Research Paper Physical education

The Use of Psychological Skills by Male Collegiate Swimmers

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ABSTRACT

The main purpose of the present study was to investigate the use of psychological skills by male collegiate swimmers. A secondary purpose was to investigate use differences between athletes specializing in different swim events. Male collegiate swimmers (N = 27) from different faculty of Banaras Hindu University were surveyed with a researcher-generated questionnaire, the Athlete's Mental Survey. The means indicated that goal setting, positive self talk, and music for psych-up were the skills found to be utilized "almost always" by the subjects. Also, more than 50% of the sample reported "never" using autohypnosis, autogenic training, blank meditation, bracing, color, cue words, mantra meditation, and Transcendental Meditation Copyright. The sample was split into two groups including sprinters (n = 15) and long distance swimmers (n = 12). MANOVA showed no significant differences between the skills used by the swimmers and the distance swam by the athletes. Results are discussed in relation to the need for coaches to educate and encourage athletes' use of psychological skills for performance enhancement.

KEYWORDS

Introduction:

The effects of psychological skills on the enhancement of athletic performance has been studied extensively, especially in the areas of goal setting, relaxation, and imagery/visualization (Cox & Yoo, 1995). Defrancesco and Burke (1997) have indicated that the effective use of psychological skills may depend on specific individual and task factors, such as the skill level of the athlete and the sport skill performed. However, one area that has not been thoroughly investigated is the extent to which athletes utilize psychological skills.

One notable exception was a study by Ungerleider and Golding (1991) designed to investigate track and field Olympic Trial athletes' use of imagery. Overall, track event athletes were found to use imagery 81.5% and field event athletes reported use 92.7%. Race walkers used imagery 76.2%, compared to 78.3% for the sprinters (races up to 400 meters), 79.8% for the marathoner; 86.1% for the middle distance (over 400

meters) runners; and, 97.2% for the throwers.

Although the use of imagery has received considerable research attention, athletes' use of other mental skills has not been thoroughly examined. Kirkby (1991) attempted to fill the void by investigating the use of a variety of psychological skills by 22 male members of an Australian football league. Results indicated that 100% of the subjects reported using some form of cognitive rehearsal and self talk prior to competition and 78% reported using relaxation at least some of the time. More recently Defrancesco and Burke (1997) tested 115 professional tennis players participating in the 1992 Lipton Tennis Tournament. Results showed that the most commonly utilized psychological skills were imagery, a pre-service routine, relaxation, goal setting and self- talk. Defrancesco and Burke's study is the first to investigate a broad range of psychological skills within a specific sport.

Effects of psychological skills training on performance has received considerable attention, as has athletes' use of imagery, research on the use of other skills is marginal or completely nonexistent. A few researchers have investigated the use of other skills such as self talk and relaxation (Defrancesco & Burke, 1997; Kirkby, 1991; Ungerleider et al., 1989). If the effective use of psychological skills depends on task and individual factors, as proposed by Defrancesco and Burke (1997), the skills that athletes actually use within sports needs to be examined. Therefore, the purpose of this study was to extend the work of Defrancesco and Burke by investigating the overall use of various psychological skills by collegiate females within the sport of swimming. A secondary purpose was to test for use differences between swim events.

Methods

Subjects

Male swimmers (N = 27) from different faculty of Banaras Hindu University were volunteered to participate in the study. Subjects ranged in age from 18 to 22 years (M = 19.5, SD 1.17).

Participants were assigned to a group based on the distances they typically swam in competition. Therefore, subjects were classified as either sprinters (n = 15) or long distance swimmers (n = 12). Sprinters swam 50, 100, or 200 yard races. Long distance swimmers competed in 400, 500, 1000, or 1650 yard races.

Questionnaire

The Athlete's Mental Survey utilized in the present study was developed by the experimenters expressly for this investigation. Demographic information related to age, school, and specific distances swam in competition was requested from each subject on the first section of the survey. The main body of the questionnaire was comprised of twenty different psychological skills that could be utilized by athletes. Options for the extent of use included "never", "almost never", "almost always", and "always". Interval level data was obtained by assigning a score of 0 for an answer of "never", 1 for "almost never", 2 for "almost always", and 3 for "always". The possible range of scores was 0 - 60 points for each subject.

