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Annexures

Annexure – I

Informed Consent Form

I Anupama. N, will be carrying out a study on the topic "**Effectiveness of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self-efficacy of Hockey Players"** as part of my research being carried out under the Guidance of Dr. S. Gayatridevi, Department of Psychology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.

The justification for the study:

Earlier research works has given way for to find the relationship between managing performance anxiety and enhancing self-efficacy in Hockey players. In general, there are few studies which focus on the efficacy of Mindfulness Therapy in improving self-efficacy of sports players. This is where the current study helps to perform a research on Mindfulness Therapy and that would be additional source of information in the field of sports psychology.

Objectives of the study:

Primary Objective:

- To assess the Level of Self Efficacy and Performance Anxiety among Hockey Players

Secondary Objectives:

- To compare the level of Self Efficacy and Performance Anxiety among male and female players

- To find out the efficacy of Mindfulness therapy to help and train the hockey players in reducing performance anxiety and enhancing self-efficacy.

We request you to kindly cooperate with us in this study. We propose to collect background information and other relevant details related to this study. We will be carrying out the Initial interview (Approximately) for 60 minutes. Intervention sessions in the form of mindfulness therapy will be provided to you and recorded version or script will be given for practice at home. Data collected will be stored for a period of fifteen years. Photograph may be taken for the purpose of research documentation.

Benefits from this study, if any:

- The participants will be informed of the extent to which their performance anxiety is affected and their level of self-efficacy.
- Players will be taught cognitive behavioural techniques that would be helping change their thought process.
- The study will help those players who have low level of self-efficacy to improve.
- The study will be providing a focus point for their achievement and excellence.

:

Risks involved by participating in this study, if any: None

How will the results be used?

If you are uncomfortable in answering any of our questions during the interview, you have the right and freedom to withdraw from the study at any point of time. You will NOT be paid any remuneration for the time you spend with us for this interview / study. The information provided by you will be kept in strict confidence. Under no circumstances shall we reveal the identity of the respondent or their families to anyone. The information that we collect shall be used for approved research purposes only. You will be informed about any significant new findings – including adverse events, if any– whether directly or indirectly related to you or to other participants of this study, developed during the course of this research which may relate to your willingness to continue participation

Consent: The above information regarding the study, has been read by me/ read to me, and has been explained to me by the investigator(s). Having understood the same, I ……. hereby give my consent to them to interview me, I am affixing my signature / left thumb impression to indicate my consent and willingness to participate in this study.

Signature / Left thumb impression of the Study Volunteer / Legal Representative:

Signature of the Interviewer with date

Signature of the Witness with name:

Annexure – II

Case Study Schedule / Personal Profile Sheet

CR NO ☐ ☐ ☐

Effectiveness of Mindfulness Therapy in Managing Performance Anxiety and enhancing Self-efficacy among Hockey Players

Sl. No.	Socio-Demographic Details	
1	Name	
2	Contact details	
3	Locality	Urban ☐ Rural ☐
4	Age (Years)	
5	Gender	Male ☐ Female ☐ Others ☐
6	Education	Pre – University ☐ Degree ☐ Post-graduation ☐ Others Specify:
7	Occupation	Professional ☐ Semi-Professional ☐ Clerical, Shop-owner, Farmer ☐ Skilled worker ☐ Semi-skilled worker ☐ Unskilled worker ☐ Unemployed ☐ Others Specify:
8	Marital Status	Single ☐ Married ☐ Live in relationship ☐ Others Specify:
9	Religion	Hindu ☐ Muslim ☐ Christian ☐ Others Specify:
10	Total number of persons living together in your family ☐	
11	How many siblings do you have? ☐	
12	Which type of family you belong to at present? Joint ☐ Extended ☐ Nuclear ☐ Single parent ☐	
13	Annual Family Income:	

Annexure – III

Sports Anxiety Scale – 2

REACTIONS TO PLAYING SPORTS

Many athletes get tense or nervous before or during games, meets or matches. This happens even to pro athletes. Please read each question. Then, circle the number that says how you USUALLY feel before or while you compete in sports. There are no right or wrong answers. Please be as truthful as you can.

	Before or while I compete in sports:	Not At All	A Little Bit	Pretty Much	Very Much
1.	It is hard to concentrate on the game.	1	2	3	4
2.	My body feels tense.	1	2	3	4
3.	I worry that I will not play well.	1	2	3	4
4.	It is hard for me to focus on what I am supposed to do.	1	2	3	4
5.	I worry that I will let others down.	1	2	3	4
	Before or while I compete in sports:	Not At All	A Little Bit	Pretty Much	Very Much
6.	I feel tense in my stomach.	1	2	3	4
7.	I lose focus on the game.	1	2	3	4
8.	I worry that I will not play my best.	1	2	3	4
9.	I worry that I will play badly.	1	2	3	4
10.	My muscles feel shaky.	1	2	3	4
	Before or while I compete in sports:	Not At All	A Little Bit	Pretty Much	Very Much
11.	I worry that I will mess up during the game.	1	2	3	4
12.	My stomach feels upset.	1	2	3	4
13.	I cannot think clearly during the game.	1	2	3	4
14.	My muscles feel tight because I am nervous.	1	2	3	4
15.	I have a hard time focusing on what my coach tells me to do.	1	2	3	4

Scoring Key. Somatic: Items 2, 6, 10, 12, 14; Worry: Items 3, 5, 8, 9, 11; Concentration Disruption: Items 1, 4, 7, 13, 15.

Annexure – IV

General Self-efficacy Scale

General Self-Efficacy Scale (GSE)

About: This scale is a self-report measure of self-efficacy.

Items: 10

Reliability:
Internal reliability for GSE = Cronbach's alphas between .76 and .90

Validity:
The General Self-Efficacy Scale is correlated to emotion, optimism, work satisfaction. Negative coefficients were found for depression, stress, health complaints, burnout, and anxiety.

Scoring:

	Not at all true	Hardly true	Moderately true	Exactly true
All questions	1	2	3	4

The total score is calculated by finding the sum of the all items. For the GSE, the total score ranges between 10 and 40, with a higher score indicating more self-efficacy.

References:

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.

