

# Hockey-Fight Analytics

Joe Walsh

Center for Data Science & Public Policy  
University of Chicago  
@jtwalsh0

November 8, 2014

# Outline

Why This Topic?

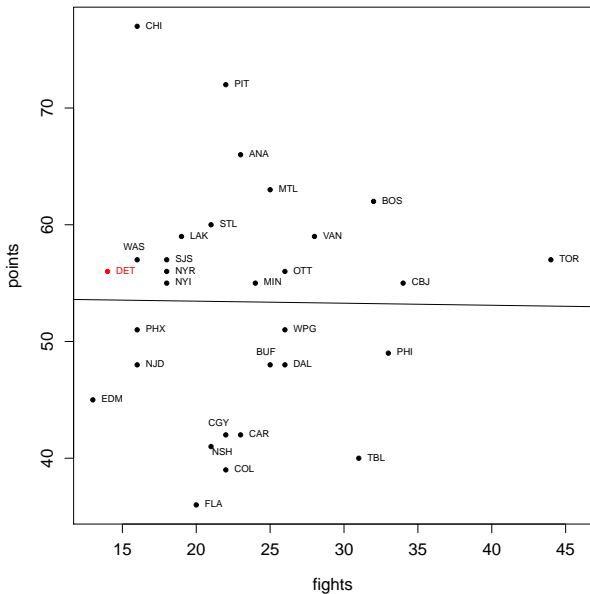
The Data

Ratings

Other Puzzle

Weaknesses / Future

# Why Not This Topic

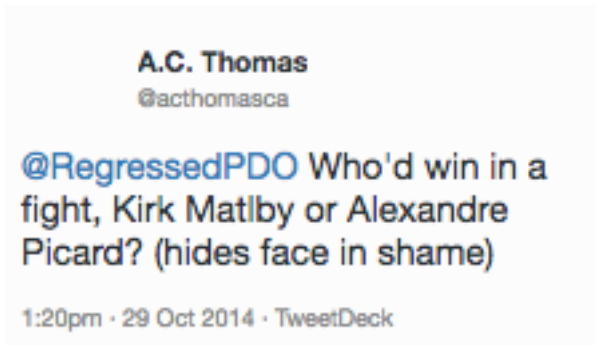


# Why This Topic?

- ▶ Big talk, little data

## Why This Topic?

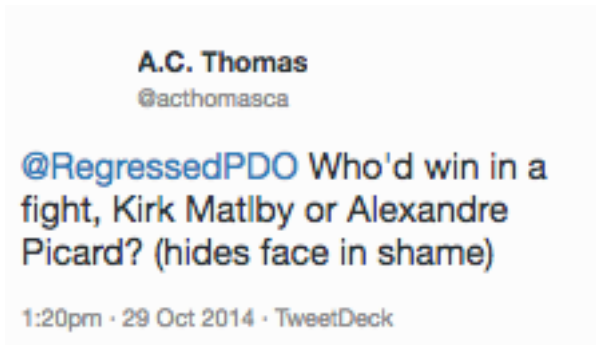
- ▶ Big talk, little data
- ▶ We can answer questions like this (with a measure of confidence):



- ▶ Quantify physical toll of fighter lifestyle

## Why This Topic?

- ▶ Big talk, little data
- ▶ We can answer questions like this (with a measure of confidence):



- ▶ Quantify physical toll of fighter lifestyle



### Fight of the Week

#### Milan Lucic vs Chris Stewart, Oct 30, 2014

Nov 4, 2014 11:05 AM Ben Eklund

[1 Comment](#)

Chris Stewart, celebrating his 27th birthday that night, found Milan Lucic on their first shift in last Thursday's Bruins-Sabres game in Buffalo. Stewart extended an invite, Lucic obliged, and they squared off in front of the penalty boxes. After briefly shadow boxing, Stewart opened the scoring with a couple quick rights. They tangled for a moment before Stewart switched to his left, landing a couple good punches in a brief toe-to-toe flurry while Lucic connected with rights. The fight ended after a wild punch from each combatant.

