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An Evaluation of the Concurrent and Predictive Validity of the Athletic Apperception Test for the Sport of Hockey

Joseph Michael Kalinowski
Western Michigan University

AN EVALUATION OF THE CONCURRENT AND PREDICTIVE VALIDITY OF THE ATHLETIC APPERCEPTION TEST FOR THE SPORT OF HOCKEY

by

Joseph Michael Kalinowski

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INTRODUCTION

Numerous explanations have been given for interest in sports. Most often the explanations center on sport as a recreational activity which functions as a physical release, social pastime and an opportunity to display skill. If man is a social animal, sport has surely helped to satisfy his taste for social involvement.

Historically, as towns grew into more expansive cities with decreased space, the emphasis in sport shifted from personal involvement to spectator interest. This shift in our society to "a nation of spectators" has become expanded to extreme proportions with the help of the past 40 years of technological improvements in communications. Particularly significant has been the development of television as the prime instrument of sport.

William Johnson (1969) adroitly sums up the effects of TV on sports by stating "it is the major television networks of America that form the primary source of exposure for sport. The Columbia Broadcasting system...The National Broadcasting system...The American Broadcasting Company...their very names ring with glamour, power, wealth, efficiency (p.97)."

Since its first broadcast of a sporting event in 1939 to the year 1970, television's annual sports budget has skyrocketed from 0 to $150 million. CBS paid $660,000 for the rights to cover the Rome Olympics in 1960. This figure rose to $13.5 million in 1972

when ABC won the right of Olympic coverage in Munich. This is an increase of approximately 2,000%. Negotiations over the 1980 Moscow Olympics are currently starting at a figure of $50 million.

Another example of increased revenue from TV can be seen in college athletics, where the rights to the NCAA college football coverage went from $3,125,000 in 1960 to $12 million in 1970.

With the vast increase in cultural and monetary rewards, concern is expressed about the effect these rewards are having on athletes and coaches. Johnson states:

> "this cascade of money had made major differences to our games and gamesmen. Our sports heroes are businessmen now, entrepreneur athletes. The money flood from TV has allowed them to earn enormous increases from the sports at which they excell and then to rise out of the playing field dust to become owners of laundry chains, haberdashery strings and sandwich assembly lines. The money from television has made professional sport an exceedingly attractive proposition, even for the bright young college graduate with ambitions for corporate life (what more rewarding career is there in corporate life than chairing the board of your own corporation?) (p. 90-92)."

There is no question that sport in America is highly reinforced by culture. While monetary rewards increase greatly for the professional (the average annual salary in the NBA is now above $100,000.00), top college athletes are rewarded with scholastic aide, national recognition and an opportunity to enter the professional ranks.

College athletics, particularly at the larger schools, is an example of 'big business'. Coaches continuously seek out opinions of experts in fields of science in order to increase their success in winning and thereby maintain public support, personal acclaim,

financial advantage and the edge on player recruitment. Consequently, there is growing interest on the part of coaches to find additional methods to assess the behaviors of their athletes and to relate these assessments to such variables as position placement, prediction of individual (or group) success, physical agility, visual motor acuity, etc.

The need for psychological studies in athletics is more than evident by the lack of sport related data currently available. The limited availability of data is even more apparent in searching for information concerning a particular sport, for example, Hockey, as opposed to some other sport. In addition, many available articles on sport are not particularly favorable or supportive to the field of athletic endeavors. For example, Ogilvie and Tutko (1971) researched the Athletic Motivation Inventory and found no empirical evidence to support the supposition that sport builds character. In contrast, their evidence strongly supported the stance that sport may limit personality development.

Moreover, the scientific study of the psychological aspects of sport and competitive behavior has often focused on a rather narrow experimental-situational approach (Alexander 1963, Merrifield and Walford 1969, Baron 1971). Other investigators have taken an opposite point of view and discussed aspects of competitive behavior on the basis of rather vague internal events (Johnson, Hutton and Johnson 1954, Kroll 1967, Husman 1955).

Lonetto's work on the formulation of the Athletic Apperception Test (1975) was based on an attempt to combine verbal reports of

athletes with confirming situational behaviors. This work was based in part on the writings of theorists, such as Bowers (1973) who compared the mean percentage of variance of 11 experiments which dealt with the evaluation of person, setting and person x setting. This comparison attributed 12.71% of the total variance to the person, 10.71% due to the setting and 20.77% of the total variance the result of person x setting interaction.

