



Can AI Reduce Gang Violence or Cause More Harm?

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DECEMBER 10TH, 2018
Data Science Education Roundtable

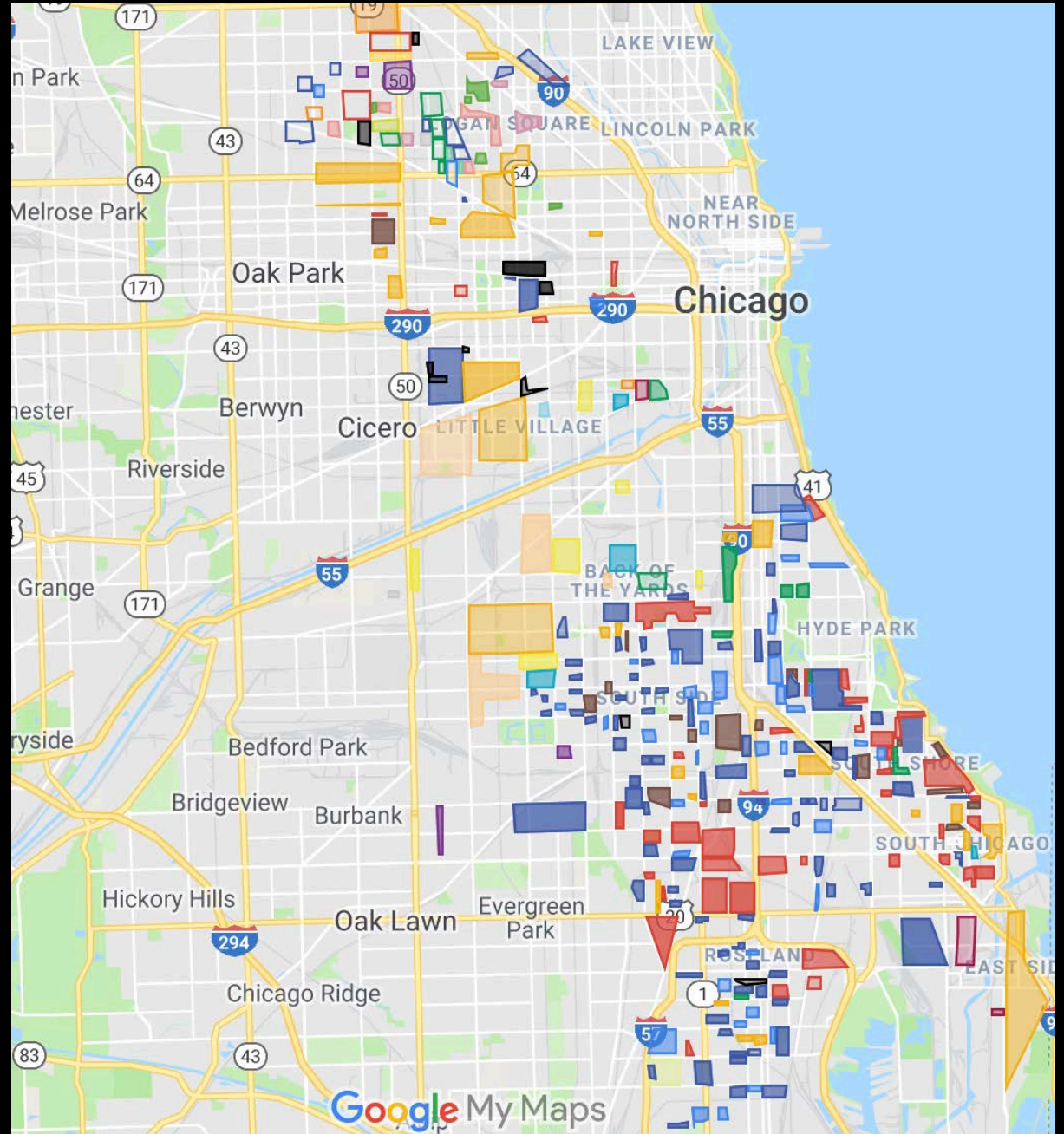


SAFE
LAB



Chicago Handgun Crimes 2001 - 2018

Crime incident descriptors
AGGRAVATED: HANDGUN
ARMED: HANDGUN
data.cityofchicago.org





Chicago Tribune

The Atlantic

Bloomberg

Detroit Free Press
PART OF THE USA TODAY NETWORK

Daily Mail

Gangs increasingly challenge rivals online with postings, videos

The Desire to Live-Stream Violence:
Why would four suspects in Chicago broadcast the torture of a man on Facebook Live?