Lucic appeared to land the best punch, while Stewart appeared to land more. Both players were escorted to their respective penalty benches no worse for wear after an energetic bout. It was the first fight between Stewart and Lucic — two bruising forwards similar in playing style, size, and fighting ability — in their NHL careers.

#### Vote on Milan Lucic vs Chris Stewart, Oct 30, 2014



#### Headlines

- [Maple Leafs' Carter Ashton Suspended 20 Games for PED/Drug Violation](#)
- [AHL Suspends Darroll Powe Two Games for Illegal Check to Head](#)
- [Kamloops' Cole Uilly Named WHL Player of the Month for September/October](#)
- [Senators Sign Ben Harpur to Entry-Level Contract](#)
- [Betzold, Marchment Suspended 15 Games](#)
- [Blue Jackets' Jack Johnson Suspended Three Games for Illegal Check to Head](#)

[More News](#) | [Feeds](#)

#### NHL Player FM Leaders


Nov 5, 2014	
<a href="#">Jared Boll</a>	4
<a href="#">Cody McLeod</a>	4
<a href="#">Andrew Desjardins</a>	3
<a href="#">Simon Despres</a>	3
<a href="#">Matt Hendricks</a>	3
<a href="#">Tim Jackman</a>	3
<a href="#">Liam O'Brien</a>	3
<a href="#">Brandon Prust</a>	3
<a href="#">Andy Andreoff</a>	2
<a href="#">Kyle Chipchura</a>	2

[Full Players Leaders List](#)

#### NHL Team FM Leaders

Nov 5, 2014	
<a href="#">Columbus Blue Jackets</a>	9
<a href="#">San Jose Sharks</a>	9
<a href="#">Anaheim Ducks</a>	8
<a href="#">Buffalo Sabres</a>	8





## hockeyfights.com

Home | **Fight Log** | Players | Teams | Leagues | Videos | News | Community | Games | Blog | Store

### Milan Lucic vs Chris Stewart

Oct 30, 2014 1pd 00:51  
2014-2015 Regular Season

Date / Time	Away / Home Team	Away / Home Player
Oct 30, 2014	Boston Bruins	Milan Lucic
1pd 00:51	Buffalo Sabres	Chris Stewart

**Your vote**  
You must sign in to vote.  
You can [sign up](#) for free if you do not have an account already.


**Results**

Chris Stewart	<div style="width: 42.6%;"></div>	42.6%
Milan Lucic	<div style="width: 39.6%;"></div>	39.6%
Draw	<div style="width: 17.8%;"></div>	17.8%

From 687 votes with an average rating of 7.0

**User Reviews**  
Please sign in to read reviews.  
[Sign up](#) for free if you don't have an account already.


**Video**



**User Name**   Remember Me?  
**Password**

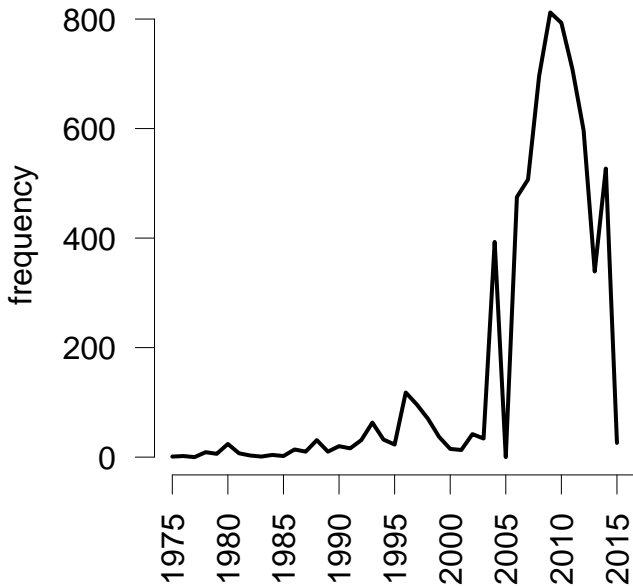
**Share**  
[f Like](#) 1k [t Tweet](#) 113 [+1](#) 8