General Self-Efficacy Scale (GSE)

	Not at all true	Hardly true	Moderately true	Exactly true
1. I can always manage to solve difficult problems if I try hard enough	☐	☐	☐	☐
2. If someone opposes me, I can find the means and ways to get what I want.	☐	☐	☐	☐
3. It is easy for me to stick to my aims and accomplish my goals.	☐	☐	☐	☐
4. I am confident that I could deal efficiently with unexpected events.	☐	☐	☐	☐
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	☐	☐	☐	☐
6. I can solve most problems if I invest the necessary effort.	☐	☐	☐	☐
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	☐	☐	☐	☐
8. When I am confronted with a problem, I can usually find several solutions.	☐	☐	☐	☐
9. If I am in trouble, I can usually think of a solution	☐	☐	☐	☐
10. I can usually handle whatever comes my way.	☐	☐	☐	☐

Annexure – V

Five Facet Mindfulness Scale

FFMQ-15: 15-item Five-Facet Mindfulness Questionnaire

Instructions

Please use the 1 (never or very rarely true) to 5 (very often or always true) scale provided to indicate how true the below statements are of you. Circle the number in the box to the right of each statement which represents your own opinion of what is generally true for you. For example, if you think that a statement is often true of you, circle '4' and if you think a statement is sometimes true of you, circle '3'.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
1. When I take a shower or a bath, I stay alert to the sensations of water on my body.	1	2	3	4	5
2. I'm good at finding words to describe my feelings.	1	2	3	4	5
3. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.	1	2	3	4	5
4. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.	1	2	3	4	5
5. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.	1	2	3	4	5
6. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.	1	2	3	4	5
7. I have trouble thinking of the right words to express how I feel about things.	1	2	3	4	5
8. I do jobs or tasks automatically without being aware of what I'm doing.	1	2	3	4	5
9. I think some of my emotions are bad or inappropriate and I shouldn't feel them.	1	2	3	4	5
10. When I have distressing thoughts or images I am able just to notice them without reacting.	1	2	3	4	5
11. I pay attention to sensations, such as the wind in my hair or sun on my face.	1	2	3	4	5
12. Even when I'm feeling terribly upset I can find a way to put it into words.	1	2	3	4	5
13. I find myself doing things without paying attention.	1	2	3	4	5
14. I tell myself I shouldn't be feeling the way I'm feeling.	1	2	3	4	5
15. When I have distressing thoughts or images I just notice them and let them go.	1	2	3	4	5

Baer, R. A., Carmody, J., & Hunsinger, M. (2012). Weekly change in mindfulness and perceived stress in a mindfulness-based stress reduction program. *Journal of Clinical Psychology, 68*(7), 755-765. doi: 10.1002/jclp.21865

Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the factor structure of the 39-item and 15-item versions of the Five Facet Mindfulness Questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression. *Psychological assessment, 28*(7), 791. doi: 10.1037/pas0000263

Background

This measure is a short form of the 39-item FFMQ (Baer et al., 2006). It includes the same five facets as the long form: Observing, Describing, Acting with Awareness, Non-Judging of inner experience, and Non-Reactivity to inner experience. The 15-item FFMQ (FFMQ-15) was developed by Baer et al. (2012) and includes three items for each facet. Items were selected from the FFMQ-39 based on their loadings on each facet and to maintain the breadth of content for each facet. The factor structure and psychometric properties of the FFMQ-15 were tested by Gu et al. (2016). They found that the factor structure of the FFMQ-15 was consistent with that of the FFMQ-39 and there were large correlations between total facet scores of the short and long forms. This indicates that both versions of the FFMQ measured highly similar constructs. They also found that the two FFMQ versions did not differ significantly from each other in terms of convergent validity. Additionally, internal consistency was adequate for the FFMQ-15 and the measure was found to be sensitive to change over the course of Mindfulness-Based Cognitive Therapy (small/moderate to moderate/large and significant increases in total facet scores). Taken together, Gu et al.'s findings support the use of the FFMQ-15 as an alternative measure in research where briefer forms are needed.

In addition to the above findings, Gu et al. (2016) found that the factor structures of the FFMQ-39 and FFMQ-15 were not stable before and after MBCT; for both versions, before MBCT a four-factor structure without the observing subscale best fit the data but after MBCT a five-factor structure provided the best fit. This suggests that comparisons in FFMQ scores before and after mindfulness interventions may not be valid. They recommend that researchers consider excluding the observing facet score from comparisons of total scale/subscale scores before and after mindfulness interventions.

Scoring Information

*Observing items: 1, 6, 11.
Describe items: 2, 7R, 12.
Acting with awareness items: 3R, 8R, 13R.
Non-judging items: 4R, 9R, 14R.
Non-reactivity items: 5, 10, 15.

Reverse-phrased items are denoted by 'R' after the item number, e.g. 14R.

*Refer to the background information regarding recommendations for omitting the observing subscale score from comparisons of total scale/subscale scores before and after mindfulness interventions.

References

The original FFMQ was developed by Baer et al. (2006) and the FFMQ-15 was developed by Baer et al. (2012). The factor structure and psychometric properties of the FFMQ-15 was tested by Gu et al. (2016).

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45. doi: /10.1177/1073191105283504

Baer, R. A., Carmody, J., & Hunsinger, M. (2012). Weekly change in mindfulness and perceived stress in a mindfulness-based stress reduction program. *Journal of Clinical Psychology, 68*(7), 755-765. doi: 10.1002/jclp.21865

Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the factor structure of the 39-item and 15-item versions of the Five Facet Mindfulness Questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression. *Psychological assessment, 28*(7), 791. doi: 10.1037/pas0000263

Annexure – VI

Institutional Human Ethics Committee

INSTITUTIONAL HUMAN ETHICS COMMITTEE

Avinashilingam
Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956) Re-accredited with 'A+' Grade by NAAC.
Recognised by UGC Under Section 12 B
Coimbatore-641 043, Tamil Nadu, India

20th January 2020

To
Ms. Anupama. N
Department of Psychology
Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore – 641 043

Dear Anupama. N,

Ref: Your proposal No. IHEC /19-20/PSY /30 entitled "Efficacy of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self Efficacy among Hockey Players" submitted for approval to the IHEC on 30.10.2019.

The Institutional Human Ethics Committee of our University hereby grants approval to your research proposal No. IHEC /19-20/PSY /30 entitled "Efficacy of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self Efficacy among Hockey Players" submitted by you. The Approval number for the same is AUW/ IHEC/PSY-19-20/XPD/30.

We wish you all the best in your research endeavours.

Regards,

Dr.S.Uma Mageshwari
Member Secretary

Institutional Human Ethics Committee

Annexure – VII

Plagiarism Check Report

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)
Re-accredited with 'A++' Grade by NAAC.CGPA 3.65/4, Category I by UGC
Coimbatore – 641 043, Tamil Nadu, India

PLAGIARISM CHECK REPORT (THESIS)

1.	Name of the Research Scholar	Anupama. N
2.	Roll No. and Year of Registration	18PHCPP002, 2018
3.	Department	Psychology
4.	Name of the Research Guide	Dr. S. Gayatridevi
5.	Title of the Thesis / Dissertation	Effectiveness of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self-efficacy among Hockey Players
6.	Similarity Content (%) Identified	**5%**
7.	Software Used	Turnitin
8.	Date of Verification	22-01-2025

Note : The report is excluding 14 Consecutive words, Review of Literature and Quoted Materials.

