THE EFFECT OF HYPNOSIS ON FLOW AMONG CLUB CRICKETERS OF KARNATAKA STATE CRICKET ASSOCIATION (KSCA)

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Abstract

Hypnosis has been understood as a process in which a person is guided by a professional and through this guidance, he or she can feel slight modifications in the way they sense, perceive, think and behave. Mostly, it helps people to become alert and vigilant by utilizing the technique of suggestion to induce relaxation, make them calmer and hence boosts wellbeing. Flow has been found to be closely linked to wellbeing. Further, research has indicated that flow can impact sports performance. Flow is considered to be the highest form of intrinsic motivation and is understood to be a state in which a person is totally involved in the activity. Also known as being in the optimal zone, characterized by intense focus, involvement as well as enjoying the activity to the fullest. This investigation was aimed to understand the effect of hypnosis on flow among Club Cricketers of KSCA. The present study was conducted on thirty Karnataka State Cricket Association (KSCA) players. The subjects were bifurcated into experimental and control group, having fifteen cricketers in each. This study utilized a quasi-experimental design and was spread over three phases. The first and third phase involved the pretest and the post test of flow for the two groups and the second phase involved the 21 day intervention of hypnosis for the experimental group. The results showed improvement in the Flow States of the cricketers in the experimental group post the hypnotic intervention program as compared to the control group participants and hence the results have added support for the intervention in the realm of sports.

Keywords: Karnataka State Cricket Association (KSCA), hypnosis, flow state, cricketers

1. Introduction:

Hypnosis is a state of altered awareness of an individual. It is related to being able to concentrate with attention, and being responsive even though the subject is dissociated from the therapist (Spiegel, 1972).

Origin of Hypnosis

The healing intervention of hypnosis has a long history. Franz Anton Mesmer a healer introduced the distinct concept of hypnosis in the 18th century (1734-1815). He was deeply interested in astronomy and magnetism in which he put magnets on the bodies of his patients in the ritual that was elaborate and this procedure gave raise to contractions in the muscles and also that at times these patients would collapse. In the 20th century, the "Nancy school" laid the basis of the theory of hypnosis and expounded on the concept of 'hypnotic suggestion'. However, research into the field of hypnosis has seen a paradigm shift as modern research in the field has been seen to be mostly associated in experimental researches in the late 1950's and 1960's. Hence it has mainly influenced the present scientific view on hypnosis, mostly as viewed in medicine (James, 2015)

Origin of Hypnosis in India

Hypnosis in Indian history is called as Sammohana which is a Sanskrit word also known as a part of Yoga Vidya (science of yoga) .Evidences shows that hypnosis was probably in used in ancient India. Lord Krishna is also known as Mohana, which means the one who hypnotised or enchanted devotees by his enhancing tunes on his flute which lead the devotees to trance (Ajinkya & Kalra, 2015).Some Vedic mantras have shown to prove with the help of their healing, the healer can cure ailments (Chasers of diseases) and their hands were used for gentle touch, which is actually the trance stage or the hypnotic passage. (Ajinkya & Kalra, 2015).

Sports Hypnosis

"Sports hypnosis as a form of mental training which can contribute to enhancing athletic performance" (Liggett, 2000). Since 1956 (Melbourne Olympic Games) the Russians approached and started using hypnotic techniques exclusively and had seen an immense improvement in their players performance during the play and also that the game produced many champions (Barker, Jones & Greenlees, 2013).

1.3 Types of hypnosis

There are many types of hypnosis which are followed widely by hypnotherapists. In the present study the researcher used relaxation technique, followed by countdown breathing, hypnotic suggestion and visual imagery.