Rausch (1959) explored the effect of interactions between individual and social factors on the behavior of a group of hyper-aggressive children. He concluded: "Perhaps the most striking finding was the extent of interaction between child and setting. A unique confluence of child and setting contributed far more to behavior than did the summative effects of individual-difference and setting components (p. 374)". Lonetto (1977) further emphasizes the importance of interactionist philosophy by stating: "environments are as much a function of the individual as the individuals' behavior is a function of the environment (p. 2)".

The case that has been made by Lonetto and others is that behavior, particularly competitive behavior, cannot be explained by solely "situational" or "trait factors". The interaction is considered to be of major importance.

Wachtel (1973) has also asserted that a person's social environment is maintained by his own belief system. In other words, the individual has a tendency to choose consistently similar situations in which to interact.

The least amount of research in competitive behavior has been in the area of perception (Deutsch 1949, Lonetto 1977). How the athlete perceives himself, his sport, teammates, etc., and how these perceptions are related to such variables as Motivation, Position-Preference, or Performance. Lonetto's work has entered the literature as the result of such an interactionist (person x setting) approach.

Lonetto and Marshal (1975) developed an assessment technique which they claim can be used as a predictive instrument to measure an athlete's future performance, what position he could be most suited for, and how he would relate to other teammates and/or coach. If this instrument reliably relates the athletes' present self-perceptions to his later performance, it could be used by coaches to improve their recruitment and selection of personnel as well as the training and development procedures.

The objective of the current study is to establish whether the Athletic Apperception Test reliably measures a hockey player's perceptions, and to determine if these perceptions can accurately predict later performance. Coaches are currently greatly interested in the outcome of such a study. The impression of many in the coaching field is that if the Athletic Apperception Test were a valid means of assessing and predicting player perceptions, the rate of superior athletes would be greatly enhanced. This question however is still an open one.

METHOD

Subjects

Subjects were 19 collegiate hockey team members, who span all four class years (6 Freshmen, 4 Sophmores, 4 Juniors, 5 Seniors), and have an age range of 18 to 23 with a mean age of 20.2. The team members were requested by their coach to participate in the study as part of the overall training program. The study did not include four players who were absent from the testing period. Seven of those tested were from the United States,while the remaining twelve players were from Canada.

Response Measure I

The Athletic Apperception Test (AAT) developed by Lonetto and Marshall (1975) is used to assess player perceptions about various sports. The AAT may be used in conjunction with personality, intelligence, attitudinal and other assessments, and therefore can be an integral part of the psychological test battery. The complete AAT consists of 60 pictures depicting various sports (e.g., football, basketball, track and field, boxing, wresting, golf, swimming); however, the present study reports on four pictures specific to the sport of hockey.

The authors of the test believe that players are at ease with these pictures, and are able to project their needs and feelings into the situations which these pictures depict. Rather than being considered as a specialized projective technique, the AAT is best described by Lonetto and Marshall as a 'minisituational test'. That

is, with pictures of a specific sport setting, a player experiences situations which are meaningful to him, and he can react to these situations by making accurate statements about his experiences. The assumption is that through these statements the individual reveals his needs and motivations relative to the particular sport.

Lonetto and Marshall (1977) describe the AAT (hockey) stimulus cards as follows:

> Picture #1: A goal has been scored by the team in the dark sweaters. Two members of this team are hugging each other. The goalie for the team in white is on his knees with his back to the viewer, looking into the net. Four other players in white are in the picture. One player is down on the ice looking toward the net, another is skating away from the net with his head down; while the remaining two players are standing on the other side of the net.
>
> Picture #2: Two players are skating. There is an official in the picture who is also skating. There is no other action in this picture.
>
> Picture #3: This is a classic hockey fight picture involving eight players. Four (two from each team) are standing, holding each other; while the other four (two from each team) are on the ice on top of one another. The official in the picture is trying to pull the players apart who are on the ice.
>
> Picture #4: A player in a dark sweater is falling to the ice near the boards. He has one leg out. A player in white is just about to fall and it appears that his skate is caught by the outstretched leg of the player in the dark sweater. Another player in white is in the lower right hand corner of the picture with his back to these fallen players (p. 5-6).

