

MENTAL WELLBEING AND RECREATIONAL SPORTS – TWO TOGETHER FOR A HEALTHY WIN - IMPLICATIONS FOR HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The current research highlights how recreational sports enhance student wellbeing and promote physical and mental health through positive social bonding. The Indian social fabric is culturally and traditionally more interconnected as Indians thrive on social networks and engage in several festivals, celebrations, and get-togethers across the year. Therefore, the pandemic and ensuing lockdown created a vacuum. The study explored how students at higher education institutes (HEIs) engaged in Recreational Sports during the lockdown and its role in increasing social bonds, experiencing a feeling of association, positive emotions, relaxing the mind, and promoting overall wellbeing. Further, the present study identifies factors that influence the intention to continue engaging in recreation sports on an ongoing basis (a behaviour that was picked up during the pandemic to cope with lockdown and isolation). The current need is to understand how learning and developing behavioural competencies can be encouraged through active learning in open spaces to overcome social isolation as all types of physical-sports activities favor psychological wellbeing. The present study uses the TPB (Theory of Planned Behavior) framework to identify factors that influence the intention to continue engaging in recreation sports on an ongoing basis. Social contact time, with many shared experiences, has multiple benefits. It not only helps in stress release but also motivates and provides comfort in the company of friends and colleagues. Therein lies the importance and relevance of Outdoor Behavioral Experiential Learning (OBEL) and recreational sports.

KEYWORDS

mental wellbeing, recreational sports, open spaces, higher education

INTRODUCTION

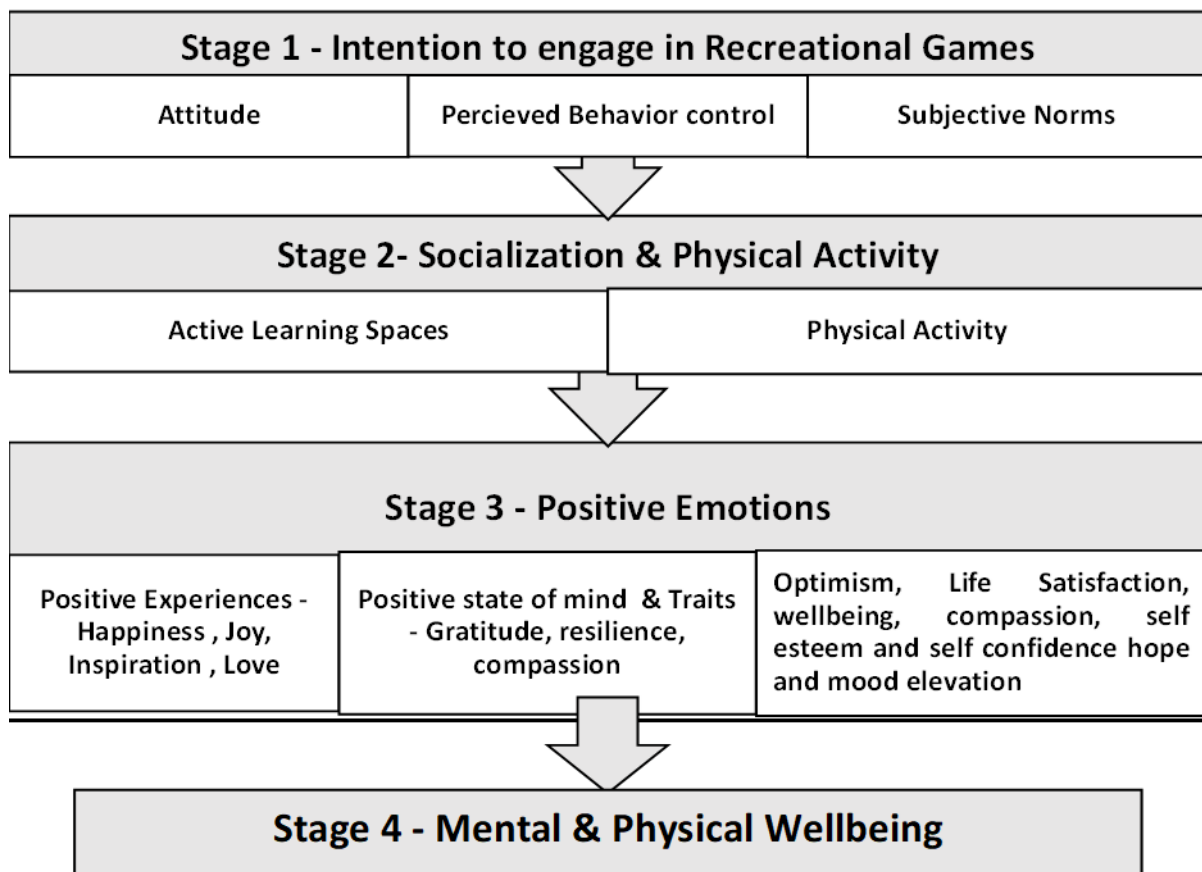
During COVID-19, students in higher education faced unprecedented challenges in the teaching-learning space and were forced to adapt to new learning environments and mediums while encountering uncertain career prospects. The Indian Psychiatry Society survey (2020) [1] reported a 20% increase in the number of people suffering from poor mental health. The COVID-19 pandemic posed a global health crisis and adversely affected both physical and mental health.