The psychological skills included on the survey were collected from relevant sport psychology literature. Revisions of the survey were based on the suggestions of a panel of experts who were asked to review the instrument. The four experts from

the areas of sport psychology and swimming (head coach), confirmed the face validity of the instrument

and its appropriateness for testing the college level athlete.

Procedure
In order to obtain a large sample of highly skilled male swimmers, three testing sites were used for data collection. The three sites were all locations of intercollegiate swim meets held in December of 2013 and January of 2014.

Prior to the conference championship swim meet held in December 2013, a letter explaining the purpose of the research was mailed to the head coaches of the

four participating teams.
After volunteers provided their informed consent, instructions for responding to the survey were presented verbally from a written script. Following the completion of the survey, subjects were thanked for their participation.

It was not initially known which BHU faculty swim teams would be attending the meets at second or third testing site; therefore, it was not possible to notify coaches prior to the competition date. At both sites, the researcher approached the coach of each team individually to request permission to talk with the athletes about participating in the study. If permission was granted to approach the athletes,arrangements were made.

Swimmers from two BHU teams were asked to participate in the study at the second testing site held December 2013 through January, 2014 in BHU. Procedures used for data collection were identical to those utilized at the first and second testing sites. Data were collected on the deck of the university pool facilities.

Athletes from four other BHU teams were asked to participate in the study at a third testing site held January 17th through 18th, 2014 in Uttar Pradesh. Data were collected on the deck of the university pool facilities.

Results
Descriptive Data
The primary purpose of the present study was to examine the psychological skills that collegiate male swimmers utilize to prepare for competition. Table 1 presents the means and standard deviations for subjects' use of each technique. Overall, athletes reported high use of goal setting, positive selftalk, and music for psych-up (M = 2.04 -2.59, SD = .60 -.72). The proportion of subjects that reported "always" using the top three skills was 66.7%, 40.1%, and 27.9% respectively. Focusinginternally,imagery/visualization, and music for relaxation also had relatively high use overall (M = 1.85 - 1.92,SD=.82-.90)

Furthermore, analysis revealed that the majority of subjects reported "never" using autohypnosis, autogenic training, blank meditation, bracing, color, cue words, mantra meditation, and Transcendental Meditation Copyright for performance enhancement. The proportion of subjects reporting nonuse of the eight techniques ranged from

63.9% to 82.3%.
Multivariate Analysis
A secondary purpose of the present investigation was to examine differences in the use of psychological skills between subjects in the two swim groups. Based on the length of the event in which the athletes compete, 71.5% of all subjects identified themselves as sprinters (50 -200 yds.), and 28.5% of subjects identified themselves as long distance (400 - 1650 yds.)swimmers.

A one-way multivariate analysis of variance (MANOVA) was conducted to test for group (sprint vs. long distance) differences in athletes' use of each of the 20 psychological skills. The main effect for group was found to be nonsignificant, Wilks's lambda M(I, 20) =

.84, p > .05. Subsequent univariate F-tests for autohypnosis, autogenic training, breath control relaxation, blank meditation, bracing, centering, color for mood altering, cue words, focusing externally, focusing internally, goal setting, imagery/visualization, mantra meditation, music for psych-up, music for relaxation, positive selftalk, progressive muscle relaxation, performance recall, Transcendental Meditation(D, and thought stoppage were nonsignificant with M (1, 145)

.085 - 1.00, p > .05. Although nonsignificant, imagery/visualization and positive selftalk came close to significance with M (1,145) = 3.81, p = .053 and M (1, 145) = 3.63, p = .058 respectively.

Discussion
The primary purpose of the present investigation was to examine the psychological skills athletes utilize to prepare for competition. The second purpose was to investigate possible within sport differences (sprint and long distance swimmers). From a descriptive level, findings revealed that the

athletes sampled used goal setting, positive selftalk, and music for psych-up "almost always" to prepare for competition. Focusing internally, imagery/visualization, and music for relaxation also had relatively high use. Majority of subjects reported "never" using autohypnosis, autogenic training, blank meditation, bracing, color, cue words, mantra meditation, and Transcendental Meditation Copyright for performance enhancement. The within sport analysis yielded no significant differences between sprinters and long distance swimmers in the use of the psychological skills.