Response Measure II

A 13trait rating scale was designed by the author to be used as an additional assessment instrument (see appendix A). The scale consists of statements about each of the 13 traits which Lonetto found

to be significantly correlated with the Cattell Highschool Personality Questionnaire and the Cattell 16 Personality Factor inventory. These traits are: winning, losing, strict interpretation, competitiveness, despair, aggressed against, retaliation, hostility, violent behavior, non-game related, concentration, pride and tired.

The scale is constructed so that each statement has four possible responses: strongly agree, agree, disagree, strongly disagree. The respondent is instructed to base his rating on statements he has heard the player make and/or actions observed on ice or in the lockerroom. In addition, each statement has accompanying behavioral examples. In the event that the respondent lacks sufficient information, he is asked not to respond to a particular statement.

Response Measure III

Statistics were obtained at each game over a 34 game period. An experienced statistician gathered data on the number of goals, assists, penalties (in minutes) and percentage of saves on goal. These data were then released by the University's Athletic department to the author for later analysis (see appendix B).

Procedure

Prior to data collection, the author observed one team practice per week for the three week period prior to the onset of the University hockey season. The author also attended all home games for the first 17 games of the season. His seat was positioned directly behind the net and afforded an excellent view of all participants. He also interacted with the team members in the lockerroom on a casual basis

(between periods of a game). The expectation was that these interactions would familiarize the author with the team members, and would enable him to develop rapport with the players in order to minimize test anxiety.

All testing took place during the semester break between December 19, 1977 and January 3rd, 1978. This period of time was the half way point of the regular season, and is an interval where the effects of other potentially competing stimulus conditions (class work or game participation) would be reduced. Therefore, it was hoped that team members would be relaxed enough to devote their full concentration to testing.

Prior to testing, all team members were told that the results were part of a research project in sports psychology. The author explained that while he could not presently discuss the specific aim of the project, he would be more than happy to do so after the completion of the season. Furthermore, the subjects were told that their anonymity would be preserved, and that neither their names nor team name would be cited in the write-up of the study.

The test was administered in a quiet, well lit room furnished with desks, a blackboard, and sharpened pencils. Instructions consisted of merely holding one of the Athletic Apperception Test forms before the assembled team members and saying:

> I am going to ask you to fill out this test. There are four pictures about hockey situations. Each picture has the same four questions to be answered. Please answer all questions; write as much as you like; and use the back page if more space is needed. Take as much time as you need, and write as legibly as you can.

Each player was asked by the author to write down answers to the following four questions for each picture: (1) Which individual in the picture do you identify with? (2) Tell me, if you were that individual, what would you be feeling? (3) Why would you be feeling that way? and (4) What is going to happen to you?

Analysis of Data

Nineteen copies of the rating scale (one for each player) were given to the head coach and his assistant coach during the semester break. The coaches were instructed to put as much thought and time into completing the four step scale as was necessary to evaluate adequately each player on the 13 traits. Both coaches were explicitly instructed not to confer with each other about the scales prior to completing them. While their overall impressions were thought to be important, they were asked to base their answers on specific player actions and statements made on and off the ice.

Next, each player's responses to the four AAT pictures were read by the author and his research advisor. Both have had several years of experience in the assessment of projective test data. After examining each player's AAT responses, both rated every player on each of the 13 traits with the four step rating scale. The two sets of ratings were made independently.

An index of agreement on the rating scale was obtained: (1) between coaches, (2) between the author and advisor (hereafter designated as judges), and (3) between the coaches and the judges. Both coaches' ratings and those of the judges were compared with each player's performance measures.

RESULTS

I. Inter-Rater Reliability

Judges' agreement of the occurrence and non-occurrence of a response per player across AAT stimulus cards was 65.6%. In other words, the judges were generally in agreement that a response did occur or did not occur across players in 65.6% of the total response possibilities.

Judge's agreement of the occurrence and non-occurrence of a response per trait across AAT stimulus cards was 64.8%. Thus, judges generally agreed on responses to traits in 64.8% of the cases.

Rating scale data indicated that coaches were in general agreement per player and per trait in 69.6% of the response possibilities.

