently each week for them to develop friendships with other members. Aside from the BPE students, the parents were also present to support their children. The intervention program was implemented for eight (8) Saturdays at the CORD Foundation Compound.

Session 3: Post- assessment

At the end of the eight-week intervention program the participants were asked again to answer the Self-Esteem Inventory and the Self-Efficacy Questionnaire.

IV. RESULTS AND DISCUSSIONS

Table 1 presents data on the profile of the respondents

The data suggest that most of the respondents belong to the 15-18 age bracket(16 or 40%) while only 2 or 5% of the respondents are at the range of 27-30. More males participated in the study (24 or 60%) while females consisted 40% of the total population. On the type of disability, it can be noted that those who have hearing impairment dominated the respondents (22 or 55%) while only 2 or 5% have autism. Other types of disability include learning disability (13 or 32.5%) and visual impairment (3 or 7.5%).Results of the 2010 Census of Population and Housing (CPH 2010) revealed that of the household population of 92.1 million, 1.443 million Filipinos or 1.57% have disability. There were more males, who accounted for 50.9% of the total PWD in 2010, compared to females, with 49.1% with disability. For every five (5) PWD, one (18.9%) was aged 0-14 years, three (59.0%) were in the working group (15-64 years old), and one (22.1%) was aged 65 years and above (NSO, 2013).

Table 1. Respondents' Profile (N=40)

Indicators	Frequency	Percentage
Age		
7-10	11	27.5
11-14	4	10.0
15-18	16	40.0
19-22	3	7.5
23-26	4	10.0
27-30	2	5
Sex		
Male	24	60.0
Female	16	40.0
Type of Disability		
Autism	2	5.0
Learning Disability	13	32.5
Hearing Impairment	22	55.0
Visual Impairment	3	7.5

Perceived degree of self-esteem of the respondents before and after the intervention program

Table 2 presents data on the self-esteem of the respondents before and after the intervention program. It can be noted that the respondents self-esteem is low before the conduct of the intervention activity (mean=2.21). However, there is a marked increase on their self-evaluation of their self-esteem after the intervention program (mean=3.86).This finding confirms the study of Ghafari, et.al.(2007) who found that regular aerobic exercise significantly increases self-esteem. This is also consistent with the study of Schneider, et al., they concluded that physical activity had positive effects on self-esteem in depressed patients. Like wise, Raustorp (2009) conducted a research on the effect of aerobic exercise to women who have breast cancer. He found that the self-esteem of the respondents improved after they participated in aerobic exercise.

Self-Esteem	**Before the Intervention**		**After the Intervention**	
	Mean	**Interpretation**	**Mean**	**Interpretation**
1. I feel that I am a person of worth, at least on an equal par with others	2.44	Low	4.42	High
2. I feel that I have a number of good qualities	1.78	Low	3.87	High
3. I am able to do things as well as most other people.	2.04	Low	3.48	Moderate
4. I take a positive attitude toward myself	2.40	Low	3.92	High
5. I have respect for myself	2.22	Low	3.50	High
6. I feel useful to my family and friends	2.51	Moderate	4.45	High
7. Despite of my handicap, I feel good with myself	2.12	Low	3.40	Moderate
Total Mean	**2.21**	**Low**	**3.86**	**High**

Scale: 4.5 – 5.00 Very high *1.5 – 2.47 Low*
3.5 – 4.49 High *1.0 – 1.47 Very low*
2.5 – 3.49 Moderate

Perceived degree of self-efficacy of the respondents before and after the intervention program

Self-efficacy is an essential element of the social cognitive theory (Bandura, 1997). It is one of the major determinants of exercise and physical activity (Rogers, et al., 2005) The data on the respondents' self-efficacy before the intervention program is low (mean=2.20). This means that they lack the ability to organize their own perceptions and beliefs and to achieve the desired outcome (Bandura, 1997). However, after the conduct of the intervention activity, there is a significant increase in their self-esteem (mean=3.46).According to Chen, et al. (2018) participation in physical activity brings people closer and provides a sense of identity and belongingness. It fosters communication between and among people. It also creates positive effects on self-respect. It was also pointed out by Joseph, et. al. (2014) that engagement to physical activity positively influences the psychological well-being of people.

Table 3. Respondents' perceived degree of self-efficacy before and after the intervention program

Self-Efficacy	**Before the Intervention**		**After the Intervention**	
	Mean	**Interpretation**	**Mean**	**Interpretation**
1. I am sure that I could do school work set by the teacher	2.40	Low	3.93	High
2. I am able to do things in front of the class	1.78	Low	3.43	Moderate
3. I could stand up for myself if I am being teased or bullied .	2.04	Low	3.90	High
4. I could take examinations with less anxiety	2.43	Low	3.92	High
5. I am able to cope when sent to the principal's office	2.47	Low	3.87	High
6. I am not afraid to approach my teacher	1.78	Low	4.02	High
7. I could cope with being away from my family during school-time	2.56	Low	4.22	High
Total Mean	**2.20**	**Low**	**3.89**	**High**

Scale: 4.5 – 5.00 Very high *1.5 – 2.47 Low*
3.5 – 4.49 High *1.0 – 1.47 Very low*
2.5 – 3.49 Moderate

Comparison between the self-esteem of the respondents before and after the intervention program

Table 3 shows the self-esteem of the respondents before and after the intervention program. Based on the t-test analysis the self-esteem of the respondents before and after the intervention program differ. The t- value of 7.275 is significant at .000 level of significance. This finding suggests that the physical activity as intervention program is effective in improving the self-esteem of the respondents .

Table 4. Comparison between the respondents' subjective happiness before and after theintervention program.

Variable	**Mean Before**	**Mean After**	**Mean** Difference	***t*-value**	***p*-value**	**Interpretation**
Self-esteem	2.21	4.26	1.87	7.275	0.000	Significant

Comparison between the self-efficacy of the respondents before and after the intervention program

Table 3 shows the self-efficacy of the respondents before and after the intervention program. Based on the t-test analysis the self-efficacy of the respondents before and after the intervention program differ. The t- value of 7.296 is significant at .000 level of significance. This finding suggests that the physical activity as intervention program is effective in boosting the self-efficacy of the respondents.

Table 5. Comparison between the respondents' self-efficacy before and after the intervention program.

Variable	**Mean Before**	**Mean After**	**Mean** Difference	***t*-value**	***p*-value**	**Interpretation**
Self-efficacy	2.20	4.16	1.96	7.296	0.000	Significant

V. CONCLUSIONS

1. Majority of the respondents of this study are males, belonging to the young generation and have auditory impairments
2. The respondents' self-esteem and self-efficacy had increased after the conduct of the intervention program.
3. There is a significant difference in the self-esteem of the respondents before and after the intervention program.
4. There is a significant difference in the self-efficacy of the respondents before and after the intervention program

VI. RECOMMENDATION

1. An extension program for people with disability can be carefully designed
2. Further study on the effects of physical activity to people with disability considering other variables which were not covered by this study can be undertaken
3. This study can be replicated using other forms of physical activities at a longer period of intervention.

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