Defrancesco and Burke found that goal setting, self-talk and imagery were among the most commonly utilized psychological skills by a large sample of professional tennis players. Ungerleider and Golding discovered a high use of imagery for elite track and field athletes with percentage of use varying between athletes of different events. Also, Kirkby (1991) found that football league athletes utilized selftalk and some form of cognitive rehearsal however small sample size of Kirkby's study limits its application, results from the present study and the work of Defrancesco and Burke (1997) and Ungerleider and Golding (1991) suggest there are certain psychological skills that athletes utilize more than others. In the present investigation use of music for psych-up and/or relaxation was high among athletes. Music is unique as it allows athletes to individualize their psychological preparation. According to Defrancesco and Burke (1997), personal attributes are important factors for psychological skills. Music permits athlete to choose the selections that are best suited to their personality and the desired purpose.

There were eight psychological skills that majority of sample reported "never" using. It is also possible that some of athletes who responded "never" for use are aware of existence of a certain skill but uninformed concerning its positive effect on performance. It is critically important that athletes use all available psychological skills in order to gain control over their competitive environment.

No significant differences in skill use were observed between sprinters and long distance swimmers. However, imagery/visualization and positive selftalk came close to significance. With both skills, sprinters were slightly higher than for the long distance swimmers. Due to nonsignificant findings, however, possibility that slight differences between means were due to chance cannot be discounted. As present study is first to investigate differences in the of psychological skills between events or tasks within sport, further testing is warranted. It may be that task demands within swimming do not differ as much as they might in a sport where athletes performs different skills (e.g., track and field).

While findings of the present study do shed light on the use of a broad range of specific psychological techniques, further study is recommended in order to clarify remaining questions. Issues yet unaddressed concern relationship between type of task athletes perform and the specific psychological skills employed, as well as factors that determine use. Additional information would allow coaches (a) to identify psychological skills commonly utilized by athletes in a given sport and those which would need to be taught, and (b) to help athletes tailor the use of psychological skills to the specific competitive situation and the competitive tasks performed by the athlete for the desired outcome.

Table 1 Psychological Skill Use by Group
Legend for Chart:
A - Skill
B - Group Sprinters (n = 15) M
C - Group Sprinters (n = 15) SD
D - Long Distance (n = 12) M
E - Long Distance (n = 12) SD
F - Overall (N = 27) M
G - Overall (N = 27) SD

A	B	C	D	E	F	G
Autohypnosis	0.23	(.49)	0.17	(.49)	0.20	(.47)
Autogenic training	0.41	(.70)	0.36	(.73)	0.38	(.69)
Breath relaxation	1.44	(.92)	1.33	(.93)	1.40	(.91)
Blank meditation	0.52	(.81)	0.55	(.92)	0.50	(.81)
Bracing	0.40	(.70)	0.40	(.70)	0.38	(.74)
Centering	1.10	(1.03)	1.05	(1.01)	1.06	(1.03)
Color for mood altering	0.33	(.65)	0.29	(.55)	0.32	(.61)
Cue words	0.67	(.93)	0.67	(.90)	0.63	(.89)
Focusing externally	1.51	(1.07)	1.52	(1.13)	1.49	(1.07)
Focusing internally	2.05	(.86)	1.76	(l.01)	1.92	(.90)
Goal setting	2.64	(0.57)	2.57	(0.67)	2.59	(0.60)
Imagery/visualization	1.97	(0.78)	1.69	(0.81)	1.86	(0.82)
Mantra meditation	0.38	(.71)	0.48	(.94)	(.39)	0.76
Music for psychup	2.01	(.71)	2.21	(0.75)	2.04	0.72
Music for relaxation	1.78	0.91	2.05	(0.79)	1.85	0.87
Progresive muscle relaxation	1.14	(0.85)	1.19	(0.97)	1.13	(.87)
Performance recall	1.7	(0.96)	1.43	(0.86)	1.60	(0.93)
Positive self talk	2.34	(0.62)	2.10	(0.91)	2.23	(0.75)
Transcendental Meditation copyright	0.34	(.59)	0.43	(.77)	0.36	(.62)
Thought stoppage	1.11	(0.97)	1.14	(1.00)	1.10	(0.97)

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