Original Research Article

RELATIONSHIP BETWEEN OPTIMISIM AND RESILIENCE AND LEVEL OF PHYSICAL ACTIVITY AMONG GENERAL POPULATION OF AURANGABAD: A CROSS-SECTIONAL STUDY

ABSTRACT:

Background- Physical activity is a voluntary body movement which requires energy expenditure. Optimism makes an individual more resilient so if the adversity strikes and the person have an upbeat attitude towards life, it is likely that an individual may bounce back stronger as before. The current study is aimed to determine the relationship between physical activity, optimism and resilience among general population of Aurangabad.

Method- This cross sectional study had a total of 531 respondents from across the city, out of which 228 were willing to participate. It included individuals from a age group of 18-52 years, of varying occupation. A survey was conducted on an online basis.

Outcome Measures- Three scales were used specifically. Life Orientation Test (LOT) was used to measure optimism. Brief Resilience Scale (BRS) was used to evaluate resilience and International Physical Activity Questionnaire (IPAQ) was used to measure the physical activity among the individuals.

Result- The results were calculated using statistical tests. Chi-square test was used to find association between physical activity and optimism. The results showed a positive correlation between physical activity and optimism with a p value of > 0.05. The relation between optimism and resilience was calculated using Pearson's correlation coefficient.

Conclusion- The study signifies a strong positive correlation between optimism, resilience and physical activity among general population of Aurangabad. The study also concludes a positive correlation between optimism and resilience.

Key words- optimism, resilience, physical activity, cross-sectional

INTRODUCTION: -Physical activity is defined as voluntary movements performed by skeletal muscles that require energy expenditure.[1] Physical activity can be referred to as any activity that is done at any time of day or night of any intensity.[2] Physical activity boosts energy expenditure and is a crucial factor in controlling body weight .[3] Despite the fact that the terms "physical activity" and "exercise" are sometimes used interchangeably, they have different connotations. Whether it's for work or play, everyday task, or the daily commute

"Physical activity" refers to any body movement that burns calories. 'Exercise' is an subset of physical activity that refers to activities that are designed, organized, and repetitive in attempt to improve physical health and fitness.[4]

Exercise is sort of physical activity that helps people develop or maintain their physical fitness, as well as their overall health and well-being. The world's most frequent health problem is a lack of physical activity. Physical activity can help to prevent or delay the onset of some diseases, such as cancer, heart diseases and diabetes as well as alleviate depression and enhance mood.[5]

Mental health issues include severe depression, anxiety disorders, substance misuse, and schizophrenia. Exercise relieves stress and tension, promotes physical and mental vigour, and improves well-being by producing endorphins, that are all useful to individuals who suffer from anxiety. For a multitude of reasons, exercise is an excellent anti-depressant. Exercise is also considered therapeutic since it can serve as a distraction, allowing the mind to disrupt negative thought loops that causes anxiety to rise, it promotes self-esteem and self-confidence on top of being a distraction. Low self-esteem is common in among those suffering from mental illness, which can lead to a lack of social contact. Exercising boost self-esteem and can help them interact more effectively with others. It is also proven to reduce muscle tension and stress hormones.[6]

Optimism is positive mental attitude towards life as well as the expectation of pleasant consequence in the future.[7] Optimism is a type of positive thinking that comprises the conviction that current happiness and good things will happen in the future, in addition to a belief that unexpected circumstances will not arise. Optimism refers to how confident people are that desired outcomes will occur in the future and that undesirable consequences will not occur in a stressful situation, it can calm peoples fear and uncertainties while also encouraging them to keep working towards their goals.[8] Optimism is characterized by two variables: "learned Optimism" (Peterson & Seligman, 1984) and "dispositional optimism" (Scheier& Carver, 1985). Learned Optimism emphasizes that a person may learn to have an optimistic attitude in the face of adversity. Dispositional Optimism, according to Scheier and Carver (1985) is the belief that positive things will happen in future instead of terrible things. Nevertheless, optimistic thinking can be both realistic as well as delusional. According to the literature, unrealistic optimism can be harmful to one's future because it might lead to a lack of effort, whereas realistic optimism is distinguished by the amount of effort put into it.[9]

