

Psychological Skills and Performance Efficacy in Hockey Players: The Mediating Role of Sportsmanship

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The current study was designed to find out relationship between psychological skills and performance efficacy and mediating role of sportsmanship in domestic, national and international hockey players. It was a correlational research employing cross sectional research design in which the sample of 261 hockey players was recruited via purposive sampling. The assessment measures included Psychological Skills Scale for Hockey Players and Cricketers (Solomon, Malik & Kausar, 2019), Youth Sports Value Questionnaire-2 (Lee, Whitehead, & Ntoumanis, 2007) and Collective Efficacy for Sports Questionnaire (Short, Sullivan, & Feltz, 2009). Results showed a significant relationship between psychological skills, sportsmanship and performance efficacy in hockey players, however, perceived psychological support was found to be significant positive predictor of sportsmanship and sportsmanship coined as a significant positive predictor of performance efficacy. Furthermore, sportsmanship was found to be significant mediator between perceived psychological support and performance efficacy. This research will work as an empirical proof for Pakistan Hockey Federation (PHF) to conduct psychological skills training for hockey players for the enhancement of their performance efficacy by signifying the importance of sportsmanship.

Keywords: psychological skills, sportsmanship, performance efficacy

The main focus of sports psychology has always been to emphasize the importance of psychology in sports settings. The heightened competition stress lead towards a sudden diminished performance both physically and psychologically by influencing on performance abilities of players (Dweck, 2009). Sports psychology enables players and coaches to concentrate on psychological skills of players by controlling negative emotions and optimizing performance and assist players in focusing positively on their respective games. Sports have been more refined and coaches who had been

unable to utilize the mental aspect of their players had faced disgrace in their respective fields due to their poor performance (Marshall & Harrison, 2015). The end of 1990s was marked as the era of fitness revolution, the 2000s named as the sports science and analysis period and now the next era will be marked as dealing psychological aspects of sports (Gucciardi, 2016). The role of coaches in team sports is vital and oblivious as coaches flourish their players physically, psychologically, technically and tactically and enable them for accomplishing optimal goals. Coaches play a critical role in the lives of young athletes and have the potential to influence, positively or negatively, their sporting experiences (Lambert, Passmore & Holder 2015).

Today, sport psychological thinking is an indispensable condition for an integrated approach as number of factors and aspects required to be focused when optimizing sport performance and players should be viewed through a system approach as there are many exogenous factors affecting his functioning. Psychological skills encompass learned behaviors employed by players pragmatically and pave their way towards distinction in sports (Sheard, Golby & van-Wersch, 2009). Another study postulated that psychological skills are important characteristics that are beneficial for players in accomplishing excellence in performance during crucial match situations and critical conditions. They incorporate different psychological techniques including sports injury rehabilitation, performance related perfectionism and balance between sports and others aspects of life (Crust & Swann, 2013). On the other hand, it is expected for support to teach their participants regard for opponents, responsibility, fair play, trust, team cohesion, healthy competition and urge to be excellent. Parents and coaches need to work together in facilitating players with atmosphere that can establish positive playing experiences. Coaches are regarded as important figure in making sports positive and enthusiastic for their players (Kao, Hsieh & Lee, 2017). Sportsmanship and morality have a vital role in sports at school level. It is widely believed that sports can promote sports related behaviors, values and character building. Sports provide different social facilities to attain social values contributing to morality and character building in the society (Lee, Whitehead & Ntoumanis, 2007). Sportsmanship is necessary for character building and sports deliberately promote morality and judgment by defiance to rules and regulations of game. Morality promotes sportsmanship including trustworthiness, integrity and responsibility (Ryska, 2003). Sports and other physical games and activities facilitate players with different opportunities for being skillful, strategic, committed, respectful and being dignified. These strategies provide six main features of character including trustworthiness, respect, responsibility, fairness, caring and good citizenship. However, the major limitation is that sportsmanship would not facilitate

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positive character development specifically keeping winning factor in mind (Barez, 2008).