II. Concurrent Validity

The judges' ratings were averaged and correlated with the average of the coaches' ratings for both players and traits. For the purpose of the study, the coaches' ratings were designated as the criterion for determining concurrent validity of the AAT. A Kendall tau correlation coefficient was computed, and statistical significance was determined by a scale suggested by the University's statistical laboratory. The scale represents an approximation of the strength of the relationship expressed in the correlation coefficient. The scale is as follows: 1.0 to .50 (moderate to strong agreement); .49 to .20 (slight agreement); .19 to -.19 (no agreement); and below -.20 (disagreement).

Correlations above .50 were obtained for 5 of 19 or 26% of the

players (see Table 1). Correlations between .49 and .20 were obtained for 7 of 19 (or 37%) of the players; between .20 and -.20 for 5 of 19 or (26%); and below -.20 for 2 of 19 (or 11%). For only 1 of 13 traits, despair, do the judges' and coaches' ratings correlate above .50 (see Table 2). For six of the traits, the correlations range from .49 to .20, and for the remaining six traits, the correlations are below the .20 level.

III. Predictive Validity

Tables 3, 4 and 5 show the correlations between the judges' averaged ratings on each of the 13 traits and the performance criteria of (1) team goals, (2) team assists, and (3) team penalties in minutes. With respect to goals, no trait correlated above .50; two traits correlated between .49 and .20; eight correlated between .20 and -.20; and three were below -.20. For team assists, no trait correlated above .50; two correlated between .50 and .20; six correlated between .20 and -.20; and five correlated below -.20. For penalties in minutes, only one trait (non-game related) correlated above .50; three correlated between .20 and .50; seven correlated between .20 and -.20; and two correlated below -.20 (strict interpretation and tired).

Tables 6, 7 and 8 show the correlations between the coaches' averaged ratings on each of the 13 traits and (1) team goals, (2) team assists and (3) penalties in minutes. For team goals, no trait correlated above .50; three traits correlated between .49 and .20; seven traits correlated between .19 and -.19; and three were below -.20. For team assists, one trait (concentration) correlated above

.50; two traits correlated between .49 and .20; five traits correlated between .19 and -.19; and five traits were below -.20. For penalties in minutes only one trait (retaliation) correlated above .50; four traits correlated between .49 and .20; four traits correlated between .19 and -.19; and four traits fell below -.20.

Table 1

A Kendall tau correlation between the coaches' averaged ratings and the judges' averaged ratings per player.

Player Number	Correlation r
1	0.1018
2	0.6112
3	0.4312
4	0.1250
5	0.4855
6	0.4103
7	0.5490
8	0.2767
9	0.6670
10	0.4963
11	-0.2307
12	0.1640
13	-0.2213
14	0.0000
15	0.5549
16	0.3968
17	-0.1418
18	0.5486
19	0.4604

Table 2

A Kendall tau correlation between the coaches' averaged ratings and the judges' averaged ratings per trait.

Trait Number	Name	Correlation r
1	Winning	0.1792
2	Losing	0.3203
3	Strict Interpretation	0.1845
4	Competitiveness	0.0000
5	Despair	0.5037
6	Aggressiveness	0.1206
7	Retaliation	0.2093
8	Hostility	0.4818
9	Violent Behavior	0.2502
10	Non-game Related	-0.3234
11	Concentration	0.0584
12	Pride	0.2506
13	Tired	0.2204

Table 3

A Kendall tau correlation between the judges' averaged ratings per trait with team goals.

Trait Number	Name	Correlation r
1	Winning	0.1745
2	Losing	-0.4149
3	Strict Intrepretation	-0.2700
4	Competitiveness	0.1383
5	Despair	0.3703
6	Agressed Against	-0.0201
7	Retaliation	0.0485
8	Hostility	-0.0193
9	Violent Behavior	-0.0199
10	Non-game Related	0.1476
11	Concentration	0.2551
12	Pride	0.4424
13	Tired	-0.2500

Table 4

A Kendall tau correlation between the judges' averaged ratings per trait with team assists.

Trait Number	Name	Correlation r
1	Winning	0.1606
2	Losing	-0.4407
3	Strict Interpretation	-0.2725
4	Competitiveness	0.0809
5	Despair	-0.4558
6	Aggressed Against	-0.1747
7	Retaliation	0.0000
8	Hostility	-0.2172
9	Violent Behavior	-0.3979
10	Non-game Related	-0.0863
11	Concentration	0.2578
12	Pride	0.2909
13	Tired	-0.1566

Table 5

A Kendall tau correlation between the judges' averaged ratings per trait with penalties in minutes.