The capacity to adjust to life's changing and challenging situations is referred to as Resilience. This attitude, also known as resilience, is characterized by an optimistic and positive approach on life that allows individual to face reality and life's problems. Resilience is a term that describes a person's capacity to adjust positively in the midst of suffering. Resilience, according to Luthans (2002) is "the learnable capacity to rebound or bounce back from adversity, conflict, and failure, as well as positive events, progress, and increased responsibility." According to Luther et al., (2000), resilience is a dynamic process that incorporates positive adaptation in the face of adversity.[10]

In other words, psychological resiliency refers to one's ability to adapt to a poor or unfavourable circumstance. According to research, resilience can be developed via practice and training.[11, 12, 13]

Optimism makes an individual more resilient so if adversity strikes and the person has an upbeat attitude towards life, he or she will most likely bounce back at least as strong as before. Resilience is influenced by interactions and the environment in which one lives. Individuals who are more resilient are better equipped to deal with stress in a more positive manner. Individuals react differently to stress and a stressful situation, therefore developing resilience is a very personal process. A good support system, strong relationships, a healthy self-image, and a positive attitude all are necessary for a person to become more resilient.

Thus, the current study aimed to study the relationship between optimism, resilience and level of physical activity among the general population of Aurangabad.

HYPOTHESIS: -

(H_0)-There is no relationship between physical activity, optimism and resilience among general population of Aurangabad.

(H_1)-There is a relationship between physical activity, optimism and resilience among general population of Aurangabad.

METHODOLOGY: -

Study Design- This is a cross-sectional study was conducted on an online basis. A survey program was collected via Google form basis. All participants were informed about the research and description about the study which was linked with the Google form.

Inclusion and Exclusion Criteria- The respondents between ages 13 to 52 years were included in the study. The study was open to all individuals to participate from any occupation. Participants who were unwilling to participate in the study and those who did not give the consent were excluded from the study.

Sample- This is study concluded between period December and January .Google form was circulated through social media in different groups. Total 531 respondents from different part of the city. Out of 531 participants, 228 participants were willing to participate in this study. The age group of sample was between 13 to 52 years and the participants were students, housewife's, professional, healthcare worker, government servant, private section and self-employed.

Tools-

1. Values in action-optimistic measures- It is an 8-item scale called the Life Orientation Test (LOT). It was developed by Michael Scheier and Charles Carpenter in 1985. It's a five-point Likert scale with statements like "strongly agree," "agree," "neither agree nor disagree," "disagree," and "strongly disagree." (strongly agree=1, agree=2, neither agree nor disagree=3, disagree=4, strongly disagree=5). The 8-items were: - [1]I always look on bright side.[2]I can find the positive in what seems negative to others [3]I remain hopeful despite challenges [4]I will succeed with my goals I set myself [5]I think about what is good in my life when I feel down [6]I expect the worst [7]I have no plans for life five years from now [8]I am not confident that my way of doing things will work out of the best. The LOT returns to giving each individual separate optimism and pessimism scores. Behaviourally, these two scores co-relate around r=0.5. On this measure, optimistic sores indicate better relationship outcomes, higher social standing, and less loss of well-being after adversity.

2. Brief resilience scale (BRS):- The Brief Resilience Scale was developed by Smith et al. (2008) to assess people's capacity to rebound and recover from stressful events. BRS had an internal consistency of .83 along with the test-retest ICC of .69. The scores shown were convergent, contemporaneous and predictive validity, according to the scale. The BRS comprises of six items, including positive statements 1, 3, 5 and negative statements 2, 4, 6. Each of the six items had to be rated on a four-point scale ranging from strongly disagree to strongly agree. The scale was administered using the following instructions. Please rate how much you agree with each of the following statements on the scale- 1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree. Positive items were evaluated as follow: 1=strongly disagree, 2= disagree, 3= neutral, 4=agree, 5=strongly disagree. Negative items were rated as follows: 5=strongly disagree, 4=disagree, 3=neutral, 2=agree, 1=strongly agree. A total score of 6-30 is possible. A high score on the scale indicates resilience.

3. International physical activity questionnaire (IPAQ)-short form: - In 1998, work on developing an international measure of physical activity began in Geneva. It consists of four questionnaires. This scale is used to evaluate overall physical activity in MET-min/week and

time spent sitting by measuring or assessing the types of intensity of physical activity and sitting time that people undertake as part of their daily lives. How many days in the recent seven days did you engage in strenuous physical exercise such as heavy lifting, digging, aerobics, or rapid bicycling? The targeted population is youth 15 years of age to 69 years of age.it is 7-item scale including open ended questions surrounding individuals last 7-days recall of physical activity.it is self-reported and was included in the google form with the other two scales. Good stability and high reliability (<.80) were found in test-retest reliability. Validity was productive, concurrent, convergent, criterion, and discriminant.

