

Thomas Chabot and the Pentad

I wanted to write an article about the impact that one defenseman can have on the other defensemen on his team. I needed a team that had one, and only one, really good defenseman. Hmmm ... what team could it be?

As an Ottawa Senators fan, the answer is obvious: da Sens. Thomas Chabot is a really good defenseman, and the other Ottawa defensemen in 2021/2022 lacked sparkle. Zub looks like he'll be good, but he was paired with Chabot for a lot of the season, and Chabot might be able to make me look good out there. Even though I can't really skate backwards.

How Good Is Thomas Chabot?

VR-Score is the numeric side of Value Rating, which uses data from the past three seasons to produce a rating. Its formula makes an adjustment based on games played, and since Chabot missed games in 2020 and 2021 his VR-Score is lower than it would have been if he played every game. The logic is that a player who misses games isn't as valuable as one who plays every game. (See *Introduction to Value Rating* for the details of its formula.)

Ranking defensemen by their VR-Score last season, Chabot was in 29th place, at the very very top of the VR-First5 category. Had he played two more games in the last three years, he would have been in the VR-Star category.

Chabot is ranked between Ryan Suter (27th, VR-Star, Dallas) and Miro Hiskanen (28th, VR-Star, Dallas), Mattias Ekholm (30th, VR-First5, Nashville) and Jonas Brodin (31st, VR-First5, Minnesota).

While he's not Bobby Orr, he's a very good defenseman: a number one defenseman, but not yet an All-Star (sorry, Ottawa fans). Who does VR identify as the all-star defensemen? Funny you should ask.

All-Stars Based On Value Rating			
Team Pythagoras		Team Fibonacci	
Player	Team	Player	Team
Victor Hedman	T.B	Roman Josi	NSH
John Carlson	WSH	Adam Fox	NYR
Cale Makar	COL	Darnell Nurse	EDM
Devon Toews	COL	Kris Letang	PIT
Charlie McAvoy	BOS	Alex Pietrangelo	VGK
Seth Jones	CHI	Brent Burns	S.J

Artem Zub is Ottawa's second highest rated defenseman. He's also rated VR-First5, but he's at the very bottom of the VR-First5 category. Overall, he's in 87th place.

Value Rating confirms that Chabot is a really good defenseman and Ottawa has no other really good defensemen: the 87th best defenseman in the league isn't really good.

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Study Methods

I looked at how various Ottawa defensemen fared when they were on the ice with Chabot and compared that to what happened when they were on the ice without Chabot. This is a WOWY analysis.

WOWY stands for “With Or Without You”, which essentially looks at pairs of players and how they perform together and how they perform apart. (Thanks to mapleleafshotstove.com for this wording. Mapleleafshotstove is a community of fans for the second-best NHL team based in Ontario.)

To qualify for inclusion in the study, a defenseman must have shared the ice with Chabot for at least 90 minutes of 5v5 play. I’m using only 5v5 data because including PP and PK time would make Chabot look like Bobby Orr compared to his teammates (he gets a lot of PP ice time; the others get a lot of PK ice time).

This sort of study is only possible because naturalstattrick.com provides statistics for pairs of defensemen in various ice-time situations.

At first, I was going to do a bunch of charts with each player’s WOWY info, but they turned out to be either spectacularly unclear with dots spread over the chart chaotically, or spectacularly obvious which added nothing to the numbers themselves.

Combining the players’ data together (all with Chabot and all without Chabot) made the results clearer and less chaotic, but the charts were spectacularly obvious. The numbers will have to speak for themselves.

The Pentad

Five defensemen had at least 90 minutes of 5v5 ice time with Chabot: Erik Brannstrom (124 minutes), Jacob Bernard-Docker (90 minutes), Lassi Thomson (128 minutes), Nikita Zaitsev (260 minutes) and Artem Zub (440 minutes). These five defensemen were on the ice with Chabot for 1041.6 minutes, without him for 2585.8 minutes. That’s about 17 games of ice time with Chabot, 43 games without him.

By the way, a pentad is a group of five. A quintet is a musical group of five.