The culturally and traditionally interconnected Indian social fabric was shaken as the pandemic and ensuing lockdown created a vacuum. The study explored how students at higher education institutes (HEIs) engaged in Recreational Sports during the lockdown, benefits achieved and factors influencing the intention to continue engaging in recreation sports on an ongoing basis (*a behaviour that was picked up during the pandemic to cope with lockdown and isolation*).

The pandemic brought the importance of social interaction and bonding to the forefront as the imposed restrictions had a profound effect on all aspects of social life [2]. Research [3] found that 24.9% of college students suffered anxiety as daily life was impacted (social distancing), academic activities were curtailed, and uncertain economic prospects seemed imminent which led to increased use of antidepressants, screen fatigue, cultivating new hobbies within the confines of their premises [4] and needed urgent attention. The current need is to understand how learning and developing behavioural competencies can be encouraged through active learning in open spaces to overcome social isolation. All types of physical sports activities, regardless of environment, favor positive psychological wellbeing and management of emotions [5, 6, 7].

Theory of Planned Behavior (TPB) [8], predicts and explains a wide range of behaviors and intentions - *attitude, perceived behavioral control, and subjective norm*. These three constructs explain the individual's intention to engage in a specific behaviour and further state three underlying beliefs. Behavioral beliefs (consequences of a behavior) explain attitude; normative beliefs (how people important to the person want the person to behave) explain subjective norm; and control beliefs (factors that facilitate or impede a behavior) explain perceived behavioral control [9]. According to the TBP framework [9], the stronger the intention, the higher the prospect of performing an action. The TPB framework helps to examine intention to participate in sporting activities [10,11]. The present study uses the TPB framework to identify factors that influence the intention to continue engaging in recreation sports on an ongoing basis.

FIGURE 1 - PROPOSED MODEL BY AUTHORS



METHODS

The research methodology consisted of qualitative research followed by quantitative research. Qualitative research was conducted among 10 participants. Inputs from the qualitative research were used to design the questionnaire. A total of 220 participants from India

completed the online survey, which was administered during the second wave of COVID-19 (June – August 2021). Participants were in the age group 21-25 years; were students pursuing their higher education across India; 67% were males and 33% were females.

MEASURES AND HYPOTHESIS

The study examines aspects of recreation games played by students of higher education institutions. The variables based on the theory of planned behaviour included attitude, perceived behavioural control, and subjective norms. Recreation games are played for different reasons like social interaction, and for fun and enjoyment. Recreation games also provide personal challenge and sense of accomplishment. Many people play recreation games to compete and improve their performance. Higher education institutions consist of students who compete at various levels like in case study competitions, live projects, job placements. Students display competitive behaviour on various occasions both inside the classroom and outside. Hence the authors decided to include the social interaction and challenging aspect of recreation games as effects of playing recreation game. The outcome variable for the study was the intention to continue playing recreation games, consisting of three variables: *Sense of belonging, feeling cared for, and I am a better practitioner*. 13 items were measured, 3 items of subjective norms [9], 3 items of perceived behavioural control, and 4 items of attitude plus intention to continue playing (3 items), using a 5-point Likert scale with 1 = strongly disagree and 5 = strongly agree.