Trait Number	Name	Correlation r
1	Winning	-0.0286
2	Losing	0.0611
3	Strict Interpretation	-0.2402
4	Competitiveness	0.2953
5	Despair	-0.0670
6	Aggressiveness	-0.1089
7	Retaliation	-0.1429
8	Hostility	0.3334
9	Violent Behavior	0.3523
10	Non-game Related	0.5365
11	Concentration	-0.1021
12	Pride	0.1956
13	Tired	-0.2807

Table 6

A Kendall tau correlation between the coaches' averaged ratings per trait with team goals.

Trait Number	Name	Correlation r
1	Winning	0.3034
2	Losing	-0.3411
3	Strict Intrepretation	-0.4513
4	Competitiveness	0.2878
5	Despair	-0.1631
6	Aggressed Against	0.0709
7	Retaliation	-0.1486
8	Hostility	-0.1336
9	Violent Behavior	0.1357
10	Non-game Related	-0.0100
11	Concentration	0.2686
12	Pride	0.0487
13	Tired	-0.2404

Table 7

A Kendall tau correlation between coaches' averaged ratings per trait with team assists.

Trait Number	Name	Correlation r
1	Winning	0.3406
2	Losing	-0.3703
3	Strict Interpretation	-0.3664
4	Competitiveness	0.1963
5	Despair	-0.2150
6	Aggressed Against	-0.1777
7	Retaliation	-0.1834
8	Hostility	-0.0186
9	Violent Behavior	0.0850
10	Non-game Related	-0.3220
11	Concentration	0.5889
12	Pride	0.3703
13	Tired	-0.2244

Table 8

A Kendall tau correlation between coaches' averaged ratings per trait with team penalties in minutes.

Trait Number	Name	Correlation r
1	Winning	0.2785
2	Losing	-0.3639
3	Strict Interpretation	-0.2494
4	Competitiveness	0.3205
5	Despair	-0.5279
6	Aggressed Against	0.1095
7	Retaliation	0.5743
8	Hostility	0.2720
9	Violent Behavior	0.2953
10	Non-game Related	-0.0886
11	Concentration	0.0000
12	Pride	0.0575
13	Tired	-0.4330

DISCUSSION

An examination of the inter-rater reliability indicates a relatively low percentage of agreement between judge's ratings (65.6% on players and 64.8% on traits). Percentage of agreement between coaches on the rating scale was also lower than had been expected (69.6% on both traits and players). One possible explanation for the low percentage of inter-rater agreement would be the differing levels of exposure to the sport on the part of all four raters. Although considerably active in athletics, the author had never played or coached hockey, while his research advisor has had a strong interest and involvement in this sport for a number of years. In addition, one of the coaches was a graduate assistant with considerably less experience than the head coach. In addition, the head coach was more familiar than the assistant coach with the behaviors of the sophmore, junior and senior players.

Because of the limited inter-rater reliability issue, the AAT is weak in the area of concurrent validity. In only five instances (26%) were coaches and judges able to show a moderate to strong agreement when evaluating the players. This occurred in spite of the author's efforts to objectify Ionetto's assessment criteria by adding concrete behavioral descriptions to the rating scales. In addition, on only one of the 13 traits (despair) did the coaches and judges show a moderate to strong agreement.

Data concerning predictive validity reflected an even lower percentage of moderate to strong agreement. When compared to team

goals and assists, judges' ratings of traits yielded no agreement in the moderate to strong range. There was only one moderate to strong agreement (non-game related) when trait ratings were compared to penalties in minutes. That is, the greater the number of non-game related responses on the AAT, the larger the number of penalties a player received.

A noteworthy finding for the predicitive value of the AAT is the number of inverse correlations or disagreements. This is true of comparisons of both coaches' and judges' trait ratings with team performance measures. With regard to goals, the correlation of judges' trait ratings yielded three inverse relationships (losing, strict interpretation and tired). With regard to assists, there were five inverse relationships (losing, strict interpretation, despair, hostility and violent behavior). Results on penalties in minutes disclosed two inverse relationships (strict interpretation and tired). A comparison of coaches trait ratings with performance measures resulted in an equally high number of inverse relationships. For goals and coaches' trait ratings, there were three inverse relationships (losing, strict interpretation and tired). Five inverse relationships were found when coaches ratings were correlated with team assists (losing, strict interpretation, despair, non-game related and tired). Four inverse relationships were found when coaches ratings were correlated with penalties in minutes (losing, strict interpretation, despair and tired). On the basis of the large number of inverse correlations or disagreements in the present study, the AAT cannot be used to predict player performance under game conditions.