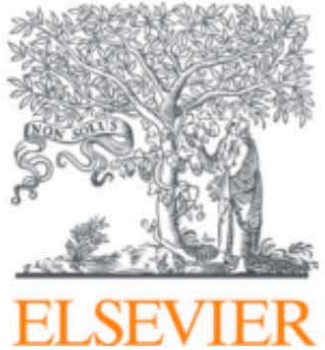
London Murder Mystery: Why Killings Are Up:
[London police chief citing role of social media in homicides]

Gang rape. Suicides. Shooting deaths. The dark side of social media

Chinese social media 'spreading violence and obscenity'



2013



Computers in Human Behavior

Volume 29, Issue 5, September 2013, Pages A54-A59



Internet banging: New trends in social media, gang violence, masculinity and hip hop

Desmond Upton Patton ^a  , Robert D. Eschmann ^b , Dirk A. Butler ^b 





2015

Social Science Computer Review

I Know God's Got a Day 4 Me

Violence, Trauma, and Coping Among Gang-Involved Twitter Users

[Desmond U. Patton](#), [Ninive Sanchez](#), [Dale Fitch](#), more...

First Published December 13, 2015 | Research Article |



<https://doi.org/10.1177/0894439315613319>

[Article information](#) ▼



2016

New Media & Society

Gang violence on the digital street: Case study of a South Side Chicago gang member's Twitter communication

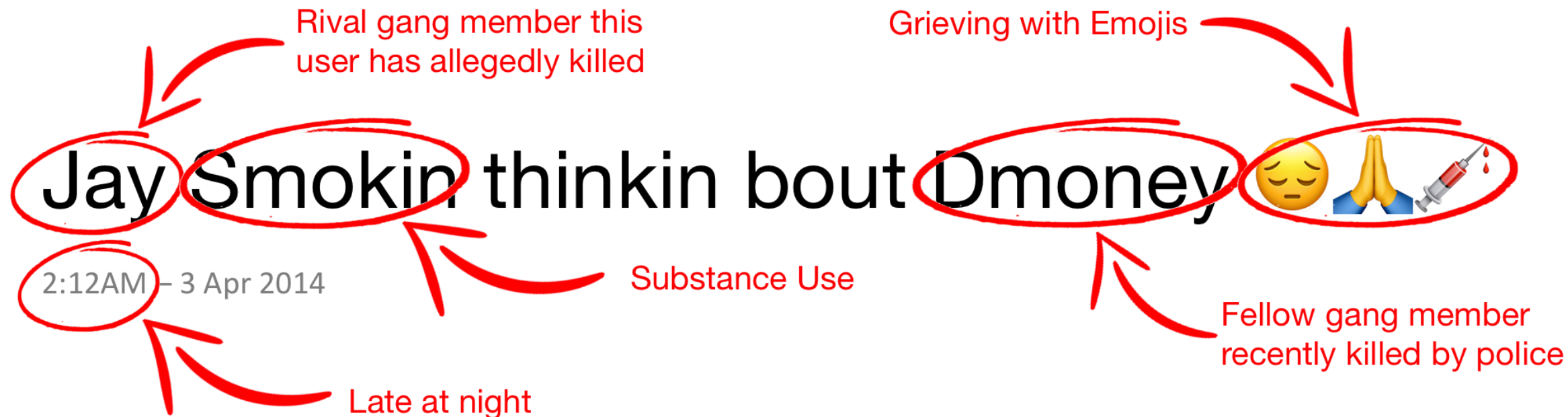
Desmond U Patton, Jeffrey Lane, Patrick Leonard, Jamie Macbeth, Jocelyn R Smith Lee

First Published January 25, 2016 | Research Article



<https://doi.org/10.1177/1461444815625949>





CONTEXTUAL ANALYSIS OF SOCIAL MEDIA (CASM)



1

**Clarify research question(s)
& study population**

DATA ACQUISITION & CORPUS DEVELOPMENT

Social media corpus creation.