Zone Faceoff Percentage

Zone Faceoff Percentage data shows the percentage of faceoffs a player gets in the various zones of the ice out of all of the faceoffs he is involved in. OZF% shows offensive zone faceoffs. You get no bonus points for guessing what DZF% shows.

Chabot is on the ice for a lot of offensive zone faceoffs. Being paired with him means you’re on the ice for those offensive zone faceoffs as well, so your OZF% should be higher with Chabot than without.

With Chabot, the five defensemen have OZF% of 40%, DZF% of 29%. Without Chabot, their OZF% is 29% while their DZF% is 37%.

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Expected Goals

There are statistics called expected goals for and expected goals against. They estimate how many goals should have been scored when a player was on the ice, based on the quality and quantity of shot attempts. I converted these data into expected goals for and against per 60 minutes of 5v5 play.

With Chabot, the expected score was 2.35 for and 2.48 against (-0.13 differential).

Without him, the expected score was 2.36 for and 2.75 against (-0.39 differential).

It was unexpected that the group had a greater expected goals for when not paired with Chabot. The difference is only 0.01 goals more, which is practically the same, but equally unexpected. The expectation is that their expected goals for should be higher with Chabot because he creates offensive opportunities.

The expected result for goals against is that the group should be higher without Chabot, given that they have more defensive zone faceoffs. These expectations were met: their expected goals against is 0.28 higher without Chabot.

Corsi/60

Corsi is a shot-attempt differential statistic: it's like plus-minus but uses attempted shots instead of goals scored. I calculated the for and against shot attempts per 60 minutes of play and subtracted shot attempts against from shot attempts for to get the Corsi/60 stat. A player who is on the ice for 50 shot attempts for and 52 shot attempts against would have a Corsi of -2.

With Chabot, the Pentad's Corsi/60 is -0.6 (56.5 attempts for, 57.1 attempts against).

Without Chabot, the Pentad's Corsi/60 is -6.5 (52.0, 58.4).

As expected, the Pentad is on the ice for more shot attempts by Ottawa when paired with Chabot, while shot attempts against is slightly lower when Chabot is with them. Chabot guides the play into the offensive zone (or the play starts in the offensive zone with a faceoff), increasing shots for and decreasing shots against. And, as noted earlier, Chabot and his defensive partner get a good number of faceoffs in the offensive zone.

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Goals For, Goals Against

Corsi/60, OZF% Expected Goals are largely measures of opportunity: they quantify scoring chances. Goals For and Goals Against (GF, GA) are measures of outcome: they quantify goals. I calculated the Pentad's goals for and goals against data per 60 minutes of 5v5 play.

Without Chabot, the Pentad's score is 1.83 – 2.55.

With Chabot, the Pentad's score is 2.71 – 2.30. That is an enormous difference. It is the difference between a team that will be out of the playoff race in November and a team that is looking at a playoff run.

The significant increase in scoring doesn't come directly from Chabot's stick: he had only 7 goals and 38 points in 2021/2022, and only 25 points came on 5v5 play. But there is little doubt that he was largely responsible for this increase in offense, even though he wasn't directly related to every single goal scored while he was on the ice. The difference in offense (2.71 to 1.83) is much too great to think that Chabot was just lucky to be on the ice when other players scored.

The decrease in goals may be solely attributable to the high percentage of offensive zone faceoffs when Chabot is on the ice.

Summary

Other defensemen will have better statistics when on the ice with a good defenseman compared to when they are out there without him.

It should be noted that the improvement in statistics for the Pentad cannot solely be placed on the broad shoulder pads of Chabot. Forwards and defensive pairings get a lot of overlap, especially the first line and the first defensive pair.

With thanks again to naturalstattrick.com, we can see that Chabot gets a lot of ice time with Brady Tkachuk (nearly 480 minutes at 5v5), Tim Stutzle (390 minutes) and Drake Batherson (320 minutes). I'm sure any defenseman in the league would enjoy being on the ice with Tkachuk, Stutzle, Batherson and Chabot, especially if they are starting with an offensive zone faceoff.