A potentially contaminating variable in the study is the author's decision to add behavioral examples to each of Lonetto's trait explanations on the 13 item rating scale. However, it should be mentioned that the author's intention was to objectify and clarify the meaning of Lonetto's definitions for the coaches.

Another problem area concerns the lack of a standard test of statistical significance to determine the probability of the chance occurrence of a correlation. However, it is important to note that the condition of random selection could not be met if the particular players and coaches in this study were to be chosen. A question may be raised concerning the representativeness of the sample. It cannot be said that the sample is unrepresentative of college hockey players; it can only be stated that the sample was not randomly drawn.

In conclusion, the study has raised serious reservations about the concurrent and predictive validity of the Athletic Apperception Test for the sport of hockey.

APPENDIX A

Please circle the most appropriate response.

Player's Name:_____

Leave item blank if you have incomplete information about the player.

Coach's Name:_____

1. The player has a strong desire to be victorious. Has demonstrated a desire to win which is superior to teammates. For example: talks more about winning than teammates, exhibits a consistently positive attitude about success (on and off the ice).

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. The player has been consistently inferior in playing with respect to other players. Has not met the expectations of the coaching staff. For example: Dogs it at practice; is consistently one of the last ones during sprinting drills or other conditioning exercises.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. The player has not contributed beyond what is expected of him. He does exactly what is expected, but does not offer additional comments or assistance on the ice. For example: demonstrates difficulty in adjusting to an abruptly changed game plan; not flexible.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. The player is competitive. Considers each team opponent as a rival and each team is the one which "must" be defeated. For example: seems to play harder as the going gets tougher; will not be out done by opponents.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. Player quickly loses hope during some situations. Has been noted to express a defeatest attitude. For example: "We just can't seem to win the big ones", or will be obviously "down" after being scored against. Notably sagging posture, head hangs down, reacts less intensely.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Player's Name:_____

6. Player frequently feels that he is the target of assults by other team members or opponents. For example: has frequently claimed others are out to get him.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

7. Player trys to pay another player back (on or off the ice). Reply in kind. For example: insults other players, attacks others on the ice to get back at them after being floor checked.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

8. Is unfriendly to others, expecially members of opposing teams. is antagonistic to others and reacts to other teams as if they were the enemy. More than competitive. See's others as if personally affronted and becomes angry, hostile (short fuse).

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

9. Has assulted or attacked other players (during practice or game) with intent to injure.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

10. Never talks about hockey buy prefers to talk about other things. Seldom uses hockey jargon even though he participates on team.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

11. Player focuses thoughts and actions to pursue a particular objective. He brings all of his talents to the task at hand and is not easily distracted. Concentrates on a particular task, killing a penalty, making a goal and does not let down until it is achieved.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

12. Player verbally expresses a high opinion of his playing abilities, talks about looking forward to attaining a particular objective (scoring more goals, making more assists, etc.), seems proud of accomplishments.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Player's Name:_____

13. Makes a high rate of statements about being fatigues, weak, exhausted physically and/or mentally. "I'm beat". "Too tired to even think".

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

APPENDIX B

PLAYER	GOALS		ASSISTS		PENALTIES	
	#	%	#	%	#	%
1	1	1.1	4	4.4	2	2.2
2	10	10.4	12	12.5	18	18.75
3	0	0	0	0	0	0
4	8	8.3	9	9.4	14	14.58
5	5	5.2	7	7.29	32	33.3
6	0	0	1	1.1	20	22.2
7	5	5.2	14	14.58	2	2.08
8	2	2.08	11	11.48	16	16.6
9	0	0	0	0	2	16.6
10	7	7.29	21	21.9	10	10.4
11	1	1.04	8	8.3	16	16.6
12	1	1.04	7	7.29	18	18.75
13	2	2.08	6	6.25	24	25
14	1	1.04	8	8.33	22	22.9
15	7	7.29	9	9.38	60	62.5
16	0	0	0	0	0	0
17	6	6.25	4	4.16	4	4.16
18	0	0	0	0	0	0
19	6	6.25	8	8.3	30	31.25

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