Outline inclusion/exclusion criteria

Identify and consult domain experts.

Insights on localized language, context, & events



2

1. DOMAIN OVERVIEW

2. ANNOTATOR ROLE

3. SYSTEM TUTORIAL

4. DEEP IMMERSION

5. PRACTICE ANNOTATION AND FEEDBACK

TRAINING ANNOTATORS



TRAINING ANNOTATORS

- **PURPOSE OF THE ROLE**
- **AIMS OF OUR INTERPRETATION & ANALYSIS**
- **CODING OF TEXT/IMAGES**
- **MAKING ETHICAL CONSIDERATIONS**



[Tweet Annotation](#) [Export](#) [Expert pool](#) [Annotation overview](#) [Select task ▾](#) [Logout \(safelab\)](#)

Page 2/3

Tweet (2878/48968)
[@YaelMoney__](#)
RT [@Jumoney49](#): IF U Ain't Ina Streets Or Know What's Going On Don't Speak On What's Going On 🗣️
retweets: 393
2017-02-16 15:50:07

Instructions

1. Look at the text (emojis, hashtags)
2. Look at any links or images in the tweet
3. Go to the original post on Twitter
 1. See who the poster is
 2. If anyone is @ed, see who they are
 3. See if any offline events are referenced
 4. See the amount of likes and retweets
 5. See if there are any replies/comments on the tweet

General Description

Please describe in detail everything that is going on in this tweet.



3

STEP 1

BASELINE INTERPRETATION

@Bossman_Bucks

MA! I been huggin da block 🤔

retweets: 0

2017-02-14 05:13:55

First Impression

If this tweet came up on your social media wall, what would be your first impression? (What would come to your mind right after seeing it?)

He's been on the block all day.