Psychological components related to sports have been classified as significant in improving one's sports related performance, however, the prediction of performance is based on the principles of sports psychology (Chen & Cheesman, 2013). Performance can be linked with principles of applied sports psychology and generally refers as a discipline that involves intuitive appeal for experienced psychology (Schutz, Eom, Smoll & Smith, 1994). Applied sports psychologists need to have specialty knowledge for every aspect and their respective area of expertise, however, sporting context implicate specialized training other than general performance principles. Performance psychology tries to help individuals in being the best as per their abilities of becoming in their performance activities (Jooste, Steyn & den-Berg, 2014). An individual being taught about performance issues helps him or her to accomplish a set goal. Moreover, coaching and consultation are considered as major modalities that best fit in performance psychology foundation of applied sports psychology (Mouratidou & Barkoukis, 2015).

Whitmore (2002) stated that coaching manuals adhere to different psychological components and potential value of these factors is important in increasing performance. Mouratidou and Barkoukis (2015) indicated that understanding limitations and optimal performance factors have always been area of interest for sports psychologists. In different competitive conditions, performance related demands of athletes can be categorized into three factors i.e. the physical ability to perform continued physical exercises, being involved in high intensity exercises, the ability of being athletic and the ability to progress a high power output, however, performance is indomitable by a players' technical, tactical and psychological ability. Solomon and Kausar (2017) examined knowledge and awareness of cricketers about psychological skills and their perception of significance of psychological skills in cricket. Focus group discussions and in-depth interviews were conducted with Pakistan U-19 Cricket Team and Pakistan International Cricket Team. Data gathered through focus group and individual interviews coined that psychological skills were required due to changing cricketing patterns with the passage of time; psychological skills consisted of several components i.e. sense of cohesiveness; psychological control; psychological preparation; freshness of mind; adherence to instruction of coaches for mental strengths. Psychological skills were perceived to be important for cricketers to enable them deal with pressure effectively and help them develop positive mind set. Solomon and Kausar (2015) also conducted a research to find out differences between psychological skills and choking in first class, national, and

international cricketers and no mean differences were found for playing levels and playing positions in psychological skills and choking. Psychological skills significantly negatively correlated with psychological distractors and choking and psychological distractors emerged as significant predictors of choking. Thus, in a nut shell, sports are metaphor for life that guarantees one’s success by distinguishing oneself from others due to one’s skills, determination and hard work by connecting between one’s sportsmanship as good sportsmanship encompasses different aspects of a sportsman’s life such as equal respect for teammates and opponents, integrity and above all unselfish sport participation for being a great sportsman (Lane, 2014).

Objectives

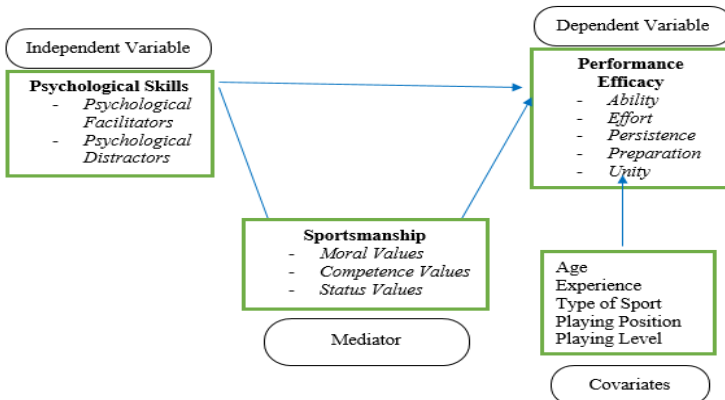
The objectives of this study were:

1. To find out relationship between psychological skills (psycho-performance skills, perceived psychological support and psycho-competitiveness), sportsmanship (moral values, competence, values and status values) and performance efficacy (ability, effort, persistence, preparation and unity) in hockey players.
2. To determine the mediating role of sportsmanship between psychological skills and performance efficacy.