Hypnotic induction: The hypnotherapist puts the client to a state of trance in which they are susceptible to feedback and guidance. Inductions are the first step of hypnosis of different types:

- Relaxing Techniques: - In relaxations the client is made comfortable, the therapist ask them to lie down, instruct them to count down in their head, controlled or rhythmic breathing, relaxing and tensing muscles speaking in a low tone (Ken, 2013).
- Technique of Handshake:- The therapist establishes a different pattern in which he surprises the client through a directed handshake ,making the client susceptible to guidance (Ken, 2013).
- Eye Cues: - An individual's brain has two spheres, the right controls the highly "creative" and the aware and where as the "practical" and subconscious is controlled by the left. We usually look for opinions in a conversation, see the eye of an opponent, which direction are they seeing, accessing the conscious or the subconscious? Is their eye fixed to any particular direction? By this we hence get to know the subconscious level followed by suggestion given later of which they have no awareness (Ken, 2013).
- Countdown Breathing: - It is a controlled breathing form of meditation, of self-hypnosis where one is asked to do the follows, Sit up straight, close their eyes and place their hand on the thigh, breathe in from the nose and breathe out from the mouth, counting backwards from 100 and breathe slowly and each time one exhales it is an interval, lastly this helps to be in trance if not, begin the same process by counting backwards (Ken, 2013).

Flow

Csikszentmihalyi (1975) was the one who was known for introducing flow and told it is to enjoy in all areas of life. Flow can hence be stated as an extremely joyful state of one's mind where there is complete involvement in tasks. The positive effects of hypnosis on flow have implications for players as playing their best when in the state of flow (Catley & Duda, 1997).

Review of Literature

Review of the field shows that hypnosis and meditation are beneficial in increasing an athletes' physical and motor performance or skill.

Studies on Hypnosis and Flow

A study by Phulkar and Kazri (2017) was conducted on 22 cricketers of Surat and Baruch city examined the effect of using visualization along with imagination on using sports hypnosis . The research included one sample t test along with the Martens sports imagery questionnaire which was the primary source of data collection along with analysis of regression. The results showed that imagery along with regression helped the players improve in their performance motor learning, flow and focus.

Pates (2013) studied the effects of hypnosis on the performance and flow-state involvements of a choice in 11 senior European Tour golf professional. Routine and flow data were examined by means of single-subject design .The consequences designated that the player's mean stroke regular and mean movement scores amplified from baseline to intervention.

A study done by Barker and Jones (2006) on the use of hypnosis with cricket players its link with self-efficacy, the intervention was for 7 months .A single-subject (A-B) design was employed in the study with the collection of 8 baseline data points and 16 post-intervention data points. The results discovered a noteworthy change between pre and post-intervention self-efficacy levels, there was an improvement in self-efficacy, flow and emotions of the players.

A study was done by Lindsay, Maynard and Thomas (2005) on effects of hypnosis on flow states and cycling performance , the study was done using a single-subject numerous baseline plan on 3 experienced cyclist. Intervention included, imagery, hypnotic induction, hypnotic regression, and the training of an unaware trigger related with the feelings of past highest presentation. Results showed that these findings suggest that hypnotic interventions may improve choice modest cycling routine and raise the spirits and thoughts related with flow.

Pates, Cummings and Maynard (2002) conducted a study on 5 basketball players and examined the effect of hypnosis on flow states and three-point shooting performance. The method of

involvement used in this relaxation, imagery, hypnotic induction, regression in hypnosis, and techniques to control the triggers. The results showed that all five members improved their performance flow from baseline to intervention and raised feelings and there was an improvement in thought process and flow.

Pates and Palmi (2002) studied the effect of hypnosis on the variable "flow" on 4 female University badminton of 19 to 25 years. There was an increase in their mean short-serve performance from baseline to intervention and during the involvement phase they did experience emotions that made them feel more tranquil, calm, strong minded, happy and focused when compared to the baseline phase

Pates and Maynard (2000) studied the effects of a hypnotic intervention on flow states and golf-chipping performance of 3 participants were examined. During the intervention it was seen than two of the subject's experienced higher flow as compared to considerably lower flow in baseline. Lastly it was seen that the participants indicated the study was useful in keeping them assured, more confident, relaxed, and in control of their emotional flow, golf-chipping performance, increase feelings and thoughts associated with flow.

