

Measuring News Media Reliance On the Press Release: A New, More Comprehensive Approach

Sergey Golitsynskiy

Ph.D. Candidate

Philip Merrill College of Journalism

University of Maryland, College Park

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Why this Topic Is Important

From journalists and press critics:

Using press releases with little or no edits, and no attribution:

- “...handing over the narrative to public relations”
- “...the public expects that a newspaper story is an impartial account”
- “...unethical, manipulative, one-sided, and deceptive”
- “...shallow news accounts”
- “...without the filter provided by journalists, it is hard to divide facts from slant”
- “...there is a large gray zone between the truth and a lie. Skillful PR people can provide data that is entirely credible. It is true enough. It is slanted. It is propagandistic. But it is not false.”

What the Other Side Tells Us

From PR Academia:

- PR and journalism – two parts of the same process
- Evolutionary model of PR by Grunig: P. T. Barnum (XIX century) >> 2-way communication (today)

Focus on mutual understanding, not persuasion and influence

From PR Industry:

- 1976: “...change the title "news release" to "news from..."”
- 2005: “...place the title "PRESS RELEASE" (in caps) at the top of each press release”
- Be a better salesman: "getting a story is basically the result of negotiation”
- "Personalize the press release with a handwritten note to a journalist."
- *"The true test of a release writer - indeed, of everyone in this business - is how well he or she disguises corporate intent as news."*

NOTHING HAS CHANGED!

What Theory Tells Us

- Gandy, 1982: Press releases are information subsidies used to build the media agenda. Organizations with \$\$\$ will get more coverage.
- Lippmann, 1922: The nature of the message is the issue: more + favorable coverage.
- McCombs and Shaw, 1972 (and hundreds of later studies on agenda-setting): organizations, through affecting the media agenda, may influence what we think about
- Entman, McCombs, as well as many PR scholars: framing explains how through carefully constructing a message (and getting news media to use it with no change) an organization may not only have a say in what we think about – but also in how we think about it ---

***...which is, according to many scholars - both journalism and PR –
the ultimate goal of a press release***

Summary of the Problem

1. Press releases are carefully framed to serve the needs of the organizations behind them (according to journalists, journalism scholars, PR practitioners, PR scholars)
2. By using such content verbatim or with minimal changes, news media incorporates its wording *which favors the organization* into news reports *which are supposed to be impartial*
3. Thus, news media might be unwittingly serving the interests of the organizations which provide the press release, instead of serving the public

The big question:

Are press releases published without any change?
And if so, what is the extent of this practice?

What Research Tells Us

- Reviewed 45 relevant studies, published between 1978 and 2012
- Most originated in public relations and served practical PR needs
- Most of non-PR studies used small sample sizes
- Main issue: only a few studies reliably demonstrated that the articles were indeed based on the press releases
- Most studies do not state the exact procedure; others use keyword search
(But content similarity is not content dependency!)
- One way to establish a dependency between press release and article:
 - There should be a long enough sequence of words appearing in both the press release and the article. ***Finding such matching sequences is the main methodological issue.***

Finding Matching Text

Wells Fargo & Co. (NYSE : WFC) announced today that the company has finalized an agreement with attorneys general from 49 states and several federal agencies regarding mortgage servicing , foreclosure and origination issues . Under the terms of the agreement , Wells Fargo has made a financial commitment covering expanded refinance , modification and other customer relief options , and will implement comprehensive servicing standards . Four other large mortgage servicers also have reached agreements with the states and federal agencies .