Procedure: -The purpose of this study was to find out if there is any relationship between optimism, resilience, and the level of physical activity among the general population of Aurangabad. This study was done via online Google forms. Forms were generated and the link of the form was distributed through WhatsApp/email and the description about how to fill the form was added to the link. The Google form consist of consent from the participants before filling the forms, demographic data, if participants or family members had covid-19 anytime or having any other comorbidities. Then the three scales of optimism, resilience and physical activity questionnaire were added. It includes 231 participants. In each scale, respondent was asked to select any one of the statements which suits best to their thinking. It was also made certain that each subject had responded to all of the questions. The scoring was completed in accordance to the scoring method. The acquired data was statistically analysed using Microsoft excel. The mean and standard deviation of each variable were calculated. To determine the relationship, the Pearson correlation coefficient was used.

RESULTS:

These are the pie charts of the participants of their occupation, or if they had covid-19 anytime or having any co-morbidities. They are given in terms of percentaage.
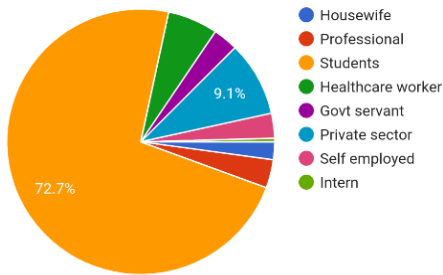
Figure 1 Occupation
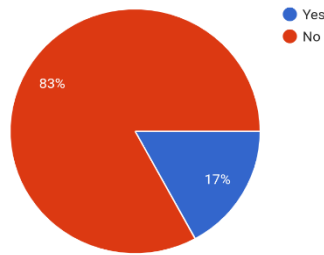
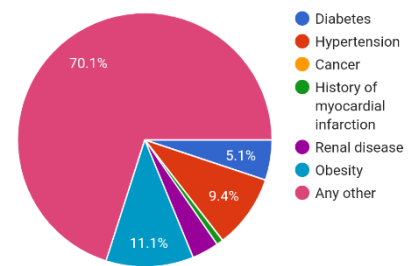**Figure 2 Covid Responses**

Figure 3Presence of Comorbidities

As previously stated, the purpose of this study was to determine the level of optimism and resilience among general population of Aurangabad. The association between optimism and resilience was explored using Brief Resilience Scale (BRS) and Life Orientation Test (LOT). The scores on BRS and Optimism Pessimism Scale were acquired by the participants and the same scores were calculated statistically to seek out the relationship between these variables. The level of physical activity was measured using an International Physical Activity Questionnaire (IPAQ). 531 participants were included out of which 228 were willing to participate.

The result in table 1 shows that the 't' value was not found significant in case of both the variables. It was discovered that the mean scores of both variables didn't show any significant difference.

variables	N	Mean	SD	t-value	p-value
optimism	228	158.94	20.82	1.02	>0.05
resilience	228	18.72	4.85		

Table-1: mean and standard deviation among general population of Aurangabad.

The correlation was computed using Pearson correlation formula on 231 responses filled by Participants of India. In the general population of Aurangabad, Table 2 reveals a substantial positive association between two variables: Optimism and Resilience. The findings show that high levels of optimism may lead to high levels of resilience and that high levels of resilience

can result in high levels of optimism. The findings revealed that there is a link between Optimism and Resilience among population of Aurangabad.

Variables	N	R	P
Optimism-resilience	228	0.582	<0.01

Table 2-correlation between 2 variables

Level of physical activity among general population of Aurangabad: IPAQ was used to determine the amount of physical activity in the previous 7-days using 7-item scale with open-ended questions based on an individual's last 7 days recall of memory.