Need for the Study

Hypnosis has been a developing field and area of research in sports. A cricketer experiences highs and lows in their flow during the game as they are involved completely with the game. Cricketers hence can benefit through hypnosis and work on their flow that is causing a negative effect on their game. The review has shown that hypnosis has been instrumental in improving an athlete's performance. Although research with hypnosis has been undertaken in the field of sports in general, but this study attempts to add a sport specific and Indian research to the existing body of knowledge.

Methodology

The Aim of the present study was, the effect of hypnosis on flow among Club Cricketers of Karnataka State Cricket Association (KSCA) .The objective was to examine the difference on flow among KSCA cricketers under pre and post intervention condition. The researcher used Quantitative Research technique (within between group design).A Quasi-experimental method was used as there was not 100% control of the experimental group this was due to 21 days

intervention program. The researcher conducted purposive sampling in KSCA by random assignment (using the fish bowl technique) to both the groups. The sample size was 30 (15 players in each experimental and control group).

The research questions were

- Does hypnosis effect the flow among cricketers?
- Is there any difference in flow pre and post hypnosis sessions for the cricketers?

Hypotheses

Null hypotheses had been designed due to the paucity of sport specific research in India with respect to the variables selected by the researcher. The hypotheses proposed were as follows:

H1 There would be no significant difference between pre test scores of control and experimental groups on flow.

H2 There would be no significant difference between post test scores of control and experimental group on flow.

H3 There would be no significant difference between pre and post test scores of the control group on flow.

H4 There would be no significant difference between pre and post test scores of experimental group on flow.

Operational Definition

Hypnosis:-"Hypnosis is a dynamic state of being attentive, responsive and having concentration, even to the point of dissociation. Hypnosis is characterized by a contraction of awareness and an increase in focal attention."(Spiegel, 1972).

Flow: - Flow can also be described as being "in the zone" (Jackson & Eklund, 2004).Flow being common to all the sports is experienced by all the athletes in the same way, cricket being not an exception.

Variables

Independent Variable

Hypnosis

Dependent Variables

Flow

Control Variables

- Both the groups had the same knowledge about the subject hypnosis.
- Basic Education criteria considered as Matric complete
- Players training under Karnataka State Cricket Association (KSCA) Bengaluru.

KSCA cricket was founded in 1983 and since then it is known in Karnataka, it is associated with the Board of Control for Cricket in India (BCCI).In Bengaluru M. Chinnaswamy Stadium is where it operates, where it also hosts International level games like Test, ODI and T20 cricket matches. ("KSCA profile", 2018).

Ethical considerations

Research ethics were followed throughout the research such as confidentiality was maintained to protect the cricketer's name and information given was used for research purposes only.

- Consent was taken by Karnataka State Cricket Association (KSCA) before approaching the cricketers.
- The cricketers could withdraw from the study in case of any discomfort.
- The researcher ensured a safe surrounding and place for gathering data and therapeutic intervention.

Inclusion Criteria

- Cricketers aspiring to play cricket at a competitive level
- Male cricket players
- Age range 15-30 years

Exclusion Criteria

- Individuals with psychiatric/ neurological disorders/ cognitive impairment or chronic illness
- Individuals who were in any other competitive sports along with cricket
- If any player has undergone prior hypnosis training for cricket they were excluded
- Female cricketers

Tools of Assessment

1) **Informed Consent form and Socio Demographic detail sheet** of the participants was used for the study.
2) **Flow State Scale-2 (FSS-2):-**The scale was developed by Jackson and Marsh (1996).The scale has nine subscales and they have been found to be reliable, with reliability between .80 to .86 having .83 as the mean alpha. The scale also exhibits internal consistency values. The scale also demonstrates acceptable construct validity between .24 to .78 (median r = .51) .Following are the dimensions of FSS-2.

(a) Challenge-skill balance: In this there is balance in between the apparent difficulties of the activity and the capability of the player.

(b)Action-awareness merging: This is to deeply and automatically get involved in the activity.

(c)Clear goals: The participants have clarity over their actions.

(d)Unambiguous feedback: There is an internal feeling of performing well in the activity. This is due to the feedback that they get themselves.