Checked by :

22/1/25
Information Scientist

Anupama
Research Scholar

22.01.25
Assistant Librarian

S. Gayatridevi 22.1.25
Research Guide

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Effectiveness of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self-efficacy among Hockey Players

Abstract

"Hockey is a National Sport of India having rich and long lasting legacy of our country. Performance anxiety not only limits one's capabilities but also prevents one from giving their best effort that is when the athletes experience lower self-efficacy and become mentally weak. Albert Bandura (1977) a person with high self-efficacy views challenges as things that are supposed to be mastered rather than threats to avoid. The study assessed gender variations and relationship between performance anxiety, self-efficacy and mindfulness of hockey players. The study includes 40 hockey players (20 male and 20 female) between the ages of 18 – 25 years selected from the Hockey Stadium at Bangalore. Hockey players were assessed for self-efficacy, performance anxiety and mindfulness using questionnaires. Results proved to have a significant difference between male and female samples on the levels of self-efficacy and performance anxiety characteristics as somatic, worry and attention disruption. Male hockey players reported with higher levels of performance anxiety compared to females indicating that they were finding difficulty in focusing, and easily distracted from external distractions. Compared to male, female players reported higher levels of self-efficacy. The results demonstrated that mindfulness treatment helped hockey players manage their performance anxiety and increased their sense of self-efficacy. Behavioral, emotional, cognitive and sleep issues were all significantly improved by mindfulness therapy. Their ability to analyse, make goals and deal with emotional problems changed, which in turn decreased their aggressive behaviour, especially in young people. The research study gives a central idea for enlightening the greatness and achievement of hockey players"

Key Words: *Mindfulness Therapy, Self-efficacy, Performance Anxiety and Hockey Players*

1

Effectiveness of Mindfulness Therapy in Managing Performance Anxiety and Enhancing Self-efficacy among Hockey Players

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Annexure – VIII

Publications

Avinashilingam Institute for HomeScience and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Appendix L2

(Item No 5 of Check List) Details of Research Publications

S.No	Article	Journal	Other Details Vol/No/Page No/ Year	Published in UGC-CARE / Scopus Indexed/ Web of Science
1	A Brief Mindfulness Therapy for Managing Sports Anxiety in Women Hockey Players	Journal of the Indian Academy of Applied Psychology	Vol. 50 / No. 1 / 319-328 Jan 2024	UGC-Care
2	Mindfulness Therapy for Stress, Happiness and Self-efficacy of Hockey Players in Schools	INSPA Journal of Applied and School Psychology	Vol. V / No. 2 / 301-308 April 2024	UGC-Care

*Proof of list of Journals from Internet to be attached along with copies of reprints.

Scholar : Anupama

Supervisor : S. Gayathridevi 18/7/24

The scholar Miss. Anupama, N (18PHCPP002) has published her research article in the following journals:

Checked By: S. Gayathridevi 18/7/24
HoD/Dean of Respective School

1. Journal of the Indian Academy of Applied Psychology - indexed and active in UGC Care List Group I from January 2023 to present and

2. INSPA Journal of Applied and School Psychology - indexed and active in UGC care List Group I from January 2023 to present.

This may be considered.

J. Jr 18.07.2024.

© Journal of the Indian Academy of Applied Psychology
Jan 2024, Vol. 50, No. 1, 319-328

A Brief Mindfulness Therapy for Managing Sports Anxiety in Women Hockey Players

Anupama, N. and Gayatridevi, S.
Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

Any type of sport is competitive and can make the players anxious when they are playing or even before that. The aftermath of the game can make players feel anxious. In this study an investigation is done on the performance anxiety in Women Hockey Players. Sixty Women Hockey Players from Bengaluru were randomly selected, and Performance Anxiety Questionnaire was administered on them. Thirty-five participants with high performance anxiety were given Mindfulness Based Therapy. After a month, the participants were administered with the same questionnaire. The result showed that physiological, anxiety, and distracting symptoms of performance anxiety varied between the players. The hockey player's sports anxiety decreased due to Mindfulness Based Therapy.

Keywords: Mindfulness Based Therapy, Performance Anxiety, Somatic, Worry, Concentration Disruption, and Women Hockey Players

The field of Sports Psychology deals with the application of psychological theories to competitive physical activity. The sport psychologist is interested in the highs and lows of the athletes and wants to see them all succeed. Boosting the young athlete's ability to self-regulate and increasing self-confidence leads to better overall performance (Ramakrishnan et al., 2015). The effects of anxiety on athletic performance have long piqued the interest of coaches, athletes, and academics. Everyone who has ever watched or participated in a sporting event knows that one athlete can "peak" at the right time while another can falter or "choke" due to emotional and motivational variables.

There are additional outcomes that anxiety influences. Some kids stop participating in sports because they view athletic competitions as something to be avoided rather than enjoyed. Medical professionals and coaches have observed that athletes who are nervous about competing have a higher risk of injury and/or a lengthier recovery time after an injury (Fehm & Schmidt, 2006). Performance Anxiety has been around as long as there has been artistic performance, but it has only been the subject of serious psychological study in the last several decades. The key features are:

1. Delusions of grandeur, perfectionism, or irrationality
2. Outward manifestations of anxiety, such as shakiness, rapid breathing, or palpitations

Some people's personalities make them shy away from public displays of talent like performances and auditions.

For the most comprehensive analysis of professional musicians' health, see the ICSOM research (Fishbein et al., 1988). Sixteen percent of the subjects reported that performance anxiety severely hindered their ability to do their best which resulted in being the number one mental health problem. Sadly, only a single measure of performance nerves was considered. Studies with smaller number of participants and more sophisticated performance anxiety measures found even higher prevalence rates of professionals experiencing distressing levels of the condition.

Bray and Martin (2003) explored the effect of venue on the performance and mental preparation of athletes in individual sports. The results displayed that athletes' viewpoints

change in individual sports competitions and highlighted the necessity for further investigation into the connection between game site and competitors' mental states. Effects of trait anxiety on directed interpretations of state responses were investigated by Hanton, Mellalieu and Hall (2002), and the multidimensional competitive anxiety was analyzed (State Trait Anxiety). The results presented that directed interpretations are crucial in recognizing total state anxiety symptoms in perceptually demanding sports. Three professional flat racing jockeys were studied by Callow and Waters (2005), who investigated the effect of kinesthetic imagery on their sport confidence and the correlation between performance and sport confidence. The results proved the effectiveness of kinesthetic imagery as a tool for athletes to hone their skills and gain self-assurance.

Among adolescents, the incidence of anxiety disorders varies between 6% and 20%, with the prevalence of anxiety symptoms that do not meet criteria for a specific anxiety disorder being much greater. The rate of occurrence is significantly higher in females. The stress levels of women who compete in sports might range from moderate to high (Patel et al., 2010).

Mindfulness and Acceptance Based Practice Models have been successfully implemented in sport and performance practice domains around the world since they were first conceptualized and applied in sport to improve athletes' and performers' performance and overall well-being (Frank, Gardner & Moore, 2017).

Bhagirathi (2008) conducted a study on ten female hockey players' anxiety, motivation, and ability to stick to their goals. The subjects from different schools in Madhya Pradesh, India, between the ages of 14 and 19 were selected for the study. The results showed a substantial correlation between state anxiety (0.90) and trait anxiety (0.84) and goal-keeping performance, but not accomplishment motivation. There was a statistically significant link between motivation, anxiety, and skill performance for hockey team players (Abd-El Wahab, 2016).

