YouTube High Risk Driving Videos: A Content Analysis of Popular Street Racing Videos

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Popularity of YouTube

- YouTube has over a billion users. Almost 1/3 of all people on the internet (YouTube, 2017).

- YouTube reaches more 18-34 year-olds and 18-49 year-olds in the US than any TV network (YouTube, 2017).

- Youngest millennials watch more digital video than TV. They are constantly connected to their smartphones (Nielson, 2014).

Nielson, 2014. January 27. Millennials: Breaking the Myths. Retrieved from: http://www.nielsen.com/us/en/insights/reports/2014/millennials-breaking-the-myths.html.

YouTube, 2017. May 5. Statistics. Retrieved from: http://www.nielsen.com/us/en/insights/reports/2014/millennials-breaking-the-myths.html

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Street Racing Videos on YouTube

- Heaviest users of YouTube are young males (Nielson, 2011).

- Young men are also the most dangerous group in traffic, engaging in more per capita violations and experiencing more per capita injuries and fatalities (e.g., Reason et al., 1990; Parker et al., 1995; Transport Canada, 2008, 2015).

- YouTube contains many channels portraying risky driving.

Nielsen. State of the media: the social media report. Q3. 2011. Available at:
    http://www.nielsen.com/us/en/insights/reports/2011/social-mediareportq3.html.
Parker D et al. Driving errors, driving violations and accident involvement. *Ergonomics.* 1995;38:1036–1048.
Reason, J. et al. Errors and violations on the roads: a real distinction? Ergonomics. 1990; 33(10&11): 1315-1332.
Transport Canada, 2008. A Quick Look at Speeding Crashes in Canada. Report No. RS-2008-07, Ottawa: Canada.
Transport Canada, 2015. Canadian Motor Vehicle Traffic Collision Statistics: 2013. Catalogue No.:T45-3/2010E.PDF.
    Retrieved from http://www.tc.gc.ca/media/documents/roadsafety/cmvtcs2013_eng.pdf.

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Purpose

To document and analyze the content of a sample of YouTube street racing videos, including high risk driving activities, consequences, likes/dislikes, and assess the content in relation to the views.

Methods

Ethnographic Content Analysis

- Quantitative analysis using a template analysis style, using 2 raters.

- Sample of videos with the highest view count using the search term "street racing" on a given day (Sept 23, 2015).

- Identify characteristics: URLs, user names, upload dates, number of subscribers, like/dislikes and comments were recorded.

- SPSS 24 software used in analyses.

Video Selection

- Searching "street racing"

    - Overall 1,180,000 videos

    - Highest view count yielded 186,000 videos

- Chose 30 videos with the highest view counts

- Of the 30 videos, 5 videos were excluded based on 3 criteria. Videos must 1) involve a licensable motor vehicle 2) street racing happened in the video 3) no repeated videos

Inter-Rater Reliability

	Kappa/ICC	% above .60	% Agreement
Driver	-.030-1.00	78%	53-100%
Bystanders # of Bystanders	.448-1.00 .849, .918	90%	87-100%
Vehicles # of Vehicles	.403-1.00 .842, .914	77%	72-100%
Terrain, Road Conditions	.254-1.00	77%	80-100%
Driving Activities	.412-1.00	77%	80-100%
Consequences/Outcomes	.279-1.00	74%	63-100%
Comments	.182-1.00	64%	50-100%
Emotions	-.43-1.00	17%	72-100%

Inter-Rater Reliability

- Small sample size and rare events may make Kappa an unreliable measure (Viera & Garrett, 2005).
- Some Kappas could not be calculated due to the lack of variability in the data. I.e., 100% of videos had squealing tires with 100% agreement.
- Difficulties in coding:
  - Agreement on ages of drivers and bystanders, and emotions.
  - Video speed of events, video quality, variability among videos, compilations.

Viera AJ, Garrett JM. Understanding Interobserver Agreement: The Kappa Statistic. *Family Medicine.* 2005; 37(5):360-3.