(e) Concentration on task at hand: In this the participant basically concentrates on the activity.

(f)Sense of control: In this one has control in the activity one does.

(g) Loss of self-consciousness: One loses the sense of conscious about themselves and is totally immersed in the activity. As stated by (Jackson & Marsh, 1996), that there is an awareness about themselves.

(h)Transformation of time: In this one is not aware of the time be it slow or fast, though it changes from the usual experience.

(i) Autotelic experience: This is a pleasurable feeling which basically has a reward (Csikszentmihalyi, 1990)

Procedure

The study was carried out in phases namely Phase I, Phase II and Phase III

Phase I:

The researcher was a trained hypnotherapist, developed a script of hypnotherapy involving the components of induction, relaxation, imagery and auto suggestion. The final script was approved by a sports psychologist and a trained hypnotherapist. After which the researcher contacted Karnataka State Cricket Association (KSCA) followed by the consent of the cricketers. Following which the socio demographic sheet and the Flow State Scale (FSS-2) were given. After the tests were over, the answer sheets were taken by the researcher for the purpose of the tabulation of the data. The hypnotherapy session was started on the experimental group.

Phase II

This was the intervention phase. In this, the researcher administered the Group hypnosis session for the duration of 21 days on the experimental group. On the other hand, the control group went through their regular activity of practice, training and tournaments.

Phase III

After the 21 days of intervention, the same questionnaire of Flow State Scale (FSS-2) was given again to the cricketers of both control and experimental group. The researcher gave a break of 5 minutes after every test. After the test was over, the answer sheets were taken by the researcher for the purpose of the tabulation of the data. The researcher conducted an awareness program of the benefits of the therapy to raise awareness and to explain the benefits pertaining to the game of cricket. And thanked the players for participating religiously for the duration of 21 days.

Statistical Analysis of Data

The researcher conducted an independent comparison and repeated comparison. The data were assessed using descriptive statistics. Inferential statistics were used with between and within group design. The pre and post test scores of the experimental and control group were used with

the help of t-test for the paired sample to find the difference between the before (pre-test) and after (post-test) assessments of the variables of the experimental and control group.

Results

The collected data was assessed using t- test to find the difference between pre post interventions of both the groups. The researcher used the fishbowl technique for random assignment of the participants. The analysis of sample characteristics indicated that with respect to educational qualification most of the players in the experimental group had completed PUC as compared to control group. As the basic educational qualification of Control and Experimental group was considered as Matric complete; hence the discrepancy is seen .The age range was distributed in the interval of 3 years for both the groups respectively. In the Control group most of the cricketers were in the age range of 16 -21 years where as in the experimental group most of the cricketers were in the age group of 16-18 years. The narrow age range could be due to the dropouts from the experimental group. With respect to the position of the player it is seen that the percentage of batsman, fielder and bowlers followed is higher for the experimental group as compared to the control group. The duration of playing cricket and levels played by the experimental group is higher as compared to control group. Lastly it was seen that most of the players in the control group were from a joint family system as compared to the control group.
Further, descriptive (Mean and SD) and inferential statistics (t-test) were undertaken to analyze the data.

Table 1.a ***Showing mean, SD and t scores of pre test of both Control and Experimental group (Flow)***

Variables	Pre-test Control		Pre test experimental		t score	Sig
	Mean	SD	Mean	SD		
Challenge-skill balance	3.87	0.47	3.70	0.29	1.19	N.S.
Action awareness merging	3.53	0.53	2.72	0.79	**3.3***	**.03***
Clear goals	4.00	0.38	4.12	0.40	-0.82	N.S.
Unambiguous feedback	3.78	0.52	3.68	0.62	0.48	N.S.
Concentration on task at hand	3.58	0.82	3.45	0.64	0.49	N.S.
Sense of Control	3.38	0.80	3.28	0.75	0.35	N.S.
Loss of self-consciousness	3.57	0.85	3.05	1.26	1.32	N.S.
Transformation of time	3.52	0.57	3.88	0.81	-1.44	N.S.
Autotelic Experience	3.93	0.29	4.15	0.80	-0.99	N.S.
Total	3.79	0.48	3.65	0.47	0.80	N.S.