Hypotheses

1. There is likely to be relationship between psychological skills (psycho-performance skills, perceived psychological support and psycho-competitiveness), sportsmanship (moral values, competence values and status values) and performance efficacy (ability, effort, persistence, preparation and unity) in hockey players.
2. Sportsmanship will mediate the relationship between psychological skills and performance efficacy in hockey players.

Hypothesized Model of the Study



Method

Correlational (cross-sectional) research design was employed.

Sampling Strategy and Sample

The sample consisted of 261 Hockey Players (N= 261) as calculated by G-Power 3.0 sample calculator (Faul, Erdfelder, Langa & Buchner, 2007) collected from different hockey clubs of Punjab via non-probability purposive sampling technique.

Inclusion/ Exclusion criteria.

- Hockey players currently playing at different clubs and departments under the plat form of Pakistan Hockey Federation (PHF) were approached.
- Hockey players who have minimum one year of experience of playing hockey and hockey at region, district or departmental level were included.
- Hockey players facing any kind of ban for playing their respective sport by club/ academy due to some disciplinary actions were excluded.
- Hockey players having any kind of disability and physical injury didn't take part in this research.

Assessment Measures

Psychological Skills Scale for Hockey Players and Cricketers (PSSHPC)

Psychological Skills Scale for Hockey Players and Cricketers (Solomon, Malik & Kausar, 2019) that consisted of 84 items with three sub-scales: Psycho-Performance Skills, Perceived Psychological Support and Psycho-Competitiveness included 38, 24 and 22 items respectively. The overall score range on was 84 (minimum) to 336 (maximum), however, the score range on psycho-performance skills is from 38 (minimum) to 152 (maximum), whereas, scoring range for perceived psychological support and psycho-competitiveness is 24 (minimum) to 96 (maximum) and 22 (minimum) to 88 (maximum) respectively with internal consistency for overall scale .94 determined by using Cronbach's alpha and .92, .90 and .87 reliability respectively for each sub-scale.

Youth Sport Values Questionnaire-2 (YSVQ-2)

Youth Sport Value Questionnaire-2 (YSVQ-2) developed by Lee et al., (2007) is 13-item questionnaire having three sub-scales to measure moral, competence and status values with four or five items.

Collective Efficacy for Sports Questionnaire (CESQ)

Collective Efficacy for Sport Questionnaire (Short, Sullivan & Feltz, 2005) is a 20-item questionnaire that measures collective team collapse on a 9-point scale with low scores indicating greater collapse. The 20 items measure five

different elements of collective efficacy. The five elements that are measured are ability, effort, persistence, preparation and unity.

Demographic Information Sheet

Demographic information of the participants were obtained by using a demographic information sheet including playing level, playing position, duration of playing a specific game, marital status, education, residence and monthly income.

Results

At first, descriptive statistics i.e. means, standard deviations, frequencies and percentages were computed to provide a preliminary profile of the sample characteristics. The mean, standard deviation, and reliability coefficients of assessment measures were computed. Pearson Product Moment Correlation was used to investigate relationship between psychological skills, sportsmanship and performance efficacy in hockey players. Structural Equation Modeling (SEM) through AMOS was used to find out mediating role of sportsmanship between the relationship of psychological skills and performance efficacy.

Table 1

Demographic Characteristics of Sample (N=261)

Variables	<i>Hockey Players N=261</i> <i>f (%)</i>
Age	M (SD) 22.88 (6.82)
U19 (16-19)	97 (37.16)
U23 (20-23)	87 (33.34)
Above 23 (24 Onwards)	77 (29.50)
Experience in Years	M (SD) 5.59 (4.89)
Playing Level	
Club	108 (41.4)
National	92 (35.2)
International	61 (23.4)
Marital Status	
Married	47 (18)
Unmarried	214 (82)
Have you ever faced any psychological problem during game?	
Yes	139 (53.2)
No	122 (46.8)
If yes, then whom did you consult?	
Captain	31 (22.3)
Coach	70 (50.3)
Any-other	31 (22.3)
No-one	7 (5.1)
Required Psychological Consultancy in future?	
Yes	164 (62.8)
No	97 (37.2)