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Results

Video Characteristics (N=25)

	Mean	Std. Dev.	Min.	Max.
View Count	3,108,602	2,128,838	1,650,405	9,045,488
Number of Comments	3049	3461	117	13152
Number of Subscribers	367,553	92	77	936,000
Total # of Videos for Channel/User	105	92	1	200+
Number of Likes	7368	7316	550	34,344
Number of Dislikes	974	1621	168	7927
Length of Video	7:22	9:36	0:30	44:39

Drivers

Most likely:

- **Young**
- **Male**
- **General public**

Age*	Child (0-15)	0
	Teen/Young Adult (16-29)	16
	Adult (30-64)	13
	Senior (65+)	0
	Not Identifiable	7
Gender*	Male	21
	Female	0
	Not Identifiable	4
Driver Type*	Official/Pro	4
	Stuntman/Actor	1
	General Public/Unknown	23
	Not Identifiable	23

*Variable coded with a "click all that apply"

Bystanders

• Most videos involved bystanders

• Bystanders were most likely young

• Street racing occurred around people who did not intend to be or were not knowingly around the event(s).

		N
Age*	Child (0-15)	4
	Teen/Young Adult (16-29)	16
	Adult (30-64)	9
	Senior (65+)	2
	Not Identifiable	2
Gender*	Male	18
	Female	14
	Not Identifiable	7
Non-Participating Bystanders	Yes	19
	No	6
	Total	25

*Variable coded with a "click all that apply"

Bystander Location

- **Most bystanders were not at a safe distance from the racing regardless of the size of the event.**

Bystander Location*	Number of Bystanders in Video				
	1-10	11-20	21-100	101-500	500+
In Stands	0	0	2	0	1
Side of Road – behind protective fence/barrier	0	0	2	0	1
Side of Road – NOT behind protective fence/barrier	2	3	9	3	1
On Road/Track (e.g. starting race, human obstacle)	2	2	6	3	0

*Variable coded with a "click all that apply"

Vehicles

- **Focus vehicles were most likely passenger vehicles or motorcycles**
- **15 of the 25 videos (60%) involved 10+ vehicles**

Type of Vehicle*	Number of Focus Vehicles			
	1	2	3-9	10+
Passenger Vehicle	1	2	6	13
Motorcycle	0	1	1	9
Pickup/Truck	0	0	1	5
Police Vehicle	0	0	0	5
Race Vehicle	0	0	0	4
Tow Truck	0	0	0	2
Emergency Vehicle	0	0	0	1

*Variable coded with a "click all that apply"

Vehicle Modifications

- **17 of 25 videos (68%) had one or more vehicle(s) with modifications.**

Modifications to Vehicle*	Number of Focus Vehicles in Video			
	1	2	3-9	10+
Fuel altered (i.e., NO_2)	1	3	3	1
Engine, tires, windows, suspension changed	0	0	1	7
Body altered, parts added, removed or chopped	0	0	2	12
Advertising, numbers, custom art work added	0	0	1	11

*Variable coded with a "click all that apply"

Terrain and Road Conditions

- **Mostly urban, and usually in a public place, as opposed to a private, inactive, segregated location.**
- **Fairly even split between day and night, but almost always in good weather.**

Type of Roadway*	N	Time of Day*	N
Urban highway	11	Day	15
Urban street	13	Dawn/Dusk	1
Rural road/highway	12	Night	16
Race track	3		
Parking lot	7	Weather*	
Off-road	1	Rain	4
		Snow	0
		Clear	25

*Variable coded with a "click all that apply"

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Driving Activities

- **Videos often showed more than one risky driving activity (80%).**

- **Drag racing was the most common form of racing.**

- **Drifting was the most common stunt.**

Driving Activities*	N
Racing (2+ vehicles)	23
Speeding	8
Driving Stunts	11
Weaving	9
Disobey traffic control	4
Vehicle stolen	1
Show 'n shine	7
Other	2

*Variable coded with a "click all that apply"

Types of Races & Stunts

Type of Race (N=23)*	N	Type of Stunt (N=11)*	N
Drag (I.e., best time @ ¼ mile)	14	360°/180°/90°/Drifting	10
Sprint/Cannonballs/Rallies (I.e., point-to-point sometimes involving a handful of drivers)	9	Wheelies	1
Touge (I.e., one car @ a time in a chase format)	2	Crash/Roll Vehicle Intentionally	1
Circuit/Oval Track	2		
Other	2		

*Variable coded with a "click all that apply"

Consequences/Outcomes

- **15 of the 25 videos (60%) showed no consequences.**

- **Of the consequences shown, the most common were minor where a vehicle was damaged or the driver was stopped by police.**

Consequences*	N
None (chosen only)	15
Police Involvement	6
Crash	5
Car damaged	4
Tow truck	2
Cemetery scene	1
Ambulance	1
Hospital scene	0

*Variable coded with a "click all that apply"

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Crashes & Police Involvement