**significant at 0.05 level*
N.S. is not significant

Table 1.a shows the mean, standard deviation of the pretest of both the control and experimental group on the dimensions of flow. As can be seen from the table, both the groups differ significantly ($t = 3.3$, $p < .05$) on action awareness merging only. It can be seen that there is no significant difference between the pre test scores of the control and experimental groups on total flow and most of its dimensions. This shows that they possess it to a similar extent.

Table2.a ***Showing mean, Standard Deviation and t scores of post-test scores of both control and experimental group (Flow)***

Post-test Control			**Post-test experimental**			
Variables	**Mean**	**SD**	**Mean**	**SD**	**t score**	**Sig**
Challenge-skill balance	3.92	0.46	3.97	0.54	-2.73	N.S
Action-awareness merging	3.50	0.53	3.33	0.79	0.69	N.S
Clear goals	4.08	0.46	4.35	0.47	-1.57	N.S
Unambiguous feedback	3.88	0.55	3.83	1.01	0.17	N.S
Concentration on task at hand	3.80	0.81	3.97	0.74	0.59	N.S
Sense of Control	3.43	0.83	4.00	0.54	**-2.22***	**.05***
Loss of self-consciousness	3.45	0.75	3.22	1.25	0.62	N.S
Transformation of time	3.55	0.54	3.57	0.57	-0.82	N.S
Autotelic Experience	4.02	0.33	4.03	0.77	-0.77	N.S
Total	3.75	0.41	3.78	0.52	-.17	N.S

** significant at 0.05 level*

N.S. is not significant

In the above table 2.a it can be seen, both the groups differ significantly ($t = -2.22$, $p < 0.05$) on the sense of control. It further shows that the total score of the Posttest Experimental group is higher than the total score of the Posttest Control group as the hypnosis intervention has been effective on the experimental group

Table 3.a ***Showing mean, Standard Deviation and t of pre-test and post test of control group (Flow)***

	Pre-test Control		**Post-test Control**			
Variables	**Mean**	**SD**	**Mean**	**SD**	**t score**	**Sig**
Challenge-skill balance	3.87	0.47	3.92	0.46	-0.51	N.S
Action-awareness merging	3.53	0.53	3.50	0.53	0.32	N.S
Clear goals	4.00	0.38	4.08	0.46	-0.67	N.S
Unambiguous feedback	3.78	0.52	3.88	0.55	**-2.10***	**.05***
Concentration on task at hand	3.58	0.82	3.80	0.81	-1.41	N.S
Sense of Control	3.38	0.80	3.43	0.83	-0.68	N.S
Loss of self-consciousness	3.57	0.85	3.45	0.75	1.02	N.S
Transformation of time	3.52	0.57	3.55	0.54	-0.34	N.S
Autotelic Experience	3.93	0.29	4.02	0.33	-1.10	N.S
Total	3.79	0.48	3.75	0.41	0.47	N.S

** Significant at 0.05 level*

N.S. is not significant

In table 3.a it can be seen that, the group differ significantly (t=-2.10, p< .05) on unambiguous feedback, which is the feedback that they get themselves. This may have happened as both the groups had tournaments and matches during the therapeutic intervention.

Table 4.a

Showing mean, Standard Deviation and t scores of Pre test and post test scores of experimental group (Flow)

Pre-test Experimental			**Post-test experimental**			
Variables	**Mean**	**SD**	**Mean**	**SD**	**t score**	**Sig**
Challenge-skill balance	3.70	0.29	3.97	0.54	-1.91	N.S
Action-awareness merging	2.72	0.79	3.33	0.79	**-2.26***	**0.04**
Clear goals	4.12	0.40	4.35	0.47	-1.42	N.S
Unambiguous feedback	3.68	0.62	3.83	1.01	-0.54	N.S
Concentration on task at hand	3.45	0.64	3.97	0.74	**-2.56***	**0.02**
Sense of Control	3.28	0.76	4.00	0.54	**-3.44****	**0.01**
Loss of self-consciousness	3.05	1.26	3.22	1.25	-0.47	N.S
Transformation of time	3.88	0.81	3.57	0.57	1.20	N.S
Autotelic Experience	4.15	0.80	4.03	0.77	0.43	N.S
Total	3.65	0.47	3.78	0.52	-0.76	N.S