Note: f= frequency, %= percentage, M = Mean, SD = Standard Deviation

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Table 2

Descriptive Statistics of Psychological Skills (Psycho- Performance Efficacy Skills, Perceived Psychological Support and Psycho-Competitiveness), Sportsmanship (Moral Values, Competence Values and Status Values) and Performance Efficacy (Ability, Effort, Persistence, Preparation and Unity) in Hockey Players (N=261)

Variables	k	M (SD)	Range		α
			Actual	Potential	
Psychological Skills	84	270.17 (29.24)	325	336	.94
Psycho- Performance Efficacy Skills	38	111.16 (18.13)	148	152	.92
Perceived Psychological Support	24	81.92 (11.00)	96	96	.90
Psycho-Competitiveness	22	77.55 (8.63)	88	88	.87
Sportsmanship	13	42.17 (12.74)	65	65	.83
Moral Values	5	17.11 (4.94)	25	25	.61
Competence Values	4	14.74 (4.26)	20	20	.64
Status Values	4	10.32 (5.74)	20	20	.68
Performance Efficacy	20	162.68 (28.85)	200	200	.92
Ability	4	33.11 (6.37)	40	40	.74
Effort	4	31.86 (7.10)	40	40	.75
Persistence	4	31.49 (6.88)	40	40	.68
Preparation	4	33.70 (6.27)	40	40	.80
Unity	4	32.41 (6.31)	40	40	.67

Note: k = Number. of items, M = Mean, SD = Standard Deviation, α = Cronbach's alpha

Table 2 contained descriptive statistics of the study and showing number of items for scales and sub-scales, mean, standard deviation, and Cronbach alpha reliability.

Table 3

Correlations among Age, Experience, Psychological Skills (Psycho-Performance Efficacy Skills, Perceived Psychological Support and Psycho-Competitiveness), Sportsmanship (Moral Values, Competence Values and Status Values) and Performance Efficacy (Ability, Effort, Persistence, Preparation and Unity) in Hockey Players (N=261)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	-	.87***	.09	.11	.03	.02	.01	.02	.01	-.01	.13*	.08	.14*	.06	.16*	.11
2. Exp.		-	-.07	.11	-.01	-.01	-.01	-.01	-.02	.01	.14*	.10	.14*	.07	.14*	.13*
3. PSk			-	.82***	.73***	.65***	.13*	.16**	.23***	-.01	.23***	.21**	.18**	.15*	.20**	.23***
4. PPr				-	.27***	.20**	-.01	.03	.06	-.10	.06	.11	-.02	.02	.07	.09
5. PPS					-	.65***	.22***	.27***	.31***	.06	.31***	.21**	.33***	.24***	.26***	.27***
6. PCo						-	.22***	.22***	.25***	.11	.25***	.20**	.25***	.18**	.22***	.23***
7. SMS							-	.84***	.87***	.81***	.40***	.35***	.28***	.38***	.34***	.35***
8. MoralV								-	.71***	.44***	.40***	.35***	.25***	.38***	.36***	.37***
9. ComV									-	.53***	.38***	.34***	.28***	.33***	.33***	.33***
10. StatusV										-	.24***	.22***	.18**	.25***	.17**	.18**
11. Per.Ef.											-	.83***	.84***	.86***	.87***	.84***
12. Ability												-	.59***	.64***	.66***	.68***
13. Effort													-	.66***	.70***	.59***
14. Pers.														-	.69***	.64***
15. Prep.															-	.70***
16. Unity																-

Note: *p<.05, **p<.01, ***p<.001, Exp.=Experience, PS=Psychological Skills, PPr.=Psycho-Performance Efficacy Skills, PPS=Perceived Psychological Support, PCo=

Psycho-Competitiveness, SMS= Sportsmanship, MoralV=Moral Values, ComV= Competence Values, StatusV= Status Values, Per.Ef.= Performance Efficacy, Pers.=

Persistence, and Prep.=Preparation

Table 3 revealed that for hockey players, age was significantly positively correlated with performance Efficacy, effort and preparation. Playing experience was significantly and positively correlated with performance efficacy, effort, preparation and unity. Psychological skills were significantly positively correlated with competence values, performance efficacy and unity, sportsmanship, moral values, ability, effort, persistence and preparation. Perceived psychological support was significantly positively correlated with sportsmanship, moral values, competence values, status values, performance Efficacy, ability, effort, persistence, preparation and unity.