The research attempted to answer the following questions:

- What were the recreation games played by students during the pandemic and reasons for playing them?
- What were the benefits of playing recreation games?
- What are the drivers of intention to continue playing recreation games?

The hypothesis for the research was as follows:

H1: *Positive attitude towards recreation games has a positive influence on the intention to continue playing recreation games*

H2: *Subjective norms has a positive influence on the intention to continue playing recreation games*

H3: *Perceived behavioural control has a negative influence on the intention to continue playing recreation games*

DESIGN AND PROCEDURE

Qualitative research was conducted among 10 students. Since qualitative research does not have any specific rule or criteria [12] regarding adequate sample size, a sample size of 10 was considered appropriate. The information

gathered focused on types of recreation games played, reasons for playing them, advantages of recreation games, intention to continue playing recreation games and details on the three constructs – attitude, subjective norms and perceived behavioural control. The questionnaire was designed and tested on a small sample post qualitative research to check for inaccuracies, language issues, understanding of variables, etc. Pilot surveys typically follow a subjective criterion on sample size due to a lack of available guidelines [13], hence the pilot survey was administered among 10 target respondents. The questionnaire was modified based on the feedback given during the pilot survey and administered in an online format.

DATA ANALYSIS

The data was checked for missing information and inconsistencies. The final reusable sample size was 220 after cleaning the data. Statistical Package for Social Science (SPSS Version 24) was used for univariate analysis and AMOS 23 was used for Confirmatory Factor Analysis and Structural Equation modelling.

QUALITATIVE RESEARCH

Qualitative research findings revealed that ball sports were the most popular recreation game, followed by walking and cycling. Some of the reasons why ball sports were popular were – easy availability of ball, can be played alone, stress buster, refreshes the mind etc. Respondents also indicated creative ways of playing ball games – for example using a bucket as a basket, dining table used for indoor table tennis, indoor football etc. It should be noted that the sample consisted of higher proportion of males in the qualitative research and quantitative research (approximately 66%) which could also explain the higher preference for ball games.

Ball games were primarily played for fun as stress busters, helped in social and team interactions, reduced boredom. Even within the confines of homes wherever possible, they were played against walls, in limited spaces with much improvisation. Respondents stated that recreation sports do not require serious investment in infrastructure, goods, or coaches. While the opening of campuses was met with a lot of enthusiasm, it also led to anxiety among respondents. One of the main concerns voiced was sitting in classrooms without breaks. The pandemic, while stressful, had allowed students to learn and walk around the room simultaneously, indulging in frequent recreation games. One of the suggestions is utilizing open spaces as stress busters during

breaks and before and after class hours to enable bonding, engagement, and break from lectures. Below is a summary of the qualitative research in Table 1.

TABLE 1 - IMPACT AND COPING METHODS DURING LOCKDOWN

Themes	Impact	Coping Methods and Experiences	Resultant Emotions and Mental state
Increased Family bonding and security	Initially when the lockdown took place, it was fun to bond with family	In the first phase of lockdown, played table tennis on my dining table; all clubs were closed, I felt better playing with my father	Positive mental state, no insecurity
Isolation	There was fatigue with uncertainty, no meeting friends, and online lectures	When I go out for jogging even with a mask, I feel free	Mood elevation
Lack of Entertainment and socializing	It was very tough not to meet friends for banter and to simply hang around	We even play squash inside our home. A separate area has been made for it. Garage was used to play games	Acceptance and optimistic outlook. Innovative options
Loneliness	Parents working all day in their rooms.	I have hung a cricket ball in a corridor inside my house. I practice cricket strokes with a soft ball	Ideation, Innovation, and experimentation
Frustration	I felt caged and trapped	When I hit ball against wall it gives a feeling of release of stress...	Engagement, energy, and positivity
Increased Restrictions	I felt confined and claustrophobic, I would eat my food during lectures, locked in one room all by myself	It is barely 15 minutes, but hitting a ball against a wall helps me de-stress.	Engagement and energy
Apprehension and fear of future	How will I sit in classroom, tied down to a desk?	I am used to walking around listening to online classes and bouncing ball on wall and also eating snacks sometimes	Distraction to avoid negativity and frustration