" Today 's agreement represents a very important step toward restoring confidence in mortgage servicing and stability in the housing market , " stated Mike Heid , president of Wells Fargo Home Mortgage . " Wells Fargo has actively participated in the discussions leading to this agreement , which builds on the significant refinance and customer relief efforts we already have undertaken . "

" Wells Fargo welcomes the establishment of servicing standards as part of this agreement , " Heid explained . " We have already made significant investments in our systems and staffing and are fully committed to implementing the standards as defined . These investments have helped us provide refinance and foreclosure prevention options for our customers . "

Wells Fargo provided information about the anticipated financial impact of the commitments under the agreement . As of December 31 , 2011 , the company had fully accrued for the Foreclosure Assistance Payment . Similarly , as of December 31 , 2011 , the expected impact of the Consumer Relief Program was covered in our allowance for credit losses and in the non-accretable difference relating to our purchased credit-impaired residential mortgage portfolio . The Refinance Program can be even more difficult when the text is not a quote and result in any current-period charge as the impact of this program will be recognized over a period of years in the form of lower interest income as qualified borrowers benefit from

FIVE big banks finally reached a deal with government authorities last week over dubious mortgage practices and foreclosure abuses .

After months of talks , Ally Financial , Bank of America , Citibank , JPMorgan Chase and Wells Fargo agreed to pay a total of \$ 5 billion in cash to try to remedy this fiasco . They will also help homeowners who are underwater on their mortgages by reducing the principal on their loans by a combined \$ 17 billion over the next three years .

Borrowers who qualify will get \$ 3 billion in refinancing arrangements. Those who were improperly foreclosed on will get a combined \$ 1.5 billion . That probably nets out to less than \$ 2,000 a person . The banks crowed that this settlement would help the economy and the reputation of the mortgage industry . Michael J. Heid , president of Wells Fargo Home Mortgage , characterized the deal as " a very important step toward restoring confidence in mortgage servicing and stability in the housing market . "

But it 's hard to imagine that this one settlement will be enough to restore trust in loan servicers . Given what we know about their questionable practices -- how they larded improper fees on struggling homeowners , for example , and forced people to buy home insurance at three times market rates -- restoring confidence in these firms will take some doing .

There 's no doubt that the banks are happy with this deal . You would be , too , if your bill for lying to courts and end-running the law came to less than \$ 2,000 per loan file . As for the supposed benefits can be even more difficult when the text is not a quote to the economy , skeptics abound . One of them is Paul Diggie , property economist at Capital Economics in London . In a report last week , he rejected the notion -- espoused by both banks and government authorities -- that this deal would help turn around the American housing market .

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Potential size of the problem:
for 500-word press release and article,
there are 241,081 possible combinations
of matching sequence of 10 words

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Overcoming the Method Problem

- To measure the usage of press release content by news media, we need:
 - A large and representative sample
 - Careful text analysis to locate matching sequences of text
- The combination of these two requirements constitutes an obstacle which explains the reason why such studies have not been conducted

In this dissertation, I demonstrate that such an obstacle can be overcome with the help of computer science.

Goals of the Study

- ***Goal 1***
To contribute to a broader understanding of the nature and scope of news media's reliance on the press release
- ***Goal 2***
To demonstrate the utility of computer science as a problem-solving approach in journalism research

Research Questions

How much press release content is used?

- **RQ1.** How much content does an article borrow from a press release?
- **RQ2.** How much does an article add to the content borrowed from a press release?

