

By The Numbers: Do OHL rookies have an effect on year-end statistics? (and birth months and fights)

This study looked at the year-end seasonal standings of the 20 teams in the Ontario Hockey League (OHL) from 2004/2005 to 2011/2012. A variety of year-end statistics were analysed for each season, each team, and collectively for all teams. The source of the data was the OHL's official website (www.ontariohockeyleague.com/).

I looked at a number of year-end statistics, number of rookies on a team, penalties in minutes, points, goals for, goals against, wins, losses, and securing a playoff spot. The latter six stats are measuring, essentially, the same thing, namely which teams did well. They are simply different ways of answering the question: What teams are the best in any particular year?

Additionally, I looked at the phenomenon of players' birth months, the majority of which occur in the first few months of the year, and the correlations of the number of fights to various year-end statistics (statistics from www.dropyourgloves.com/).

The statistical technique used in this study is correlation, which generates an index that reflects the relationship between two variables. Strictly speaking, the article's title is not correct. Correlation coefficients can tell us if there is relationship between two variables, *not* "if" one causes the other. So, not cause and effect. With deeper analysis we might be able to answer that question of cause and effect. A *significant* correlation indicates "something" is going on, there is a relationship between variables. An example of two stats that we might look at: Do the number of year-end points change with the number of rookies on a team. To illustrate correlation, using the example of the number of wins and points we get a correlation index of 0.927, a very strong relationship (1.0 is a perfect correlation). Of course points are related to wins, so we are not surprised.

So, what are the findings of this study? What I found is an indication that, indeed, there are some significant correlations of the number of rookies on a team and various year-end statistics.

"Without data, you are just another person with an opinion."©

© 2013 David I.M Clark, MA, BES, BA(H), MAd(Diploma), BEd(in progress)

Advantage Research and Consulting + SurveyGreyBruce.ca 519-270-2116 (c)

Two analyses were done. The first analysis combined the statistics for all teams over all eight seasons. This produced no significant correlations at that level of aggregation. Next, *each season* was analysed. The 04/05 and 09/10 seasons had no significant correlations at all. Three seasons, 07/08, 10/11, and 11/12, did have moderate and strong correlations. The number of rookies was negatively correlated with points, goals for, wins, and securing a play-off position: The more rookies on a team, the lower these other numbers. For example, as the number of rookies increased, points decreased and it was less likely a play-off position would be secured. Remember, this is the general trend for all teams (collectively), within a season, not for any one team. Several other seasons showed similar negative, moderate correlations. (See Table 1)

The 08/09 season showed a moderate, negative correlation between the number of rookies and penalty minutes: the more rookies, the lower the penalty minutes. The correlation was -0.460 using the number of rookies on a team, and -0.444 using the percentage. The 08/09 season is the only one for which penalty minutes was correlated with any variable. This might just be a chance occurrence. Or there was something unique about that year.

The following table summarises the findings by season.

Table 1: Seasonal correlations between number or percentage of rookies and selected year-end variables (1)								
	Season							
	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12
Points				-M/-S			-S	-S
Goals for			-M	-M/-S			-M	-S
Play-off position		-M	-M	-M			-M	-M
Wins				-M/-S			-S	-S
Penalty minutes					-M			
M = moderate correlation S = strong correlation								
M/S = indicates correlation strength differed depending whether								
+ = positive correlation - = negative correlation								
"number" or "percentage" of rookies was used								

Note: (1) Only variables with a significant correlation are shown here.

"Without data, you are just another person with an opinion."©

© 2013 David I.M Clark, MA, BES, BA(H), MAd(Diploma), BEd(in progress)

Advantage Research and Consulting + SurveyGreyBruce.ca 519-270-2116 (c)