One of the main tenets of the Mindfulness Intervention is teaching athletes to recognize negative emotions and thoughts, accept them, and then let them go, which helped them recognize and release stress and tension while competing. Age was a powerful predictor of post intervention sport anxiety, even though there were no significant differences between ages (Noetel et al., 2019).

A research study surveyed mindfulness training programme would affect both the endurance performance and executive functions of athletes. Applying a quasi-experimental design, 46 university athletes were recruited and assigned into a 5-week mindfulness training programme or a waiting list control group. In addition, Event Related Potentials (ERPs) associated with the Stroop task were assessed to investigate the potential electrophysiological activation associated with the mindfulness training. For each participant, the mindfulness level, endurance performance assessed by a graded exercise test, executive functions assessed via Stroop task, and N2 component of ERPs were measured prior to and following the 5 weeks intervention. After adjusting for the preintervention scores as a covariate, it was found that the post intervention mindfulness level, exhaustion time, and Stroop task accuracy scores, regardless of task condition, of the mindfulness group were higher than those of the control group. The mindfulness group also exhibited smaller N2 amplitude than the control group. These results suggested that the 5-weeks mindfulness programme can enhance the mindfulness level, endurance performance, and multiple cognitive functions, including executive functions of university athletes (Nien et al., 2020).

Method

Objectives

1. To assess the level of Sports Anxiety among Women Hockey Players
2. To find out the efficacy of Mindfulness Therapy in reducing Sports Anxiety among Women Hockey Players

Operational Definitions

Sports Anxiety: It is a tendency to view competitive situations as threatening and to respond to these situations with apprehension and tension (Martens, Vealey & Burton, 1990).

Sattar and Hussain (2020) defined the three dimensions of sports anxiety as follows:

i. Somatic anxiety involves physiological aspects of arousal, particularly muscle tension and stomach discomfort.

ii. Worry is defined as negative concerns about potential negative personal and social consequences of poor performance.

iii. Concentration disruption involves difficulties in focusing on task-relevant cues and thinking clearly in the competitive situation.

Hockey is a sport in which two teams play against each other by trying to manoeuvre a ball or a puck into the opponent's goal using a hockey stick.

Youth: The youth with the age range of 15 – 25 years are considered as having high risks of performance in the play.

Mindfulness: It is a type of meditation in which a person focuses attention on his or her breathing and thoughts, feelings and sensations are experienced freely as they arise (APA Dictionary of Psychology).

Hypotheses

- H1: There will be significant differences in before, after and follow-up phases of mindfulness therapy in somatic dimension of Performance Anxiety among Women Hockey Players
- H2: There will be significant differences in before, after and follow-up phases of mindfulness therapy in worry dimension of Performance Anxiety among Women Hockey Players
- H3: There will be significant differences in before, after and follow-up phases of mindfulness therapy in concentration disruption dimension of Performance Anxiety among Women Hockey Players
- H4: There will be significant differences in before, after and follow-up phases of mindfulness therapy in performance anxiety among Women Hockey Players

Sample: Sixty Women Hockey Players from Shanthi Nagar Hockey Stadium, Bangalore, out of which only 35 were screened positive for sports anxiety and received the mindfulness intervention programme.

Research Design: It used a Single Group Design without a Control Group.

Inclusion Criteria

Participants in the age range of 15-25 years

Participants who can read and write either English or the Regional Language.

Exclusion Criterion:

Participants suffering with psychological problems are excluded.

Tools Description: The tools used for the study are as follows:

Case Study Schedule: It was developed for the study to collect the data relating to socio demographic details, the issues that cause distress such as health, family, financial problems, interpersonal relationships, and factors contributing to sports performance.

Sports Anxiety Scale – 2 (SAS): It was developed by Smith, Smoll, Cumming, Grossbard et al. (2006). It has 15 items which is a multidimensional measure of cognitive and somatic trait anxiety in sport performance settings yielding three separate subscales for Somatic Anxiety, Worry, and Concentration Disruption. The scale reliably predicts pre competition state anxiety scores and has proved sensitive to anxiety reduction interventions directed at youth sport coaches and parents.

Somatic Anxiety: Somatic Anxiety manifests some of the symptoms such as stomach-ache, headache, fatigue, sweating etc. in a physical way. This subscale of sports anxiety measures certain aspects of anxiety namely stomach upset, feeling bodily tension and muscles feeling shaky and tight out of nervousness (Smith, Smoll, Cumming & Grossbard, 2006).

Worry: Worry is the state or feeling of anxiety and unhappiness caused by the problems that you have or by thinking about unpleasant things that might happen. In respect to sports, this subscale of sports anxiety measures certain aspects of anxiety namely worrying, not playing well, letting others down, playing badly and

messing up during the game (Smith, Smoll, Cumming & Grossbard, 2006).

Concentration Disruption: It is the process of diverting the attention from a desired area of focus and thereby blocking or diminishing the reception of desired information. This subscale of sports anxiety measures certain aspects of anxiety namely getting hard to concentrate and focus on the game (Smith, Smoll, Cumming & Grossbard, 2006).

Mindfulness Script: It is a script-based intervention which comprises of breathing exercises and mindfulness of thoughts. It was administered before, after and follow-up phases by the researcher and an audio was recorded of the same mindfulness script which was given to the players for everyday use.

Intervention Programme

Mindfulness Script

The intervention programme was conducted in three phases for the hockey players. The stage of intervention is described in the following phases of the study.

Phase 1 - Screening and Selection: After obtaining the permission from the sports authorities, the selected participants were administered by Sociodemographic data and Sports Anxiety Scale was administered. The participants were selected for the intervention based on high scores in sports anxiety.

Phase 2 - Before Intervention: Initially the players were explained about the significance and benefits of practicing mindfulness in sports and the mindfulness intervention was administered. The script-based intervention was orally directed by the researcher to the players for 15 to 20 minutes in a comfortable posture. Then the recorded audio of the same mindfulness script was given to the players for practicing daily both at home and on the playground. Weekly telephonic/online follow-ups were made to address their compatibility with the audio recording and help them in practicing it. Four sessions were given after the first assessment; each session was conducted on every weekend based on their available time schedules.

Phase 3 – After Intervention: Subsequently at the end of fourth session, the participants were reassessed by Sports Anxiety Scale. A repeated session of intervention was given for verifying their level of understanding and applicability in their routine life events. Once again, the same sessions for four weeks were implemented through the next month on every weekend based on their availability. Weekly telephonic/ online follow-ups were made to help them in their practice of the intervention.

Phase 4 – Follow-up: After one month, the participants were reassessed by Sports Anxiety Scale. The obtained data was scored and statistically analyzed.

Precautions

i. Ensure that all the responses given by the participants are honest and spontaneous.
ii. Maintaining good rapport with the participants.
iii. Ensure that participants can clarify their doubts if any before responding.
iv. Participants were assured confidentiality will be maintained.
v. Distractions are kept to a minimum.

