

The Role of Behavioral Modification in Minnesota Youth Hockey

Aynsley M Smith RN PhD¹, Michael J Stuart MD¹, Casey Twardowski¹, Daniel Gaz MSc¹, David Margeneau², Hal Tearse², Terry Evavold², and Steve Snyder²

¹Sports Medicine Center, Mayo Clinic, Rochester Minnesota

²Minnesota Hockey, Minneapolis, Minnesota

Behavioral modification is based on the work of BF Skinner, who developed a psychological theory called operant conditioning. What could this possibly have to do with hockey? The main premise of operant conditioning is the reinforcement of desirable behavior and punishment of undesirable behavior. Applying this principle to hockey can influence player behavior on and off the ice! Sports scientists define aggression as physical or psychological behavior that includes the intent to injure. Aggressive acts that warrant a major penalty, such as checking from behind, head hits, high sticking, charging and boarding are associated with a high risk of injury. On the other hand, assertive behaviors are focused on gaining puck possession and taking away space for the purpose of controlling the game without the intent to injure. Hockey is an ideal sport for behavioral modification because there is much to gain and even more to lose, according to the actions of players, coaches, parents and officials. Minnesota Hockey has used behavioral modification, in the form of Fair Play since the Hockey Education Program (HEP) was launched in 2004.

Minnesota Hockey Leading the USA in Fair Play

Fair Play was introduced in the provinces of Nova Scotia and Quebec some years ago, but Minnesota was the first state to launch this program in the United States! We all agree that hockey, at its best, is a beautiful game, but a violent and dangerous sport at its worst. Fair Play rewards sportsmanlike behaviors by giving each team a “point” if they do not exceed the pre-assigned number of age-appropriate penalty minutes. The Fair Play program is published in the ‘Coaches Who Never Lose’ and the ‘Parenting Your Child’ manuals which can be ordered from the MN Hockey website. [<http://www.minnesotahockey.org/>]

Some researchers across North America are discussing behavioral modification as if it is something new, and are recognizing that it can help reduce injuries such as concussions. Our HEP team has proven that, when implemented properly, Fair Play works! Minnesota Hockey and the Mayo Clinic Sports Medicine Center have tracked the number and type of penalties taken, along with the Fair Play points earned, for the past eight years at all levels of youth hockey participation.

Hockey research studies (1) in Minnesota have shown the positive influence of Fair Play. In a Junior Gold tournament, teams using Fair Play rules were compared to teams not playing by Fair Play. Similar to previous Canadian studies (2), teams playing by Fair Play had fewer major penalties, and fewer injuries, such as concussion. Because penalties are weighted with the most dangerous penalties (e.g. checking from behind, head hits, etc) causing a subtraction of 10 and 2 from a 16 penalty minute allocation, a Bantam team would only be able to take two additional minors before forfeiting their Fair Play Point.

Holding Coaches Accountable

At a recent hockey association meeting in Minnesota, a well-respected former player, coach and father emphasized that the coaches should be held responsible if players are frequently taking dangerous major

penalties. We agree that the records of teams, who are repeatedly losing Fair Play Points, should be examined. These players will not learn good sportsmanship and will also be at risk for serious injury because of their coach's influence. What are the negative consequences for a coach who emphasizes mean and aggressive on and off-ice behavior? Fortunately, Fair Play holds the answer. When games and tournaments are adhering to Fair Play, a coach, parent or penalized player can all forfeit the team's FP point, if the official believes their behavior justifies a penalty.

Will My Kid Become a Sissy Playing by Fair Play?

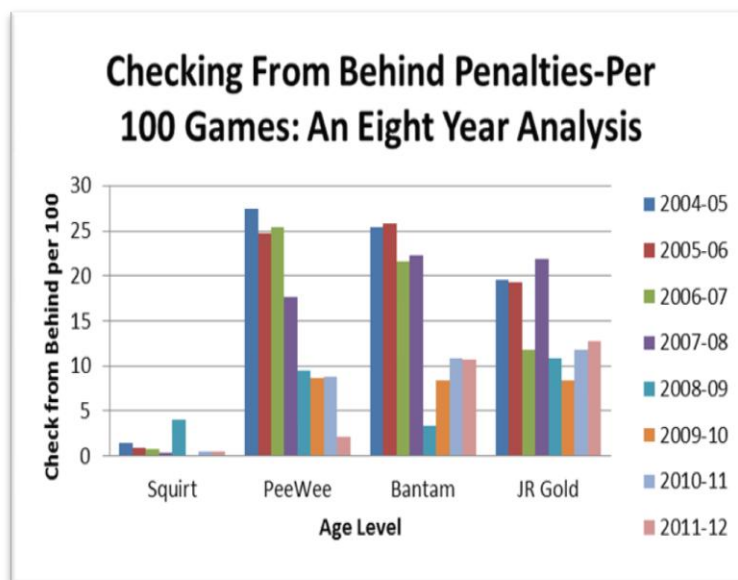
No. Your own children, as well as the players being coached will not become sissies. There are many great coaches who have emphasized Fair Play. One particular example is a southern Minnesota Bantam A hockey team who won every Fair Play point, didn't lose a single game during the season, and lost for the first time at the State Tournament final in overtime!