Sportsmanship was significantly positively correlated with psycho-performance Efficacy, ability, effort, persistence, preparation and unity. Moral values were significantly positively correlated with status values, performance efficacy, ability, effort, persistence, preparation and unity. Status values were significantly positively correlated with performance efficacy, ability, effort, persistence, preparation and unity.

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Structural equation modeling using IBM AMOS SPSS was conducted to evaluate the mediating role of sportsmanship between psychological skills and performance Efficacy in cricket and hockey players. Model fit presented in table 4.

Table 4

Fit Indices for Psychological Skills, Sportsmanship and Performance Efficacy in Hockey Players

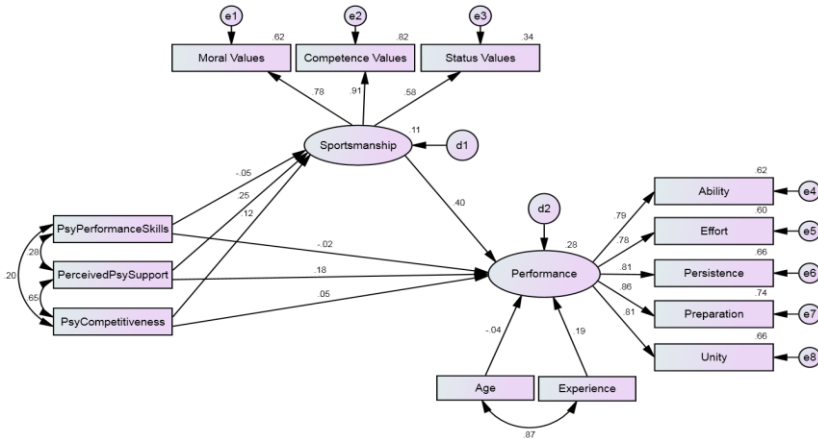
Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA	SRMR
Model Fit (Gender)	178.44	114	1.57	.95	.98	.97	.03	.03

Note: N=261, GFI= Goodness of fit index, CFI=comparative fit index, NFI = -normed fit index; RMSEA=root mean square error of approximation, SRMR=Standardized root mean square.

Model fit indices indicated for psychological skills, sportsmanship and performance efficacy in hockey players. Absolute model fit by gender and marital status were $\chi^2 (114) = 178.44, p < .001$. The chi-square test of absolute model fit is sensitive to sample size and number of parameters estimate, investigators often turn to various descriptive fit indices to assess the overall model fit (Kenny 2003). Hence model fit was analyzed by using relative fit (GFI, CFI, NFI, RMSEA, SRMR) of model. Hu, Li-Tze, Bentler and Peter (1999) recommend χ^2/df in between 0 and 3, RMSEA and SRMR values .08 or lesser and Comparative Fit Index (CFI), Normedfit Index (NFI) and Goodness of fit Index (GFI) values of .9 or higher are considered as good while $.9 \leq .8$ is consider permissible sometimes. However indices of model fit indicated the best fit for the proposed model accruing to given criteria.

Figure 1

Empirical Results from a Complex Multivariate Model Representing Standardized Regression Coefficients by Hockey Players (N=261)



A complex multivariate model of two endogenous variables and three exogenous variables. Completely standardized maximum likelihood parameter estimates.

Table 5

Standardized Direct Effects of the Paths for Hockey Players (N = 261)

Predictors	Sportsmanshi		Performance	
	Efficacy		Efficacy	
	B	SE	B	SE
PerceivedPsychologicalSupport	0.25*	0.10	0.18	0.1
PsychoCompetitiveness	0.12	0.09	0.05	0.09
Psycho Performance Efficacy Skills	-0.1	0.06	-0.02	0.06
Sportsmanship			0.40**	0.07
Playing Experience			0.19	0.11
Age			-0.04	0.11
Total R ²				

The results of direct effect showed that perceived psychological support was found to be significant positive predictor of sportsmanship for hockey players. Sportsmanship was found to be significant positive predictor of performance efficacy for hockey players.