**Significant at 0.01 level and **Significant at 0.05 level, N.S is not Significant*

Table 4.a shows the mean, standard deviation pretest and posttest scores of the experimental group on the dimensions of flow. As can be seen from the table, the group differ significantly (t=-2.26, p< .05) on Action Awareness Merging, (t=-2.56, p<.05) in Concentration of task in hand and (t=-3.44, p< 0.01) in Sense of Control. This means the hypnosis intervention has been effective on the experimental group on the above dimensions of flow.

In addition, as on the dimensions of flow the t-score was found to be significant hence Cohen's d was calculated as it is a statistical technique to highlight the effect size of the intervention. **Cohen's d** the effect size is expressed on standard deviation using Cohen's d (Vacha, Haase & Thompson, 2004). Cohen's has suggested the effect with the value of size index with d values which range from 0.2 (which is the small effect), 0.5(medium effect) to d ≥ 0.8(large effect) (Cohen, 1983). The obtained Cohen's d value has been shown in the table below:

Table 5 ***Showing mean, Standard Deviation t scores and Cohen's d of Pre-test and post test scores of experimental group (Flow)***

Pre-test Experimental			**Post-test experimental**				
Variables	**Mean**	**SD**	**Mean**	**SD**	**t score**	**Sig (2 tailed)**	**Cohen's d**
Action-awareness merging	2.72	0.79	3.33	0.79	**-2.26***	**.04**	0.77
Concentration on task at hand	3.45	0.64	3.97	0.74	**-2.56***	**.02**	0.75
Sense of Control	3.28	0.76	4.00	0.54	**-3.44****	**.01**	1.09

***Significant at 0.01 level and * Significant at 0.05 level*

The magnitude of the hypnosis intervention effect was calculated using Cohen's d (Cohen, 1983). Both within and between groups effects of the sizes were calculated at post therapy .The Cohen's d was calculated using the formula:

$$\text{Cohen's d} = \frac{(M_2 - M_1)}{SD_{pooled.}}$$

Where, M2- M1 = the difference seen between the 2 samples mean scores.

SD_{pooled} = Collective combined SD for both the groups

Results of Cohen's d hence indicate that there was a large effect on these variables on these variables on the post test experimental group post the hypnosis sessions.

Discussion

The researcher developed a 21 days intervention for the experimental group based on hypnosis. The control group participants were asked to follow their routine activities for the same amount of time for 21 days. To compare the effect of intervention program within and between group designs were followed. By looking at the results, it could be seen that the therapy has been instrumental in showing its effect on flow. The Cohen's d helps to back up this effect and helps to prove the efficacy of the therapy. The researcher could not control the

cricketers' participation in tournaments which could have affected the results. The hypotheses set for the study are discussed below.

Hypothesis 1:- "There would be no significant difference between pre test scores of control and experimental groups on flow."

Table 1.a shows means, standard deviation and t scores of pre-test of both the control and experimental group on flow i.e. Action Awareness Merging, there is a significant difference at 0.05 level ($t=3.30$, $p<.05$). This may be because the majority of the cricketers in the control group have played state and club level cricket and with respect to age, the control group has more varied age range, with older players as compared to exerimental group.

Nylon (2013) spoke about the importance of therapies for the players and the impactful change created by the help of mental health professionals. He did an interesting study on hockey players in which he found out that it is a normal phenomenon to be anxious ,but excess of anxiety is harmful during play. He further stated it is important to manage their anxiety level. Hence, the above discussion shows that the first hypothesis is partially rejected. The previous research also backs the hypothesis and the importance of therapy for athletes is prominent. The above discussion hence shows that the above mentioned hypothesis is partially rejected.