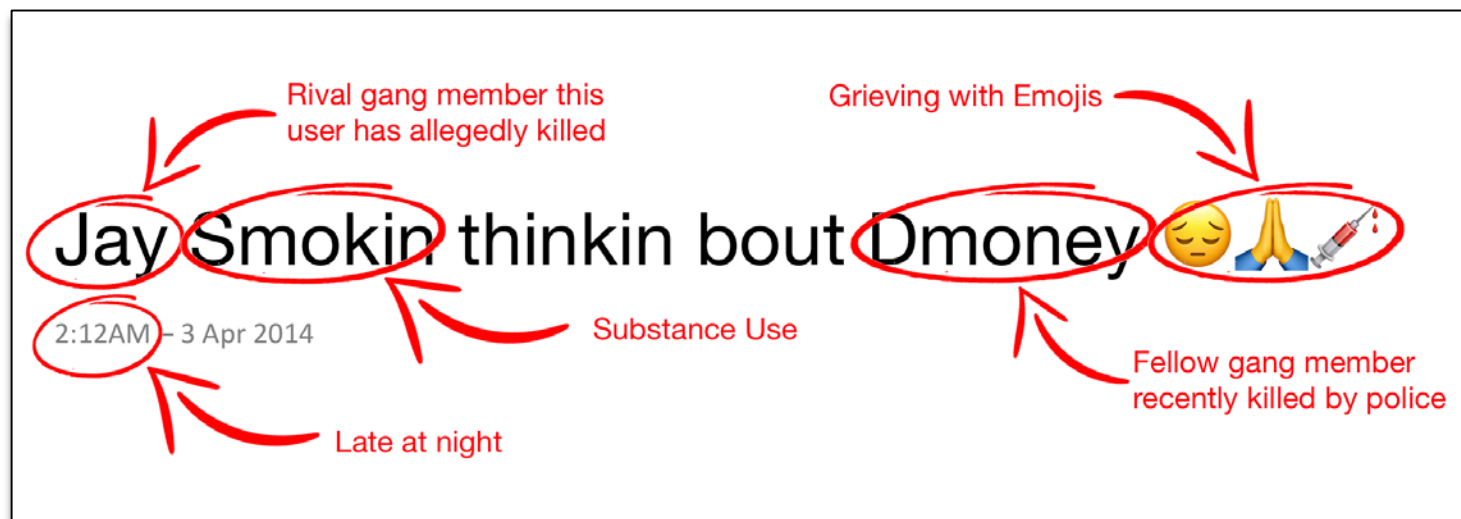


3

STEP 2

1. Original Social Media Post
2. Utilize Web-Based Resources
3. Original Post's Author
4. Peer Network
5. Offline Events
6. Virality
7. Engagement

ANNOTATION PROCESS



3

STEP 3

INTERPRETATION & CONTEXTUAL ANALYSIS ASSESSMENT

@Bossman_Bucks

MA! I been huggin da block 🗨️

retweets: 0

2017-02-14 05:13:55

General Description

Please describe in detail everything that is going on in this tweet.

I believe the user is posting lyrics to a song - Touch it or not by Cam'ron. The line 'Ma I been huggin the block' is in reference to selling drugs in the song. But the majority of the song is about asking women if they will perform oral sex. I believe the user posted the lyrics to the song because he likes or aggress with the song. He adds a zipper mouth emoji possibly meaning he's staying quiet.

'Ma I've been hugging the block'



3

STEP 4

LABELING

- LOSS/GRIEVING
- AGGRESSION
- SOCIAL BEHAVIOR
- MOOD
- NEIGHBORHOOD
(GENERAL/GANG-RELATED)
- STATUS SEEKING

- HEALTH
- RELATIONSHIPS
(ROMANTIC/FAMILIAL)
- SUPPORT
- GROWTH
- AUTHENTICITY
- SUBSTANCE USE

Machine Learning Labels:

- LOSS
- AGGRESSION
- OTHER



3

STEP 5

COMMUNITY VALIDATION & RECONCILIATION

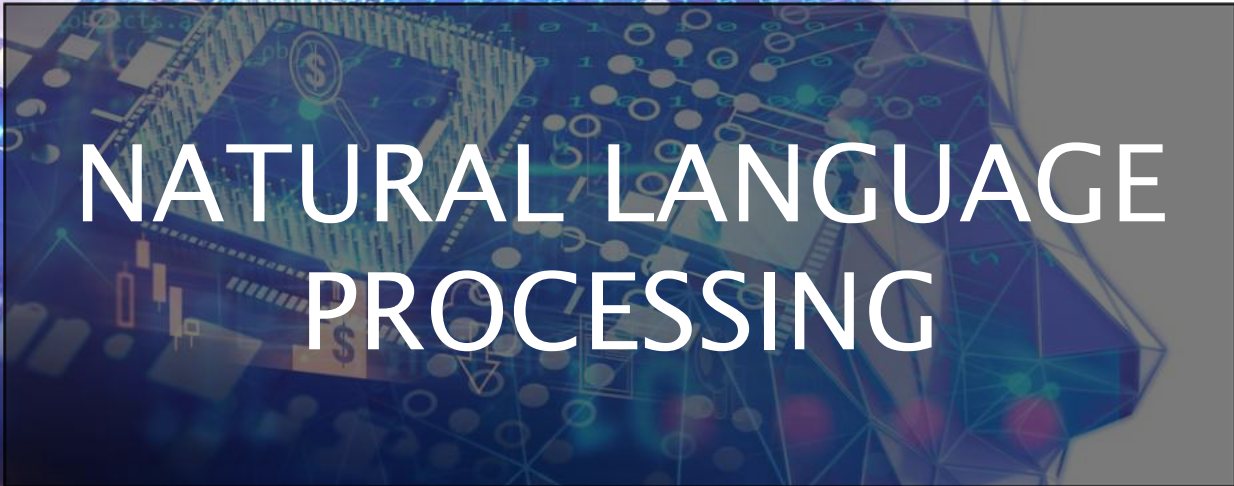
COMMUNITY EXPERTS

PROFESSIONAL INTERVENTION EXPERIENCE WITH GANGS
INVOLVEMENT IN OR AFFILIATIONS WITH GANGS

DISAGREEMENT THEMES

COMMUNITY-LEVEL ITEMS, PLACES, CONTEXTS, OR 'BACKSTORIES' (E.G., TRAP HOUSE)
PEOPLE (E.G., DEATH)
HAND GESTURES (E.G., GANG AFFILIATION)