Taking Checking out of Pee-Wee Hockey in the USA

When USA Hockey rallied to remove body checking from youth hockey in Pee Wee, there were many naysayers across the country, including those in Minnesota. This was surprising because the decision to remove body checking was based on the fact that the injury and concussion rate in Pee-Wee was unacceptably high and skill development was compromised in this age group. Now, informal results suggest that many, who doubted the wisdom to postpone body checking in games until Bantam, are excited to see Pee Wee players skating fast, handling the puck and developing their skills at "overspeed!"

In addition to removing body checking from Pee Wee hockey, the SafeSport on-ice committee has proposed rule changes that are up for vote this coming June. They include progressive discipline for players and coaches guilty of multiple majors during the season, the addition of misconduct to initial level of head contact, boarding and charging and a game misconduct in lieu of a second misconduct. This focus on discipline has potential in modifying negative behaviors that take the fun out of hockey through violence and injury.

The figure below (Figure 1) is displayed so readers can see how the penalties and points are tracked annually. This graph depicts 'checking from behind' penalties per 100 games. Notice the drop in the number during this past year since body checking is not legal in Pee-Wee. Modifying checking behavior is reducing the 'checking from behind' penalties called so that, even when accidental, the consequences are so grave that the players cannot afford them.



A Safety Parent

Although some progress is being made, it is also clear that a volunteer organization such as Minnesota Hockey does not have a sufficient infrastructure of volunteers to implement Fair Play in the manner necessary. Thus, each team should invite a parent or guardian to serve as a “Safety Parent.”

The Safety Parent will be responsible to make sure all families have the concussion information, with signs, symptoms and suggested responses, HEP manuals, the information on mouth piece and helmet fitting and access to the ***Heads Up: Don't Duck*** video. These materials are available, in an age-appropriate manner, on the Minnesota Hockey website. Additionally, the safety parent can work with the coach to ensure HUDD and age appropriate body contact training are covered during the season and the entire team is aware of how well the team is doing earning their Fair Play points.

Behavioral Modification - Do We know A Lot About it?

You Bet. By implementing the Fair Play Program in all league games, Minnesota is leading the way in promoting sportsmanship. No state or province has, to our knowledge, outcome data obtained annually in this depth. Fair Play teaches the most ideal behavior on and off-ice and helps to grow hockey in Minnesota, the State of Hockey! The next step is to see it implemented into High School and Junior Hockey! After the use of Fair Play in youth hockey invitational tournaments was strongly recommended this season, there are more than 25% of the 600 Minnesota invitational tournaments being governed by Fair Play rules during the 2012-2013 hockey season!

Ice Hockey Summit: Action on Concussions

Held in October 2010 at Mayo Clinic, the primary outcome of the Summit was no head hits. Rule changes in Pee-Wee and High School Hockey are helping the game move in the right direction. Rule changes provide the structure by which the game is best played and policed. Fair Play provides incentives for sportsmanship, creating an atmosphere in which fun, skill and speed can flourish. Together, they will protect players from unnecessary injuries and help grow the game! Progress made will be reported on at the Ice Hockey Summit II: Action on Concussions-scheduled for October 8th and 9th, 2013 at Mayo Clinic!

Acknowledgements

Since the beginning, now almost 10 years ago, there have been a large number of individuals committed to the development of HEP, Fair Play and the implementation of the program. They are Dennis Green, Aynsley Smith, Matthew Sorenson, Mark Jorgenson, Bob O'Connor, Kevin Hartzell, Barry Ford, Dave Bakke, Richard Emahiser, Dave Margeneau Terry Evavold and Mike Snee. We express our appreciation to Heidi Hernes for her assistance with this manuscript.

“And Step by Step Since Time Began, I See the Steady Gain of Man” - John G Whittier (1807-1892)

References

- Roberts, W. O., Brust, J.D., Leonard, B., Herbert, B. J., "Fair Play Rules and Injury Reduction in Ice Hockey," *Archives of Pediatrics Adolescent Medicine*, Vol 150, No. 2., February 1996, pp. 140-145.
- Marcotte, G. and Simard, D., "Fair-Play: An Approach to Hockey for the 1990's. *Safety in Ice Hockey; Second Volume, ASTM STP 1212, C.R. Castaldi, P. J. Bishop, E.F.Hoerner, Eds.*, American Society for Testing Materials, Philadelphia, 1993, pp.103-108.
- Smith, A. M., Jorgenson, M., Sorenson, M.C., Margenau, D., Link, A.A., MacMillan, M., and Stuart, M. J., "Hockey Education Program (HEP): A Statewide Measure of Fair Play, Skill Development, and Coaching Excellence." *Safety in Ice Hockey: Sixth Volume, ASTM Intl.*, 2009, No. 4.
- Smith, A. M., Stuart, M. J., Colbenson, C. M. L. and Kronebusch, S. P., "A Psychosocial Perspective of Aggression in Ice Hockey," *Safety in Ice Hockey: Third Volume, ASTM STP 1341, A. B. Ashare, Ed.*, American Society for Testing and Materials, West Conshohocken, Pa, 2000.