QUANTITATIVE RESEARCH

Descriptive analysis of the key variables is presented in Table 2, summarizing various aspects of recreation games, like types of recreation games preferred, amount of time spent per day, reasons for playing, challenges with offline classes and suggestions for offline classroom learning. It is interesting to note that ball games emerged as the most popular recreation game given its versatility and ease of use. As already mentioned, the higher percentage of males (67%) is also a contributing factor to ball games being preferred. A higher proportion of female students preferred staircase climbing and Yoga. Irrespective of

gender, almost 40% of the respondents sampled played any form of recreation games for about half an hour daily, and the significant reasons were to beat boredom (68%); entertainment (65%), and a sense of achievement (23%). Low preference for achievement indicates that the pandemic had taken a toll causing intense fatigue, and the reason for playing recreation game was for de-stressing rather than competing. Participants were tilted toward playing in a group (64%) as opposed to playing it individually (36%). Most participants were excited to meet their classmates during offline classes (65%), but one

primary concern was whether they would be able to sit in classes in one place without breaks (73%). As students come back to campus in large numbers, instructors and college authorities need to keep in mind that the earlier traditional way of teaching non-stop for 60 minutes or 90 minutes to a packed class may create huge dissonance. Designing pedagogy with activities, allowing students to step out of the classes, short frequent breaks, redesigning classes, corridors, and walkways to accommodate recreation games etc. would help students de-stress.

The mean scores of the 13 items of theory of planned behaviour are summarized in Table 3. Participants showed high level of agreement on attitude towards recreation games, were neutral towards perceived behavioural control and showed some disagreement on subjective norms. The intention to continue playing recreation games was due to feeling cared for (4.25) followed by sense of belonging (3.76) and was lower for being a better practitioner (3).

TABLE 2 - SUMMARY OF PREFERENCE TOWARDS RECREATION GAMES

Questions	Items	Percentage (%)
Type of Recreation Game preferred	Ball Games (against wall, modified table tennis, bucket and ball, tapping etc.)	70%
	Walking (staircase climbing)	50%
	Running (included indoor running and corridor running during lockdown)	23%
	Yoga	33%
	Cycling	30%
Amount of Time spent per day	Half an hour	40%
	15-20 minutes	34%
	1 hour	22%
	> 1 hour	8%
Play preference	In a group	64%
	Alone	36%
Reasons for playing	To beat boredom	68%
	Entertainment	65%
	Health	62%
	Companionship	44%
	Self-Development	36%
	Achievement	23%
Feelings towards offline classes	Excited to meet classmates	65%
	Peer learning will be higher	54%
	Instructor can understand our doubts better	52%
	Can absorb better what is being taught	47%
Challenges of Offline classes	Not used to sitting at one place for too long	73%
	Classes without breaks	64%
	Feeling cooped up in classroom	44%
	Dealing with hunger pangs	38%
Suggestions to improve classroom experience	More activities during classes	62%
	Breaks in between classes	53%
	Unstructured classes – not confined to classroom only	46%

TABLE 3 – MEAN RATING, SUB SCALES THEORY OF PLANNED BEHAVIOUR

Construct	Item	Mean Rating (5-point scale, 5= strongly agree)
Positive Attitude	RG make me feel happy	4.32
	RG make me feel relaxed	3.81
	RG make me feel energetic	3.86
	RG make me feel competitive	3.75
Subjective Norms	Friends motivate me to play RG	2.59
	I play RG that others play	3
	I am updated with various RG that are trending	2.26
Perceived Behavioural Control	RG require huge investment of time	3.64
	RG require regular practice	3.42
	RG require investment in additional gears and equipment	3
Intention to continue playing recreation games	I intend to continue playing RG due to a sense of belonging	3.76
	I intend to continue playing RG because I feel cared for	4.25
	I intend to continue playing RG because I feel I will become a better practitioner	3.06