NATURAL LANGUAGE PROCESSING

2016



Automatically Processing Tweets from Gang-Involved Youth: Towards Detecting Loss and Aggression

TERRA BLEVINS, ROBERT KWIATKOWSKI, JAMIE C. MACBETH, KATHLEEN MCKEOWN, DESMOND PATTON, OWEN RAMBOW



2018

EMNLP 2018

Detecting Gang-Involved Escalation on Social Media Using Context

Serina Chang, Ruiqi Zhong, Ethan Adams, Fei-Tzin Lee, Siddharth Varia, Desmond Patton, William R. Frey, Chris Kedzie, Kathy McKeown [less](#) •

Published 2018 in EMNLP

AUTOMATICALLY CLASSIFIES POSTS
AS **AGGRESSION**, **LOSS**, & **OTHER**

F-MEASURE 69.8%





2019

ICWSM-2019

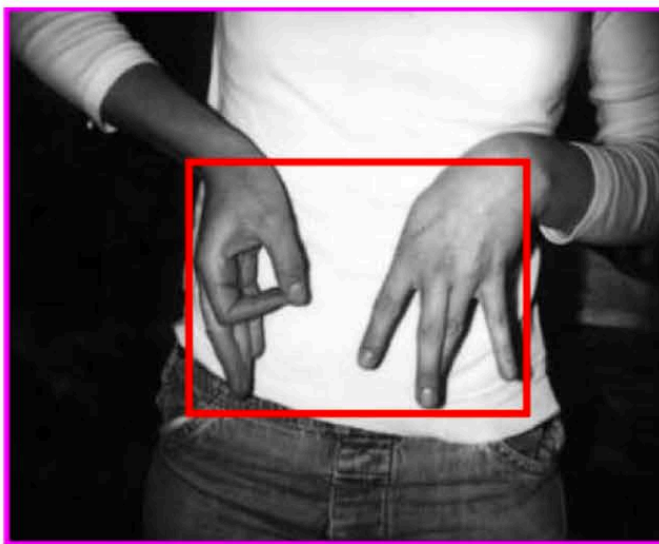
Multimodal Social Media Analysis for Gang Violence Prevention

Philipp Blandfort, Desmond Patton, William R. Frey, Svebor Karaman, Surabhi Bhargava, Fei-Tzin Lee, Siddharth Varia, Chris Kedzie, Michael B. Gaskell, Rossano Schifanella, Kathleen McKeown, Shih-Fu Chang





(a) handgun, long gun



(b) person, hand gesture



(c) money



(d) marijuana, joint



(e) lean



(f) person, tattoo





ETHICAL ANNOTATION AGREEMENT

SAFElab, Columbia University School of Social Work

I, _____, as an annotator of social media data in the SAFElab at Columbia University School of Social Work, adhere to the following ethical agreements in order to prevent harm to and protect the safety of users whose social media data I am annotating. If any instances arise where I break any of the following agreements, I will notify Dr. Desmond U. Patton and William R. Frey immediately.

I will not:

- discuss content of my social media annotation with anyone outside of the SAFElab research team.
- present or share any identifying information from my social media annotation.
- share any data or research notes with anyone outside of the SAFElab research team.
- actively interact with users in the dataset
 - (e.g., like, retweet, comment, or mention on posts from the dataset).

I will:

- log out of the annotation system after every coding session.
- take measures to protect the social media data if coding in public
 - (e.g. use a dark screen, sit in a private location).