**Related Links**  
[Milan Lucic](#)  
2014-2015 Regular Season:  
[Fight Card](#)  
[Chris Stewart](#)  
2014-2015 Regular Season:  
[Fight Card](#)  
[Boston Bruins](#)  
2014-2015 Regular Season  
[Fight Card](#)

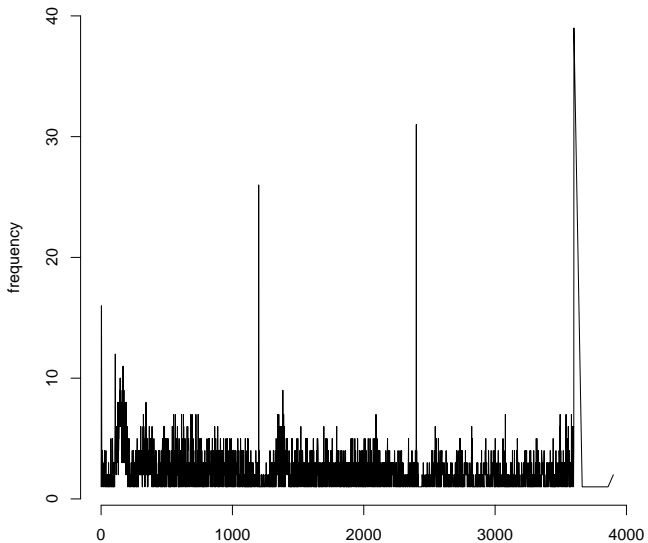




# Observations per Year



# Fights per Second



Canada	11080
USA	4817
Russia	325
Czech Republic	313
...	...
Belgium	1
Bosnia	1
Brazil	1
Congo	1
Croatia	1
Israel	1
Jamaica	1
Paraguay	1
Romania	1
Serbia	1
South Africa	1
Taiwan	1
Tanzania	1
Uganda	1

# Home-Ice Advantage

41% wins, 35% losses

Why?

# Compare Two Players

- ▶ no age effects
- ▶ no experience effects
- ▶ no home-ice advantage

	Tom.Kostopoulos	Corey.Perry	George.Parros	Maxim.Lapierre	Gregory.Campbell
Tom.Kostopoulos	0.5	0.68	0.79	0.83	0.91
Corey.Perry	0.32	0.5	0.58	0.67	0.73
George.Parros	0.21	0.42	0.5	0.62	0.7
Maxim.Lapierre	0.17	0.33	0.38	0.5	0.55
Gregory.Campbell	0.09	0.27	0.3	0.45	0.5

Player	Pr(best fighter)
Rick.Rypien	$6.45E - 08$
Deryk.Engelland	$2.43E - 11$
Matt.Johnson	$4.25E - 12$
Luke.Gazdic	$2.79E - 15$
Jeremy.Reich	$3.86E - 27$
D.J..King	$1.34E - 27$
Brett.Gallant	$4.58E - 32$
John.Scott	$2.42E - 32$
Chris.Simon	$3.99E - 35$
Micheal.Haley	$2.02E - 35$

# Who'd Win?

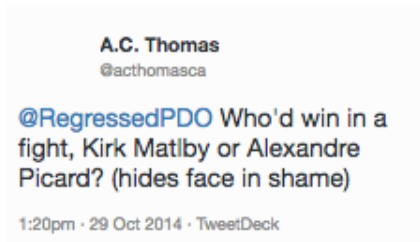
**A.C. Thomas**

@acthomasca

@RegressedPDO Who'd win in a fight, Kirk Matlby or Alexandre Picard? (hides face in shame)

1:20pm · 29 Oct 2014 · TweetDeck

# Who'd Win?



Same age, no home-ice advantage: Picard, 80%



# Effect of Fighting, Drugs, and Alcohol

Average fighter: almost no effect Bob Probert:

- ▶ 10-year difference
- ▶ 100-fight difference
- ▶ **8% less likely to win**

## Weaknesses / Future

- ▶ Fixed height and weight
- ▶ David Singer plans to release the data through an API