Analysis of Data

- The data was analyzed using the SPSS + Package.
- Descriptive statistics was used to analyze sociodemographic data.
- Repeated Measures of ANOVA were used to assess differences between the dimensions of Performance Anxiety.

Benefits of the study

- It mainly encourages the Women Hockey Players to manage their level of Performance Anxiety and increase their interest towards the Play.
- The participants became aware about the extent to which the Performance Anxiety is affecting their Performance in Sports.
- It helped those players who had higher level of Performance Anxiety to reduce and proceed in their aim to achieve.

- It provides focus point for Achievement and Excellence.

Results and Discussion

The Sports Anxiety Scale was administered for 60 Women Hockey Players from Bengaluru Hockey Stadium. Only thirty-five participants had high performance anxiety and they were in the age group of 15 to 25 years. The data is analysed, tabulated, and discussed below.

Table 1. Sociodemographic details of the Women Hockey Players (N = 35)

Variables		Frequency	Percent
Age	15-19 20-23	29 6	83 17
Education	+2 Degree	24 11	69 31
Religion	Hindu	35	100
Total Family Members	3 Members 4 Members 5 Members 6 Members 7 Members	7 15 8 3 2	20 43 23 8 6
Siblings	1 Sibling 2 Siblings 3 Siblings No Siblings	22 7 3 3	62 20 9 9
Family Type	Nuclear Extended Joint Single Parent	3 24 7 1	9 68 20 3
Total Family Income per annum	Rs. 10,000-1,50,000 Rs.1,51,000-4,00,000 Not Mentioned	22 3 10	62 9 29

Percentages are rounded off.

Table 1 shows the sociodemographic data of the Women Hockey Players. Most of the participants were in the age range of 15 to 19 years, +2 Educated, belongs to a four members family, and had one sibling; extended family type, and per annum income was below Rs.1,50,000.

Table 2. Mean and Standard Deviation of Women Hockey Players during Before, After and Follow-up phases of Mindfulness Therapy in the Somatic Dimension of Performance Anxiety (N=35)

Dimension	Phases	Mean	Standard Deviation
Somatic	Before	10.06	2.70
	After	7.34	1.66
	Follow-up	7.03	1.96

Table 2 shows the mean and standard deviation scores of women hockey players during before, after and follow-up phases of mindfulness therapy on somatic dimension of Performance Anxiety. The value clearly indicates that there was a higher performance anxiety (10.06) found in the hockey players before the intervention programme and after intervention it was reduced to 7.34 and it further reduced in the follow-up phase. Hence, it becomes essential to teach mindfulness therapy to women hockey players to manage their somatic anxiety and deal effectively with the hurdles coming in the way of performance.

Table 3 displays the results of Repeated Measures ANOVA for somatic dimension of performance anxiety during before, after and follow-up phases of intervention among women hockey players. Mindfulness training was very useful to reduce problems such as pain, stress, anxiety, and other disorders. The results also proved that mindfulness-based interventions seem to be appropriate for the control of Somatic Anxiety of Women Hockey Players. Hence the Hypothesis “There will be significant differences in Before, After and Follow-up Phases of Mindfulness Therapy in Somatic Dimension of Performance Anxiety among Women Hockey Players” is accepted.

Table 4 depicts the Bonferroni post-hoc analysis for somatic dimension of performance anxiety in before, after and follow-up phases of mindfulness therapy. Based on the significant reduction in the level of somatic anxiety, the pairwise comparison analysis was carried out to identify the differences between pairs of mean and it was significant.

Table 3. Repeated Measures of ANOVA during Before, After and Follow-up phases of Mindfulness Therapy on the Somatic Dimension of Performance Anxiety in Women Hockey Players (N=35)

Phases	Sum of squares	df	Mean Square	F
Sphericity Assumed	194.114	2	97.057	21.07 **
Greenhouse Geisser	194.114	1.652	117.48	21.07 **
Huynh-Feldt	194.114	1.726	112.47	21.07 **
Lower-bound	194.114	1.000	194.11	21.07 **

** = Significant at 0.01 level

Table 4. Bonferroni Post-hoc analysis of Before, After and Follow-up phases of Mindfulness Therapy among Women Hockey Players in Somatic Dimension of Performance Anxiety (N=35)

Dimension	Condition	Phase	Mean Difference	Standard Error
Somatic	Before	After	2.71*	0.57
		Follow-up	3.03*	0.58
	After	Before	-2.71*	0.57
		Follow-up	0.31	0.38 N.S.
	Follow-up	Before	-3.03*	0.58
		After	-0.31	0.38 N.S.

* = Significant at 0.05 level, N.S. = Not Significant

Table 5. Mean and Standard Deviation of Women Hockey Players during Before, After and Follow-up phases of Mindfulness Therapy in the Worry Dimension of Performance Anxiety (N=35)

Dimension	Phases	Mean	Standard Deviation
Worry	Before	10.46	2.14
	After	8.46	2.46
	Follow-up	8.74	3.05

Table 5 shows the mean and standard deviation scores of women hockey players during before, after and follow-up phases of mindfulness therapy on worry dimension of Performance Anxiety.

Table 6 exhibits the results of Repeated Measures ANOVA for worry dimension of performance anxiety during before, after and follow-up phases of intervention among women hockey players. Mindfulness training was very effective in reducing worries. The results also proved that mindfulness-based interventions seem to be appropriate to control worries which are attributed in context to the sports events of women hockey players. Hence the Hypothesis "There will be significant differences in Before, After and Follow-up Phases of Mindfulness Therapy in Worry Dimension of Performance Anxiety among Women Hockey Players" is accepted.

Table 7 illustrates the Bonferroni post-hoc analysis for worry dimension of performance anxiety in before, after and follow-up phases of mindfulness therapy. Based on the significant

Table 6. Repeated Measures of ANOVA during Before, After and Follow-up phases of Mindfulness Therapy in Worry Dimension of Performance Anxiety among Women Hockey Players (N=35)

Phases	Sum of squares	df	Mean Square	F
Sphericity Assumed	81.905	2	40.952	6.85 **
Greenhouse Geisser	81.905	1.868	43.847	6.85 **
Huynh-Feldt	81.905	1.972	41.524	6.85 **
Lower-bound	81.905	1.000	81.905	6.85 **

** = Significant at 0.01 level

Table 7. Bonferroni Post-hoc analysis of Before, After and Follow-up phases of Mindfulness Therapy among Women Hockey Players in Worry Dimension of Performance Anxiety (N=35)

Dimension	Condition	Phase	Mean Difference	Standard Error
Worry	Before	After	2.00*	0.51
		Follow-up	1.71*	0.64
	After	Before	-2.00*	0.51
		Follow-up	- 0.29	0.60 N.S.
	Follow-up	Before	-1.71*	0.64
		After	0.29	0.60 N.S.

* = Significant at 0.05 level, N.S. = Not Significant

reduction in the level of worry, the pairwise comparison analysis was carried out to identify the differences between pairs of mean which are significant.