Signature: _____ Date: _____



2017

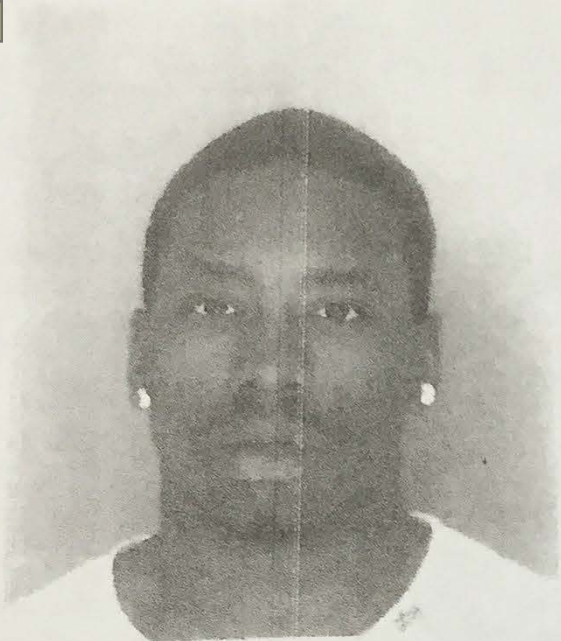
Social Media + Society

Stop and Frisk Online: Theorizing Everyday Racism in Digital Policing in the Use of Social Media for Identification of Criminal Conduct and Associations

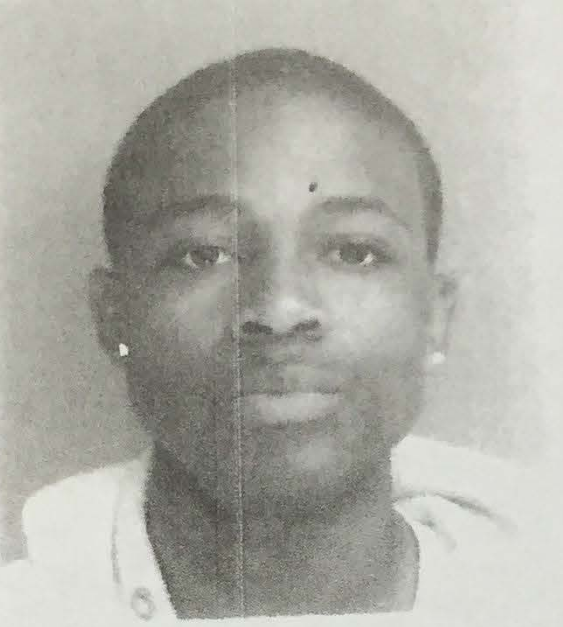
[Desmond Upton Patton](#), [Douglas-Wade Brunton](#), [Andrea Dixon](#), [Reuben Jonathan Miller](#), [Patrick Leonard](#), [Rose Hackman](#) [Show](#)