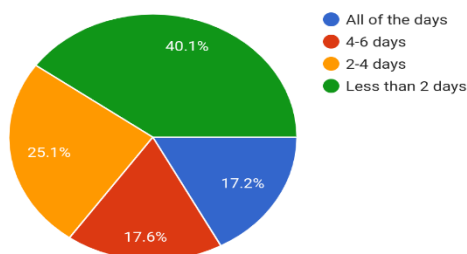Figure 4 During the last 7 days, on how many days did you do vigorous physical activity like heavy lifting, digging, aerobics or fast bicycling?
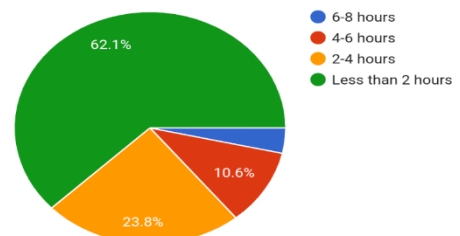

Figure 5 How much time did you usually spend during vigorous physical activities on one of those days?
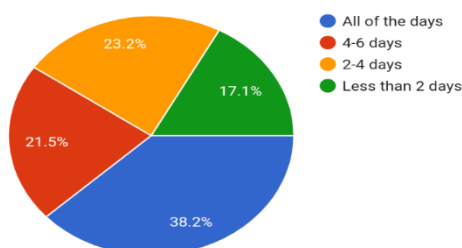

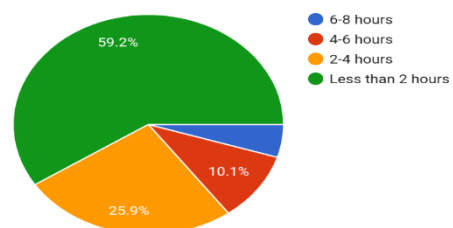Figure 6 During the last 7 days,on how many days did you walk for atleast 10 mins at a time?

Figure 7 How much time did you usually spend walking on one of those days?

During the last 7 days,on how many days did you do moderate ...pace,doubles tennis?
227 responses

- All of the days
- 4-6 days
- 2-4 days
- Less than 2 days

40.1%
15.4%
17.2%
27.3%

During the last 7 days how much time did you spend sitting on a week day
228 responses

- 6-8 hours
- 4-6 hours
- 2-4 hours
- Less than 2 hours

27.6%
16.2%
19.7%
36.4%

How much time did you usually spend doing moderate physi...on one of those days
227 responses

- 6-8 hours
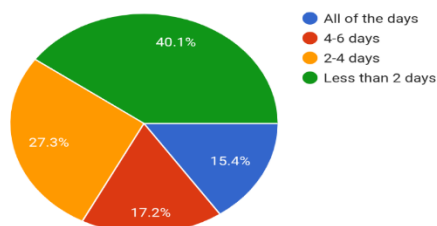- 4-6 hours
- 2-4 hours
- Less than 2 hours

55.5%
11.5%
30.4%

Figure 8 During the last 7 days,on how many days did you do moderate physical activities like carrying light loads, bicycling at a regular pace, doubles tennis?
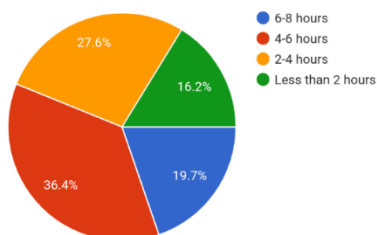
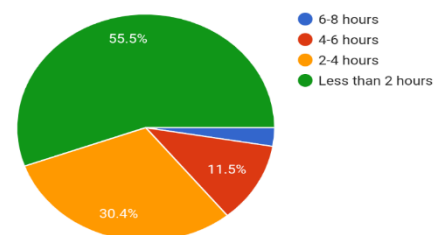Figure 9 During the last 7 days how much time did you spend sitting on a week day?

Figure 10How much time did you usually spend doing moderate physical activities on one of those days?

The current study focused on the relationship between optimism, resilience and the level of physical activity among the general population of Aurangabad. According to the results of optimism scale suggests that majority of the research population obtained scores which can be considered obtained scores which can be considered as high score on the LOT. This also implies that the population of Aurangabad are quite enthusiastic about their future even under the situations of Pandemic and consistent lockdown for more than two months. This hopeful attitude can be attributed to the passage of time as the study was conducted after almost two months of pandemic breakout. During this time, the sample's flexibility, perception of the circumstance, compassion and belongingness altered and were affected. As a result, an individual's adaptive capacity plays a critical role, as enhanced adaptability allows one to cope better with a variety of conditions. For some people, the sense of belonging that the entire world is dealing with the same problems provides psychological relief, as it gives them hope for the future as a population fights back together.