Table 8. Mean and Standard Deviation of Women Hockey Players during Before, After and Follow-up phases of Mindfulness Therapy in the Concentration Disruption Dimension of Performance Anxiety (N=35)

Dimension	Phases	Mean	Standard Deviation
Concentration Disruption	Before	8.91	2.38
	After	7.86	2.13
	Follow-up	7.83	2.17

Table 8 analyses the mean and standard deviation scores of women hockey players during before, after and follow-up phases of mindfulness therapy on concentration disruption dimension of Performance Anxiety. The scores indicate that there was a higher performance anxiety found in the hockey players before the intervention programme (8.91) and it reduced to 7.86 after intervention and it slightly reduced to 7.83 in the follow-up phase.

Table 9 depicts the results of Repeated Measures ANOVA for concentration disruption dimension of performance anxiety during before, after and follow-up phases of intervention among women hockey players. Mindfulness intervention really helps managing distractions and enriches to focus on determined performance. The results proved that mindfulness-based interventions had not reduced the disruptions related to the sports events of women hockey players. Hence the Hypothesis “There will be significant differences in Before, After and Follow-up Phases of Mindfulness Therapy in Concentration Disruption of Performance Anxiety among Women Hockey Players” is rejected.

Table 10 illustrates the Bonferroni post-hoc analysis for Concentration Disruption dimension of performance anxiety in before, after and follow-up phases of mindfulness therapy. The pair wise comparison analysis was carried out to identify the differences between pairs of mean. The mean difference between before, after and follow-up phases were not statistically significant.

Table 9: Repeated Measures of ANOVA during Before, After and Follow-up Phases of Mindfulness Therapy on the Concentration Disruption Dimension of Performance Anxiety in Women Hockey Players (N=35)

Phases	Sum of squares	df	Mean Square	F
Sphericity Assumed	26.800	2	13.400	3.73 N.S.
Greenhouse Geisser	26.800	1.980	13.538	3.73 N.S.
Huynh-Feldt	26.800	2.000	13.400	3.73 N.S.
Lower-bound	26.800	1.000	26.800	3.73 N.S.

N.S. = Not Significant

Table 10. Bonferroni Post-hoc analysis of Before, After and Follow-up phases of Mindfulness Therapy among Women Hockey Players in Concentration Disruption Dimension of Performance Anxiety (N=35)

Dimension	Condition	Phase	Mean Difference	Standard Error
Concentration Disruption	Before	After	1.06	0.43 N.S.
		Follow-up	1.09	0.47 N.S.
	After	Before	-1.06	0.43 N.S.
		Follow-up	0.03	0.45 N.S.
	Follow-up	Before	-1.09	0.47 N.S.
		After	-0.03	0.45 N.S.

N.S. = Not Significant

Table 11. Mean and Standard Deviation of Women Hockey Players during Before, After and Follow-up phases of Mindfulness Therapy in Performance Anxiety (N=35)

Dimension	Phases	Mean	Standard Deviation
Performance Anxiety	Before	29.43	4.29
	After	23.66	5.01
	Follow-up	23.94	5.40

Table 11 analysis shows that the mean and standard deviation scores of women hockey players during before, after and follow-up phases of mindfulness therapy on Performance Anxiety. The scores indicates that there was higher performance anxiety found in the hockey players before the intervention programme (29.43) and it reduced to 23.66 after intervention and it maintained in the follow-up phase.

Table 12 displays the results of Repeated Measures ANOVA for performance anxiety during before, after and follow-up phases of intervention among women hockey players. Mindfulness training is helpful to reduce problems such as pain, worries, stress, anxiety, distractions, etc. The mindfulness-based interventions attribute in reducing performance anxiety with respect to somatic, worries, and concentration disruptions. This form of intervention programme seems to be appropriate for managing performance anxiety in women hockey players. Hence the Hypothesis "There will be significant differences in Before, After and Follow-up Phases in Mindfulness

Table 12. Repeated Measures of ANOVA during Before, After and Follow-up phases of Mindfulness Therapy on Performance Anxiety in Women Hockey Players N=35

Phases	Sum of squares	df	Mean Square	F
Sphericity Assumed	740.648	2	370.324	22.90**
Greenhouse Geisser	740.648	1.950	379.780	22.90**
Huynh-Feldt	740.648	2.000	370.324	22.90**
Lower-bound	740.648	1.000	740.648	22.90**

Table 13. Bonferroni Post-hoc analysis of Before, After and Follow-up phases of Mindfulness Therapy among Women Hockey Players in Performance Anxiety N=35

Dimension	Condition	Phase	Mean Difference	Standard Error
Performance Anxiety	Before	After	5.77*	0.89
		Follow-up	5.49*	0.98
	After	Before	-5.77*	0.89
		Follow-up	-0.29	1.01 N.S.
	Follow-up	Before	-5.49*	0.99
		After	0.29	1.01 N.S.

* = Significant at 0.05 level, N.S. = Not Significant

Therapy of Performance Anxiety among Women Hockey Players" is accepted.

Table 13 illustrates the Bonferroni post-hoc analysis for performance anxiety in before, after and follow-up phases of mindfulness therapy. Based on the significant reduction in the level of performance anxiety, the pairwise comparison analysis was carried out to identify which differences between pairs of mean are significant.

Summary and Conclusion

The results indicated that the level of performance anxiety was high among Women Hockey Players on various dimensions of performance anxiety such as Somatic, Worry, Concentration Disruption and Performance Anxiety. Mindfulness Based Therapy reduced Somatic problems, Worries, and Performance Anxiety and enhanced the women players to focus more on their sports performance.

Implications

1. Mindfulness Therapy will give 100% results in overcoming Performance Anxiety.
2. Awareness about the Mindfulness Therapy among Players will have long lasting effect since they will continue to provide such a cheerful outlook to upcoming generations and help them to overcome their performance.
3. The results can be shared with the social media to help parents to understand Mindfulness Therapy.

Limitations

The present study has certain limitations.

- To conduct intervention study among the players, a permanent staff and permanent counsellor needs to be present as currently for this study the interventions are done outside the stadium.
- The participants of the study were restricted only to women hockey players whereas the male players can be included.
- The present study limited to the inclusion of lesser number of participants where many players would have the benefit of the intervention.
- Due to the practical difficulties, a control group could not be included and hence the role of confounding variables might be present in the study.

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Mindfulness Therapy for Stress, Happiness and Self efficacy of Hockey Players in Schools

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Students face numerous stressors in their academic life. Having extracurricular activities such as a sport sometimes becomes an added burden and adds to their stress levels. The present study attempts to identify if mindfulness interventions help in reducing the stress and increasing happiness and self efficacy of hockey player students. A sample of 215 student hockey players were administered the Perceived Stress Scale (Children) by White; The Subjective Happiness Scale by Lyubomirsky & Lepper; and the General Self Efficacy Scale by Schwarzer & Jerusalem. A mindfulness intervention for 8 weeks was administered followed by an assessment using the same tools. Results indicated that stress had a negative effect on happiness and self efficacy among the participants. Also, the mindfulness intervention significantly reduced stress, and increased the happiness and self efficacy among the participants. Also, mindfulness mediated the relationship between stress, happiness and self efficacy levels. Mindfulness can be successfully used to reduce the stress levels among students and increase their happiness and self efficacy levels.