Hypothesis 2:- "There would be no significant difference between post test scores of control and the experimental group of flow."

It is seen from the table 2.a that only on one dimension of flow- Sense of Control, the difference is significant at 0.01 level ($t=2.22$, $p >.05$). This means the control over the demands of the activity without the conscious effort of an individual. The intervention may been instrumental in helping the experimental group to get a higher mean on sense of control. The non difference on the other dimensions may have happened as both the groups had tournaments and matches during the hypnosis intervention. The sense of control is an involvement in the flow activity is so deep that it becomes spontaneous or automatic. The duration of playing cricket also has played an important role for experimental group.

A study was done by Bowers and Elkins, (2018) on college going students on Flow and Hypnotizability. The study further stated that flow means an individual is completely attentive in any task and is able to concentrate well in it and have several benefits in the flow like the capability to play their best by reducing conscious cognitive processing. The study saw the

significant correlation between flow and hypnotizability. The above discussion hence shows that the above mentioned hypothesis is partially rejected

Hypothesis 3:- "There would be no significant difference between pre and post test scores control group on flow."

Table 3.a shows the mean, standard deviation pretest and pretest scores of the control on the dimensions of flow. As can be seen from the table, there is significant difference on unambiguous feedback ($t=-2.10$, $p< .05$). This may have happened as the control group did not receive any intervention and their scores must have differed slightly based on the tournaments they played. Tournaments played an important role in the giving feedback regarding their sport.

An intervention research was conducted on 5 soccer players by Pain, Harwood and Anderson (2011) of Pre-competition imagery and music to see the impact on performance in competitive soccer. The participants underwent the intervention before the matches and during warm-up. Imagery session with musical relaxation and Flow the perceived performance was examined and improvement was seen directly after the match. The above discussion hence shows that the above mentioned hypothesis is partially rejected.

Hypothesis 4:- "There would be no significant difference between pre and post test scores of experimental group on flow."

Table 4.a shows the mean, standard deviation pretest and posttest scores of the experimental group on the dimensions of flow. As can be seen from the table, the group differ significantly ($t=-2.26$, $p<.05$) on Action Awareness Merging, ($t=-2.56$, $p<.05$) in Concentration of task in hand and ($t=-3.44$, $p< 0.01$) in Sense of Control. These dimensions of flow have been affected by the hypnotherapy sessions as it helped them to improve with respect to concentration while being able to swiftly switch their awareness, eventually giving them a sense of control. The ability to concentrate improves due to the intervention program. Also, recollecting and experiencing again when the player has played his best, studies have also shown hypnosis is likely to enhance the player's confidence within themselves (Barabasz & Watkins, 2005; Gould, et al., 1990; Stanton, 1983). Hence hypnosis technique can be used on other sports as well and effective results could be seen. The above discussion hence shows that the above mentioned hypothesis is partially rejected

The magnitude of the hypnosis intervention effect was calculated using Cohen's d (Cohen, 1983). Both within and between groups effects of the sizes were calculated at post therapy. The

Cohen's d was calculated using the formula: Cohen's d (M2 - M1)/SD pooled. M2- M1 is the difference seen between the 2 samples mean scores.

Table 5 shows the within group effect size on Action Awareness Merging (0.77), Concentration of task in hand (0.75) and Sense of control (1.09). Results hence indicate that there was a large effect on these variables on the post test experimental group. The studies hence show that all the null hypothesis has been partially rejected. Cohen's d result has shown large effect which helps to prove the efficacy of the therapy.

Conclusion

The mean score of both the group on pre and post scores didn't show a much significant difference, however on action awareness merging they differ, sense of control, unambiguous feedback this might be as the cricketers are equal in terms of the levels at which they have represented, the control group happened to play a lot of tournaments and the fact that individuals comprising the control and experimental group are similar to the socio demographic factors. In addition, the effectiveness of the therapy can also be inferred from the values received from Cohen's d. Results of Cohen's d indicate that there was a large effect on Action Awareness Merging (0.77), Concentration of task in hand (0.75), Sense of control. Hence, giving evidence for the efficacy of the therapy.

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