First Published September 28, 2017 | Research Article |  Check for updates

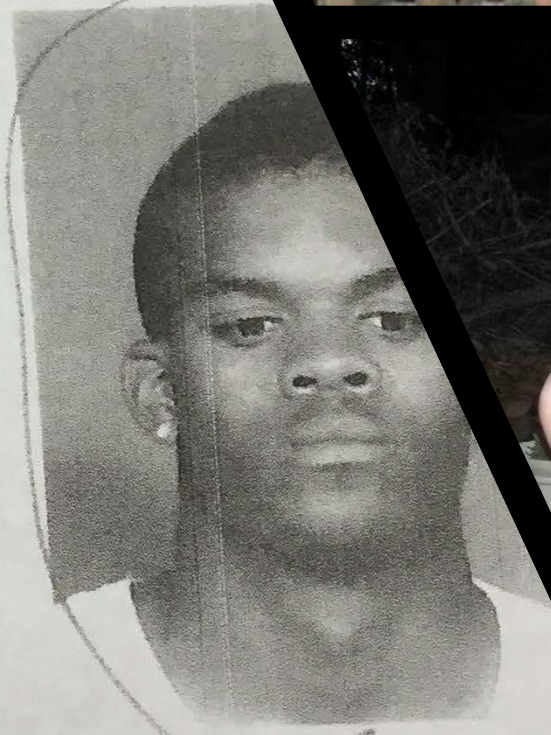
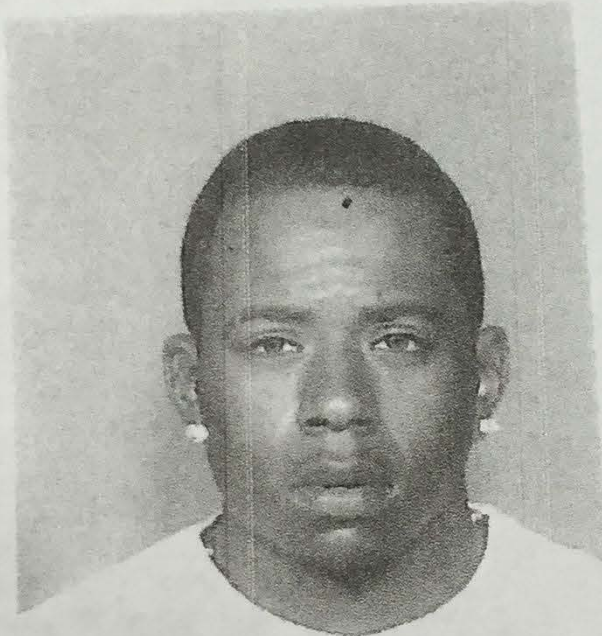