Keywords: Mindfulness Therapy, Stress, Happiness, Self-efficacy, Hockey Players

Physical activity of all forms promotes wellbeing. Sport is one such physical activity that has been studied extensively to benefit an individual's overall functioning and benefit one's well being (Harvard Health Publishing, 2022). Sport has numerous benefits such as increased strength and endurance, weight management, increased flexibility, better teamwork, physical and mental health, including social connections and lifestyle choices. Hockey is considered an important game in India owing to its historical significance. Hockey players face many issues such as stress, performance anxiety, and many more difficulties. The sport of hockey is practiced in almost all spheres including schools and colleges. On one hand, playing a sport like hockey increases the overall fitness of students, while also bringing with it many other issues such as injuries, over competitiveness, stress and other issues. However, playing a sport is encouraged in schools and colleges as it brings not only physical well being, but also emotional stability and psychological well being. (Penedo & Dahn, 2005; Rebar et al., 2015; Warburton et al., 2006).

Female hockey players face many different kinds of pressure, just like athletes in any other sport. Stressors include balancing training with other obligations like work or school, injuries, pressure to perform well, and interpersonal dynamics within the team.Studies could focus on the particular pressures faced by female hockey players, such as discrimination in the sport, societal expectations, or gender related barriers (Eime et al., 2013).

Understanding the stress reduction strategies used by female hockey players may be beneficial for enhancing both their overall health and performance. This includes methods such as cognitive

behavioural therapy, breathing exercises and mindfulness. A mental exercise called mindfulness that has become very popular involves bringing one's attention to the present moment while accepting and acknowledging one's thoughts and feelings, sensations and the environment without passing judgement. Although its roots are in old Buddhist traditions, it is becoming more and more common in Modern Psychology and Health Regimens (Kabat-Zinn, 1994).

Important facets of mindfulness consist of

- Awareness of the present moment: Those who practise mindfulness are encouraged to focus on the here and now rather than ruminating on the past or fretting about the future.
- Non-Judgmental Observation: Mindfulness practitioners make an effort to examine their feelings, ideas, and bodily sensations without passing judgement or offering critique. This encourages self compassion and acceptance.
- Acceptance: Being mindful entails accepting experiences for what they are, without resisting or attempting to alter them. This acceptance enables people to react to circumstances with more clarity and helps maintain equanimity and neutrality even when faced with adverse situations.
- Focused Attention: A common practice in mindfulness is focusing attention on one thing at a time, such as breathing, the way one's body feels, emotions, or an object. This supports the development of conscious awareness and builds focus.
- Cultivation of Presence: Mindfulness training can assist people in cultivating a more profound feeling of presence and connection with others, themselves, and their environment (Brown& Ryan, 2003).

Numerous techniques can be used to cultivate mindfulness, such as body scans, mindful movement (like Tai Chi or yoga), mindful breathing exercises and mindfulness meditation. Numerous advantages for mental and physical health, such as stress reduction, better emotional regulation, increased attention, concentration and life satisfaction, have been linked to regular mindfulness practice, according to research (Baer, 2014).

A brief review of available literature for the study brings a compilation of some recent studies on the topic. A meta-analysis on mindfulness interventions for happiness was conducted by Khoury (2023). It concludes that mindfulness practices serve to enhance happiness and many other variables such as gratitude, and sociability etc. The association between self efficacy and mindfulness was examined by Chandna et al. (2022) in a review. The authors explained how mindfulness techniques foster self awareness, emotional regulation, and adaptive coping methods, all of which improve self efficacy beliefs. They did this by drawing on empirical research and theoretical frameworks. The review emphasised how mindfulness therapies might increase people's self assurance in their capacity to meet their objectives and successfully deal with life's obstacles. Allen et al. (2021) in a meta-analysis explored the integration of mindfulness with positive psychology variables. The interventions enhanced well-being through components like positive emotions, self-compassion, well-being (happiness), autonomy, mindfulness, self-efficacy, meaning, and compassion. The findings highlighted the potential positive qualities of MPIs in producing specific positive outcomes. However, there's a need for modifications to exclusively focus on positive outcomes and novel interventions for eudaimonic enhancement and hedonia. A

three-part study (n=92) was carried out to examine the connection between university students' academic performance and mindfulness, self efficacy, and well being characteristics. In this study, mindfulness helped to preserve self efficacy levels and lowered stress (Firth et al., 2019). The above studies indicated that mindfulness is a form of psychotherapy that effectively works to reduce stress and build happiness and self efficacy.

Need for the study

The above review indicates that such studies have not been done so far for sport related sample. Sport is an effective means of building and maintaining well being. Sport players often find themselves bogged down by various stressors and feel less confident about themselves. This study tries to understand the ramifications that mindfulness has on stress, happiness and self efficacy of hockey players, that too players who are school students.

The present study began with the objectives to identify the levels of stress, happiness and self efficacy among student hockey players, to identify the relationship between these variables, and to understand the efficacy of mindfulness in reducing stress, increasing self efficacy and promoting happiness among student hockey players. The hypotheses for the study were as follows:

- There will be a significant relationship between stress, happiness and self efficacy among participants
- There will be a significant difference in the before, and after phases of the mindfulness intervention in the levels of stress, happiness and self efficacy
- There will be a significant effect of mindfulness as a mediating factor in the relationship between stress, happiness and self efficacy among participants

Method

Sample

The sample for the present study consists of 215 hockey players from various schools in south India. Permission was obtained from 15 schools in Coimbatore, Bangalore, Mangalore, Hyderabad and Chennai, where hockey was a part of the sport curriculum. From these schools, 300 students who actively practiced hockey were chosen with age ranging from 10 to 17 years. Some students had to drop out of the study owing to examinations and lack of time to complete the study. Finally, the sample consisted of 215 students (male = 105 and female =110).

Tools

Perceived Stress Scale - Children (White, 2014): It consists of 14 items attempting to measure the perceived number of stresses in the life of children for the past one week. This tool is easy to understand, has simple language and the options for items are given diagrammatically to facilitate ease of answering. Sufficient reliability and validity have been reported by the author (White, 2014)

The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) consists of 4 items, with a rating scale ranging from 1 (less happy) to 7 (happier). More than 14 studies proved the reliability and validity of this scale among adults, school students and college students. Cronbach alpha value was 0.77 (Lyubomirsky, 2020) and another study reported was 0.84 for a translated version (Alquwez et al., 2021)

General Self Efficacy Scale (Schwarzer & Jerusalem, 1993) is a 10-item scale. High internal consistency and Cronbach alpha values have been reported by the authors of the scale.