Table 6

Standardized Indirect Effects of the Paths for Hockey Players (N = 261)

Predictors	Performance Efficacy	
	B	SE
Perceived Psychological Support	0.10*	0.10
Psycho-Competitiveness	0.05	0.09
Psycho Performance Skills	-0.02	0.06

Results of indirect showed that sportsmanship was found to be significant mediator between perceived psychological support and performance efficacy for hockey players.

Discussion

Psychological issues in sports are usually discussed in Pakistan but researchers need to conduct more studies in this area to increase one’s knowledge about psychological support, whereas, physical characteristics have always been a hot topic for Pakistan Sports Board and especially for Pakistan Hockey Federation, this study was carried out to find the relationship between psychological skills and performance efficacy and mediating role of sportsmanship among these variables in hockey players.

First of all, it was hypothesized that there is likely to be relationship between psychological skills, sportsmanship and performance efficacy in hockey players. However, on separately inspection of results for hockey players, it was found that psychological skills were significantly positively correlated with psycho-performance skills, perceived psychological support, psycho-competitiveness, coaching competence, creating the relationships, communication influencing skills, communication attending skills, facilitating for learning and results, making the responsibility clear, sportsmanship, moral values, competence values, status values, performance efficacy, ability, effort, persistence, preparation and unity. The reason behind these findings can be marked as the fundamental role and contribution of psychological skills in hockey and psychological skills of players tend to influence hockey players' skills related to performance, psychological support that is derived from coaches, management and teammates and competition related psychological tactics. Psychological skills of hockey players simplify both for coaches and players to be mutually beneficial for each other as they have an important role towards coaching competence, maintaining coach-athlete relationship, mutual communication, communication facilitating skills, mutual aptitude towards learning and realization of importance of responsibility during competition. Moreover, psychological skills directly affect sportsmanship and performance efficacy of hockey players including their moral values, status values and competence values, ability, effort, persistence, preparation and unity.

Furthermore, Lewinson and Palma (2012) examined the relationships that exist between psychological skills and confidence among ice hockey Lacrosse and soccer goalkeepers and it was resulted that psychological skills as important, but rarely used them to enhance performance. Goalkeepers scored higher on both the personal coping resource score and confidence than non-goalkeepers on the personal coping resource score and confidence. Moreover, the relationship between personal coping resource and confidence scores showed a significant correlation exists. This study indicates goalkeepers possess a different set of psychological skills and confidence level than their counterparts. In the light of these results it can be concluded that psychological skills have distinction features in relationship with coaching competence, sportsmanship and performance efficacy in team sports.

Secondly, it was hypothesized that sportsmanship (moral values, competence values and status values) will mediate the relationship between psychological skills and performance efficacy in hockey players. Direct effect showed that perceived psychological support was found to be significant positive predictor of sportsmanship for hockey players. Sportsmanship was found to be significant positive predictor of performance efficacy. Results of indirect showed that sportsmanship was found to be significant mediator between perceived psychological support and performance efficacy for hockey players. These results were supported by a research where at least four individual difference factors have been studied in relation to youths' moral functioning in sport. First, social perspective taking has been implicated in the expression of moral thoughts and prosocial behaviors. Second, youths' moral emotions and emotional regulation skills affect youths' moral judgments and actions during moral dilemmas. Third, moral disengagement occurs when individuals switch off their moral standards and disconnect themselves psychologically and emotionally from the right thing to do. Fourth, moral identity is defined as the extent to which being a moral person is central to self-concept. Taken together, children's and teenagers' cognitive maturity and self-regulatory skills influence their moral reasoning and pro-social behaviors (Clough & Strycharczyk, 2012).