Note: Recreation Games is denoted as RG

A confirmatory factor analysis (CFA) was conducted to test four underlying latent constructs, positive attitude, subjective norms, perceived behavioural control, and intention to continue playing recreation games. Attitude, perceived behaviour control, and subjective norms (from the theory of planned behaviour) were exogenous constructs, while the intention to continue playing was an endogenous construct. The initial CFA model which had 4 variables for Attitude, 3 variables for perceived behaviour control and 3 variables for subjective norms and 3 variables for intention to continue recreation games (I feel sense of belonging, I feel cared for, I will be a better practitioner) had average fit, with CFI=0.85 and RMSEA value being 0.11. After dropping 2 items (one from Attitude – recreation games make me feel competitive and one from Intention - I intend to continue playing recreation games since I will be a better practitioner from the endogenous construct intention to continue playing), the final CFA model revealed a satisfactory overall fit (Hair, 1998) with following indices ($\chi^2/df = 2.80$; $\chi^2/df \leq 2.0$ (or 3.0 or even 5.0) considered acceptable, CFI= 0.89, CFI>0.9 considered average, >0.95 considered good, GFI = 0.89; GFI >0.90 considered good, RMSEA = 0.08; RMSEA <=0.08 considered good). A structural equation model was then run on the final CFA model, with the three exogenous constructs - Positive attitude towards

recreation games, perceived behavioural control, and subjective norms and one endogenous construct -intention to continue playing recreation games.

With reference to Figure 2 and Table 4, the regression weights reveal the following.

1. Positive Attitude → Intention to continue playing recreation games (std. regression weight = 0.79, significance***)
2. Perceived Behavioural Control → Intention to continue playing recreation games (std. regression weight = - 0.18, significance 0.005)
3. Subjective Norm → Intention to continue playing recreation games (std. regression weight = 0.04, significance 0.943)

The SEM revealed that positive attitude towards recreation games and perceived behavioural control were significant factors influencing intention to continue playing, while subjective norms is insignificant. In other words, the role of peers is insignificant, perhaps since recreation games were picked up during the pandemic as a solitary sport for entertainment; however, feeling relaxed and happy and not requiring investment in time and equipment for recreation games is a driver for continuation. (Note – PBC

was reverse coded, hence the regression estimate is negative). The overall R square for the model was 66%.