Mindfulness Therapy

The Mindfulness Therapy used for this study included consisted of a 4 minutes mindfulness breathing intervention (awareness of breath). Also, the participants were told to specifically conduct a body scan to identify aches, pains, tensions in the body, pay specific attention to sensations and write them down daily followed by the same 4 minutes breathing pattern. Feedback was constantly sought from the participants to understand their thoughts. This intervention was carried out for 8 weeks with the participants.

Results

Table 1. Distribution of Stress, Happiness and Self efficacy among the Participants (n=215)

S. No	Levels	Stress		Happiness		Self Efficacy	
		N	Percent	N	Percent	N	Percent
1	Low	26	12	83	39	74	34
3	Moderate	86	40	82	38	90	42
4	High	103	48	50	23	51	24

Table 1 shows that 12%t of the participants had low stress levels, while 40% and 48% of the participants had moderate and high levels of stress; 39% had low happiness and 38% and 23% participants had moderate and high levels of happiness, 34% had low self efficacy levels, while 42% and 24% had moderate and high levels of self efficacy respectively. It is represented figuratively in the bar graph below.

Table 2 indicates that there is a significant negative correlation between Stress and Happiness levels ($r = -0.53^{**}$), and Stress and Self Efficacy ($r = -0.47^{**}$) among the participants. As the stress levels increase, the happiness and self efficacy levels reduce and vice versa. Also, there is a significant positive relationship ($r = 0.67^{**}$) between happiness and self efficacy among the participants. Hence, the hypothesis, "There will be a significant relationship between stress, happiness and self efficacy among participants" is accepted.

Next, paired sample t-test was conducted to understand any significant differences between before and after scores of stress, happiness and self efficacy among the participants.

Table 2. Correlation coefficients between Stress, Happiness and Self Efficacy among Participants (N=215)

PercentVariables	Stress	Happiness	Self Efficacy
Stress	1	-0.53**	-0.47**
Happiness	-0.53**	1	0.67**
Self Efficacy	-0.47**	0.67**	1

** Significant at 0.01 level

Table 3 Paired sample t-test for Stress, Happiness and Self efficacy in Before and After Phases among Participants (n=215)

Variables	Inter-vention	Mean	Standard Deviation	t	Cohen's D
Stress	Before	23.80	3.56	15.64**	0.98
	After	9.07	2.94		
Happiness	Before	4.90	3.26	12.61**	0.92
	After	19.30	3.65		
Selfefficacy	Before	12.93	2.98	9.49**	0.96
	After	24.34	3.27		

** = Significant at 0.01 level

Table 3 indicates that there is a significant difference between the before and after phase scores for stress (t=15.64), happiness (t=12.61) and self efficacy (t=9.49). Also, the Cohen's D value is higher than 0.8, indicating large effect sizes. The rule of thumb indicates that A value of 0.8 represents a large effect size. Hence, all the effect sizes are significant indicating the high effect of the intervention. Hence the hypothesis, "There will be a significant

difference in before and after phases of the mindfulness intervention in the levels of stress, happiness and self efficacy" is accepted.

Figure 2

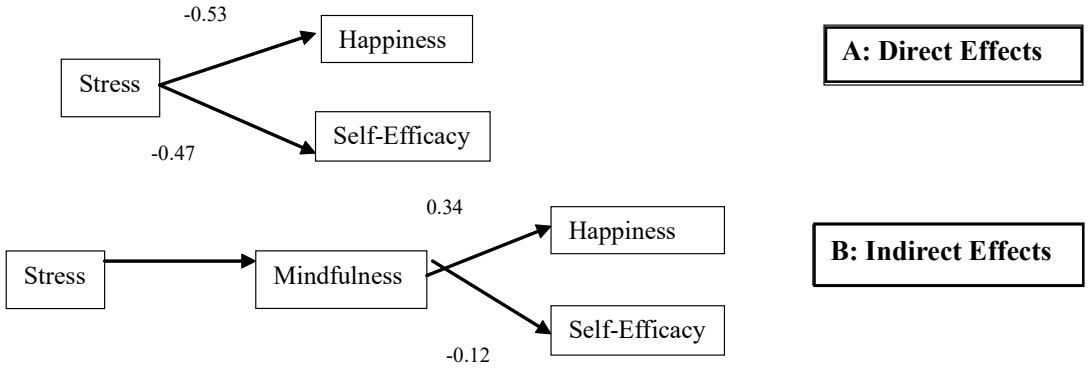

Figure 2 indicates the mediating effect of mindfulness intervention on the relationship between stress, happiness and self efficacy among the participants. In the scenario A, the direct effects of the relationship indicate that stress has a negative relationship with happiness and self efficacy. In scenario B, however, the indirect effect of the relationship indicates that mindfulness intervention mediates the negative effects to a great extent indicated by the reduced values. The model fit indices for the above mediation model are shown in the table below:

Table 4 indicates that the model fit indices are significant. The various fit indices indicate that the model arrived is fit. Hence, the hypothesis, "There will be a significant effect of Mindfulness as a Mediating Factor in the relationship between Stress, Happiness and Self Efficacy among participants" is accepted.

Next, Structural Equation Modeling using AMOS graphics version 22 was attempted to identify any significant mediating effects of mindfulness on the relationship between stress, happiness and self efficacy. The results are indicated below.

Table 4. Model Fit Indices of the Mediation Model

Model Fit Indices	Obtained Values	Suggested values *
Normed Chi-Square	1.97	<5
Normed Fit Index (NFI)	0.92	>0.90
Relative Fit index (RFI)	0.95	>0.90
Standardized Root Mean Squared Residual (SRMR)	0.06	<0.08
Root Mean Square Error of Approximation (RMSEA)	0.06	<0.08

*Suggested Values given by Hu and Bentler, 1999

Discussion

The study shows that the effect of a mindfulness-based intervention in reducing stress, increasing happiness and self efficacy among student hockey players. Mindfulness is also seen to mediate the relationship between stress, happiness and self efficacy. The effect of mindfulness

meditation on happiness and stress levels of college students conducted by Crowley et al. (2022) indicated that the students who underwent the mindfulness meditation programme showed improved subjective happiness levels. A study on the effects of mindfulness for improving happiness levels of Chinese students by Huang et al. (2021) indicated positive effects of the mindfulness for long term. Similar results were shown by Huberty et al. (2019) concluded that a mobile app-based mindfulness intervention is effective in reducing stress and improving self compassion among students. Also, Lemay et al. (2019) reported mindfulness interventions to be effective in reducing stress and anxiety among school students. Rayan (2019) investigated among nursing students and found that the students who had better levels of mindfulness had better happiness and self efficacy levels and were found to be less susceptible to stress.

Conclusion

It can be concluded from the above study that

- There is a significant negative relationship between stress and happiness; and stress and self efficacy
- The mindfulness intervention had significant effect in reducing stress, and increasing happiness and self efficacy among the participants
- Mindfulness intervention significantly mediates the relationship between stress, happiness and self efficacy among the participants

Recommendations can be made to schools to introduce simple mindfulness interventions to reduce stress levels of students. Playing games can enhance well being of students. All people should be encouraged to play more games.

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