On a broader spectrum, the importance of sportsmanship can be highlighted with variables and it can be claimed that there is a significant role of sportsmanship in the lives of team sports players (Deuster & Silverman, 2013). It was investigated in another study whether achievement goals have differential effect on sportsmanship orientations in competitive sport and it was found that all achievement goals were significant predictors of sportsmanship orientations. On the other hand, the interpersonal relations tend to have a significant role towards sportsmanship as a study investigating the

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mediating role of interpersonal relations between intrinsic motivation and sportsmanship on players resulted that self-concept of interpersonal relations mediated the relation between intrinsic motivation and sportsmanship. Also, intrinsic motivation was directly and positively associated with self-concept of interpersonal relations, which, in turn, was positively and significantly related to sportsmanship (Yoosefi & Bahrami, 2012). Scanlan, Russell, Magyar and Scanlan (2009) examined the relations among students' perceptions of motivational climate, sportsmanship attitudes, and attitudes toward content and teachers in physical education and it was found that perceived mastery climate is a predictor of students' attitudes toward teacher and content and positive sportsmanship attitudes. In contrast, perceived performance climate was not a predictor or mainly predicted negatively the students' attitudes toward the physical education teacher, content, and sportsmanship attitudes.

Conclusions

Researchers are of the view that physical and technical abilities when accompanied with psychological and behavioral characteristics especially winning attitude and high morale, may enhance international players' performance manifold. Players are required to address all those factors that are essential for successful sporting performance not only physical but also psychological (Mahoney et al., 2014). Including psychology in day to day life, competitions can help players to constrain from choking vulnerable situations. Lack of psychological skills can directly convert a champion into a world of losers as such skills can assist help players to tackle choking situations in a batter way (Dweck, 2012). Finally, it has been recommended that different psychological skills are needed to inhibit players from decreasing their performance under pressure in their relevant fields. Moreover, the importance of self-talk and self-confidence must be enhanced by improving positive thinking and diminishing the negative thoughts and eventually enabling players to morally and ethically perform by depicting heightened level of sportsmanship (Sheard et al., 2009).

Limitations

There are several limitations encountered while conducting this study

1. The major limitation was the inclusion of only hockey players as team sports players and other team sports players didn't take part in this study.
2. The sample was collected only from different cities of Punjab and other hockey players from other provinces were not approached.
3. Only male hockey players within the age range of 15 to 50 years participated, thus limited the generalizability of current study.

4. Use of self-report measures without considering the behavioral observations for the operationalization of various constructs of this research might have introduced common method variance which might lead to certain compromises in the validity of measurement of these constructs.

Strengths

The strengths of the current study were:

1. Hockey players were approached from only registered clubs and academies under the platform of Pakistan Hockey Federation (PHF).
2. These results can be helpful for initiating awareness in hockey players on psychological skills training programs.

Recommendations

Some useful suggestions to make the study more better are as follows:

1. Alternative sampling and data collection strategies might be needed to avoid sampling biases which affect the results of the study and random multi-stage sampling is suggested to use in further studies to avoid sampling bias.
2. Future research must be conducted for assessing psychological skills, sportsmanship and performance efficacy including players other than hockey as well.
3. Future researches should inquire family related demographics i.e. family system, number of siblings, socioeconomic status etc. as they might have a significant influence on overall performance efficacy of hockey players related to psychological skill and sportsmanship.
4. Most importantly, hockey management and high officials may also be approached in future for obtaining maximum information regarding psychological skills of players along with sportsmanship and performance efficacy.

Implications

The implications of the current study are as under:

1. Psychological skills training programs can be initiated in the light of results of current study and there can be interactive panel discussion including hockey players and coaches for better mutual understanding.
2. Awareness seminars might be conducted for increasing the knowledge of players on psychological skills and both players and coaches can interact about the impact of their psychological skills and sportsmanship of on their performance efficacy.

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3. This study lays the groundwork for more research to be conducted on performance efficacy of hockey players in relation to different unique and significant factors other than psychological skills, sportsmanship. However, current study variables can be explored in different ways as well.

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