FIGURE 2 – STRUCTURAL EQUATION MODELLING AMOS OUTPUT

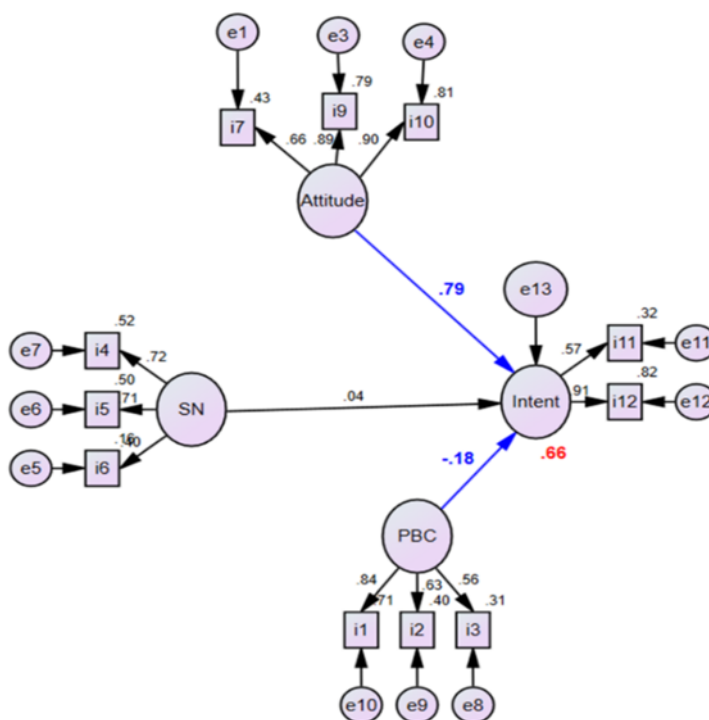


TABLE 4 – STANDARDIZED REGRESSION WEIGHTS

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Intent <--- Attitude	1.062	.174	6.085	***	
Intent <--- SN	-.006	.080	-.072	.943	
Intent <--- PBC	-.261	.093	-2.813	.005	

RESULTS

The results stress the importance of recreational sports as even a quick 15-20 min break from classes to stretch (yoga), play ball sports, go for long walks, jog would help to de-clutter the mind and take a break from digital mediums. The need of the hour is to reimagine our classrooms and learning inside closed doors and shift to open movement, walks, and discussions in the long corridors, encouraging case discussions in open spaces. As the education spurs on creative thinking and out-of-box ideation where maybe a jog around the track and return to discuss a case, 15 min fuse-ball, open chess boards etc. will give a more active response and therefore satisfaction. Here mental wellbeing

is addressed differently by recreational sports being used to relax the mind.

The role of games in higher education has gained importance over the years. Games played in classroom increases motivation among students and helps in teamwork and collaboration. However, most higher education institutions rely on simulation through games as a medium of instruction. While these are good, often this is restricted to one or two sessions in an entire trimester. While technical skills can be taught through structured pedagogy and assignments, soft skills like creativity, innovation, teamwork require a different approach.

Reductions in stress biomarkers [14, 15] are witnessed when there is contact with nature and natural outdoor settings. Studies document positive impacts of students' physical activity [16, 17] and motivational benefits of teacher-led education outside the classroom [18, 19] and of garden-based learning [20].

PRACTICAL AND MANAGERIAL IMPLICATIONS

The researchers did not come across studies focusing on the connect between recreation games, mental wellbeing, and open learning spaces. This study tries to emphasize the role of recreation games beyond classrooms in fostering cohesiveness, team spirit and inculcating an open inclusive mind-set with a willingness to explore possibilities. Higher education institutions need to focus on infrastructure development beyond smart classrooms, innovation labs, etc., to create open spaces amenable to recreation games and redesign curriculum to include games as part of the education journey. Open spaces like amphitheatres, long open corridors, sit-outs under trees etc., in the campus are mostly utilised by student groups without faculty intervention. Concerted efforts can be made to plan courses which can be delivered in unstructured environment beyond classrooms, indoor games to help learning or/and Outdoor Behavioral Experiential Learning (OBEL) in the form of games or adventure activities or trek etc. could contribute tremendously. Outdoor learning offers students benefits like enhanced engagement, stress reduction besides, physical and psychological wellbeing [21], increased student retention [22, 23], and other benefits associated with exposure to green spaces and wildlife, including physical activity, stress relief, and the rejuvenation of attention [24, 15]. Ancient Indian ways of imparting education through Gurukuls, Rabindranath Tagore's Shantiniketan approach, and modern classrooms with dramatics, theatre, and role-playing are robust examples.

Online learning platforms that saw a surge of student sign-ups e.g, Coursera, Udemy, Upgrad . fall short on social interaction, peer learning, experiential and active learning [25]. Social contact time with many shared experiences has multiple benefits as, it not only helps in stress release but motivates and provides comfort in the company of friends and colleagues and therein lies the importance and relevance of OBEL and recreational sports.

LIMITATIONS

The major limitation of the study is its limitation in understanding the comparative difference in the respondent sample when they play/study indoors versus their mood elevation and stress management when the open active learning spaces are there, and they engage in recreational sports.

CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

ETHICS CLEARANCE

The adult age in India is 18 years for casting the ballot and the respondents of the study belonged to the age group 21 years to 25 Years which falls in the adult category. The respondents of the study willingly participated in the research study as adults. They were given an option of opting out if they desired to do so.

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