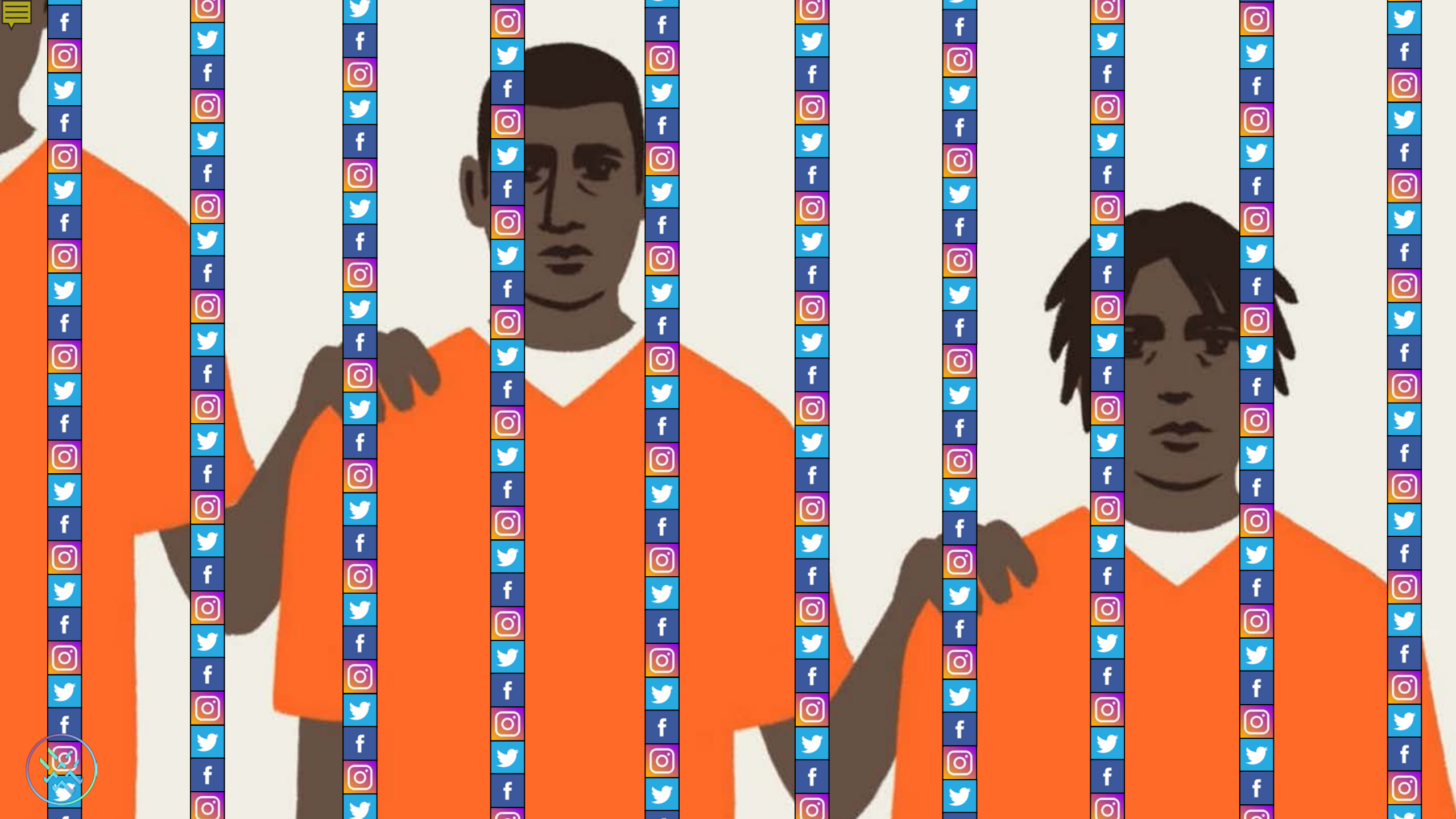


1



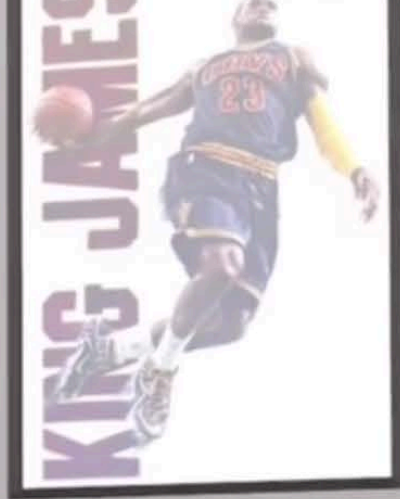
2





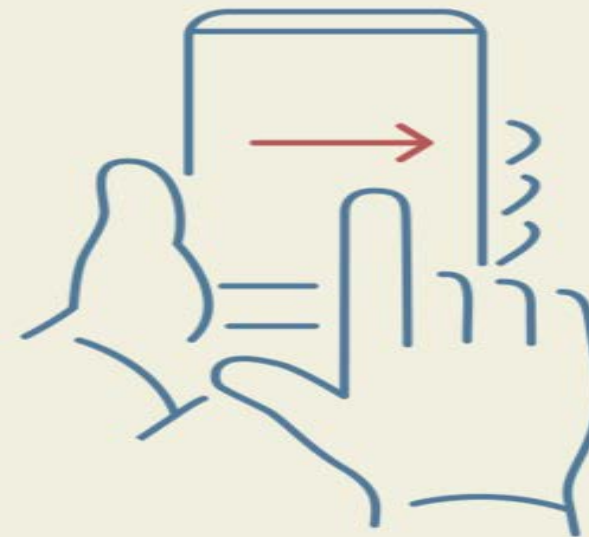
INTERVENTION





TEACHABLE MOMENTS

EDUCATION AS INTERVENTION





to be best in any
point of view.

Empathy

understanding
feelings, though
another

to be best in any
point of view.

Behavior

the way a person
acting or controlling
person behaves





© Barnes Family Handout





 @SAFELAB

 @DRDESMONDPATTON

2016



Journal

Journal of Human Behavior in the Social Environment >

Volume 26, 2016 - Issue 3-4: Police shooting of unarmed African American males: Implications for the individual, the family, and the community

Articles

“Police took my homie I dedicate my life 2 his revenge”: Twitter tensions between gang-involved youth and police in Chicago

Desmond Upton Patton ✉, Patrick Leonard, Loren Cahill, Jamie Macbeth, Shantel Crosby & Douglas-Wade Brunton

Pages 310-324 | Published online: 20 Jan 2016