Police Involvement*	N=6	Crashes*	N=5
Stop vehicle	4	Vehicle damaged	4
Chase	3	Injury/Fatality	2
Driver questioned	2	Property damaged	2
Ticket issued	2	Not Identifiable	1
Arrest	2		
Inspect vehicle	1		
Vehicle impoundment	1		
Other	2		

*Variable coded with a "click all that apply"

Comments

Comments made by	N=25
No comments/Not in English	9
Driver(s)	11
Passenger(s)	6
Bystander(s)	7
Commentator/Announcer/Interviewer (includes text on screen)	12

Nature of Comments

- **Comments were often describing what was happening in the video.**

- **When there was an opinion it was more often about the driving rather than about illegal street racing in general.**

Nature of Comments*	N
Instructions to driver/passenger/video audience	**11**
Positive comments about driving portrayed in video	**5**
Illegal street racing in general is good/exciting	**2**
Negative comments about driving portrayed in video	**5**
Illegal street racing in general is bad/dangerous	**2**
Other	**5**

* Variable coded with a "click all that apply"

Emotions Viewed

- **More positive emotions than negative.**

Positive Valence*	N	Negative Valence*	N
Desire, admiration	**21**	**Alarm, terror, panic, fear**	**3**
Joy, elation, triumph, jubilation	**13**	**Aversion, disgust, revulsion**	**3**
Surprise	**4**	**Frustration, disappointment**	**2**
Relief	**4**	**Sorrow, grief**	**2**
Hope	**3**	**Anger, rage**	**0**
Sympathy	**1**	**Embarrassment**	**0**
Gratitude, thankfulness	**0**		
None	**1**	**None**	**18**

*Variable coded with a "click all that apply"

- **Emotions coded by typology**
  Robinson DL, Brain function, emotional experience and personality. Netherlands Journal of Psychology. 2008;64: 152-167.

Discussion

- No research has been published on this topic.

- First known study to examine content of top ranking YouTube videos of the risky driving activities of street racing.

Over a Million Street Racing Videos

- Have a large, engaged group of viewers with
  - many subscribers
  - lots of comments, and
  - channels usually have uploaded many videos

- Viewers are likely young men

Risks & Consequences Seen in Videos

- Videos focus on the positive emotions with very little acknowledgment of the risks and consequences.
- Modifications of cars may or may not be legal and could cause harm.
- Events held on public roads and spaces in areas of large populations.
- Bystanders may or may not be aware of these activities.

Focus of Videos: What's Missing?

- Focus on the "thrill" of the racing.

- Rarely any depiction of being caught (fines, arrest, impoundment), or of a collision.

- No victims, rarely injuries/fatalities.

- No community response (I.e. disregard for others, outrage)

Limitations

- Small sample of videos analyzed

- Only searched for "street racing". Many risky driving videos not examined.

- Videos had limited comments/conversations. Comments could only be assessed when English was spoken.

- Video search was done in Canada.

- YouTube policy blocks certain videos. I.e. where tips on illegal street racing is depicted or when a complaint is been given about a video.

Example Videos

BMW M5 "NeedForDrive.com" LAST ILLEGAL Street Racing and Drift, Driver - Giorgi Tevzadze	https://www.youtube.com/watch?v=gpAzXqIcWzc
BIKE Yamaha R1 vs Suzuki GSX-R 1000 Street Racing Motorcycle	https://www.youtube.com/watch?v=CaWj7LrywSw
Street Racers VS Police Compilation 2014 FAIL/WIN	https://www.youtube.com/watch?v=l1XXSmdxpjY
BMW M3 E92 (onboard) vs. Motorcycles street race in Warsaw, Poland	https://www.youtube.com/watch?v=6YUBjJiF0tE
Saisoku: Banned from Japan	https://www.youtube.com/watch?v=988veuI_lUQ
Illegal street drag racing busted up by cops, group outruns!	https://www.youtube.com/watch?v=VIl7jxX7Ztw
600 - 1100 HP Cars STREET RACING	https://www.youtube.com/watch?v=XZmYk2TaiYo
L.A. Street Racing - 1000hp + Nitrous C10 vs 700hp	https://www.youtube.com/watch?v=LEHOGXkbvcI
25 minutes of the Best Racing Scene Ever + Cops!!	https://www.youtube.com/watch?v=ZT5nLjM6FcU
San Diego STREET RACING	https://www.youtube.com/watch?v=cBc3yM1D6Wk

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