The scores on Brief Resilience Scale show higher than the normal average scores. The score indicates that Indians have a high level of resilience, which can be attributed to optimism, hope, values, and cultural impact. High levels of Resiliency resulting from specific conditions might operate as a 'Breather' for an individual allowing them to 'sustain' in the challenging environment and replenishing their resources. The optimism for a better tomorrow leads to a positive outlook on the future and drive to make changes now. This hope generates optimism, which is a key characteristic of a resilient person. When a person tries to build a solid

relationship with their loved ones, their emotional bonding, increases, they absorb empathy, and they instantly become resilient.

The findings back with previous cross-sectional studies that found a favourable link between PA and optimism, and they give more solid evidence for a causal link between the two. Optimism is a significant consequence since it is not only a sign of excellent mental health but also of good physical health.

DISCUSSION: The current study found that the general population of Aurangabad had a substantial positive association between optimism and resilience. The purpose of this study was to discover if there was a link between optimism, resilience and the level of physical activity among the general population of Aurangabad.

In a study of burn patients, resilience was discovered to be a mediator between optimism and subjective well-being.[14] In a longitudinal study of war prisoners conducted by Sagovia et al., optimism was found to be the biggest predictor of resilience.[15] They also state that both characteristics appear to have a causal relationship, and that optimism leads to success. It can also be deduced that a higher level of resilience boosts one's self-esteem by demonstrating that he or she can deal with any issue in the future because they have effectively dealt with a current challenge. This premise can be inferred to mean that a high degree of optimism withdrawn from one's self-esteem increases one's self-efficacy to deal with a certain scenario, resulting in improved level of resilience.

The six widely known characteristics of resilience are self-esteem, self-efficacy, optimism, positive effect, social support and life satisfaction Character strength is also important for having an optimistic outlook in life. Researchers have linked good emotions with psychological resilience in a paradigm termed "extend and build" presented by Frederickson (2001) and Tugade& Frederickson (2004), in which a person's focus and behavioural capabilities are broadened by happy emotions.[16] As a result, a person develops physical, psychological, and social strength in order to deal with stressful situations. Coping and flourishing gets easier with more flexibility, innovation and openness to new ideas and solutions. Similarly, as per Souri and Hasanirad (2011), optimism and resilience have an interactive relationship and the strong relationship of the same can be attributed to factors such as cultural and religious values. Religious activities can also be considered to assist one in believing in the significance of life, which leads to increase optimism and, as a result, increased resilience. In a separate study on depression, optimism, and resilience in Chinese

adolescents, Nieut et al. (2015) discovered that optimism and resilience are favorably associated to each other, whereas depression is negatively related, which can be attributed to religious practices. According to Antunez, Novarro, and Adan's research, other biological factors such as circadian typology are also linked to both resilience and optimism (2015).[17] In a different research on relation between Resilience and Conditioned Pain Modulation, it was discovered that optimism acts as a mediator between resilience and conditioned pain modulation (Thompson et al, 2018). According to the above mentioned research, one's tolerance threshold also plays a significant role in determining the relationship between optimism and resilience. The present study also focused the variables of Optimism and Resilience. As a consequence of COVID-19 pandemic, the results show a strong positive association between optimism and resilience.[18] Various studies have come to conflicting conclusions when it comes to gender and optimism and resilience. Females are more resilient, according to a 2007 study by Dumont, Widom, and Czaja, while another study published the same year suggested males have greater resilience by Puskar et.al. (2007). Gender differences were not significant and there was no effect of gender on level of resilience, according to a recent study by Splan, Brooks, Porr, and Broyles (2011) on 100 adults.[19]

CONCLUSION: To conclude, the present study signifies strong positive correlation between Optimism, physical activity and Resilience among general population of Aurangabad. Optimism and resilience have a favourable relationship, according to the findings. Optimism is positive outlook towards life and Resilience is ability to bounce back in adverse situations. Many elements influence the relationship including, cultural and religious values, pain tolerance, self-efficacy and self-esteem. However, the 'Principle of Individual differences' is a limitation of the current study (education level, economic status, psychological status, and on-going stress levels). As reported by previous study (Aruna Maheshwari oct.2020) they have suggested that one can see the relationship between physical activity, optimism and resilience among population of Aurangabad and it showed significant relationship between these components.

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