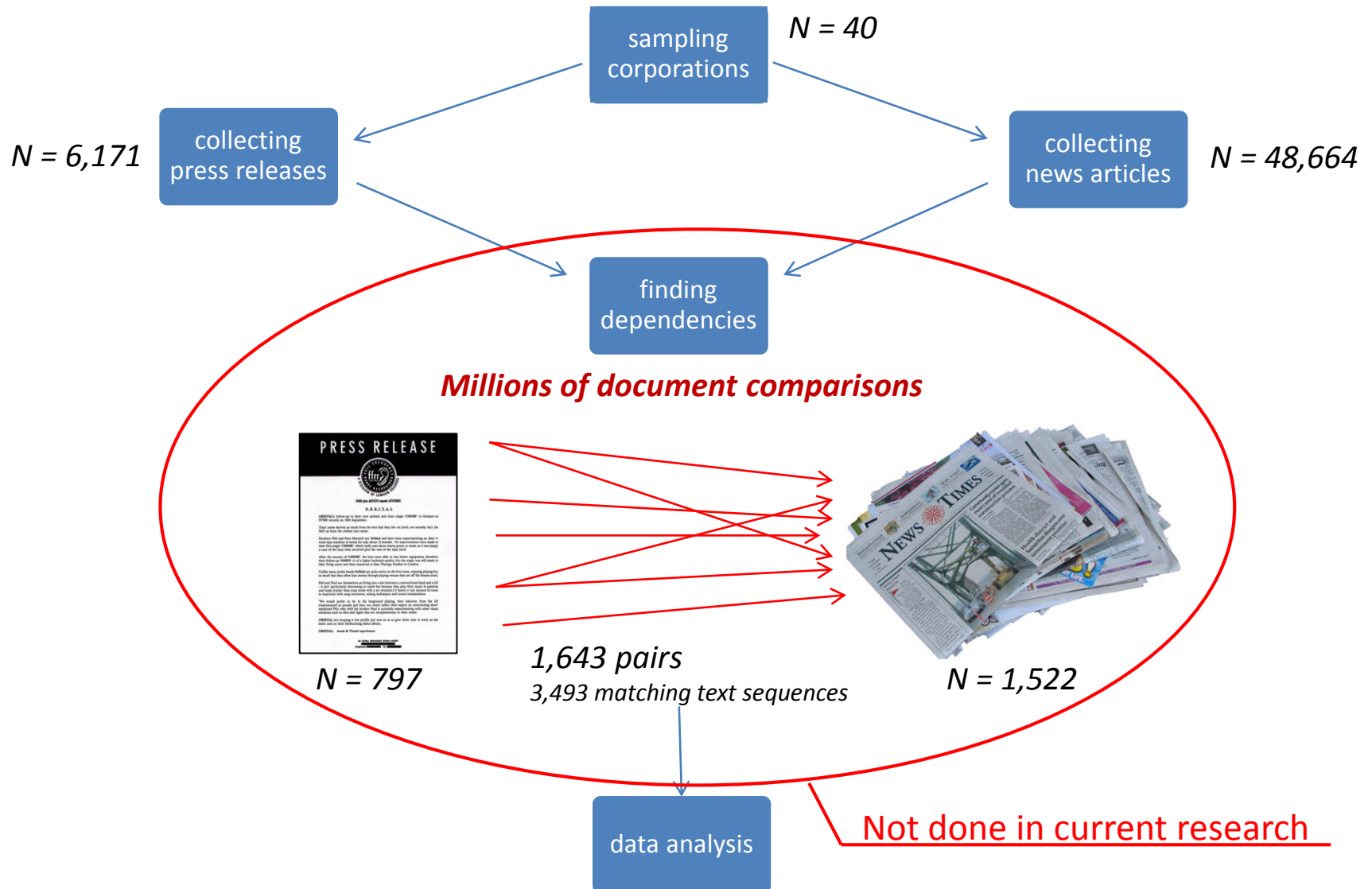
How is press release content used?

- **RQ3.** How does press release content compare to the content of a news in regards to the evaluative, or subjective, language they use? I hypothesize that a news article will use less subjective.
- **RQ4.** How does press release content compare to the content of a news in regards to the polarity of the evaluative, or subjective, language they use? I hypothesize that the language of the news article will be less positive.

Is press release content attributed to the source?

- **RQ5.** Do news articles explicitly mention the press release as the source of the content they use?

Research Design Summary



Result: 40 Corporations

- Limitations:
 - Business PR, largest corporations (Fortune-100)
 - Availability of a press release archive for 2012
 - Sufficient number of releases ($N > 29$)
 - Sufficient number of news articles ($N > 99$)
- Sampling: systematic , then random: **$N = 40$**



Collecting the Data

News articles:

- Manually collect from LexisNexis
- Rely on LexisNexis *SmartIndexing* to identify relevant articles

Press releases:

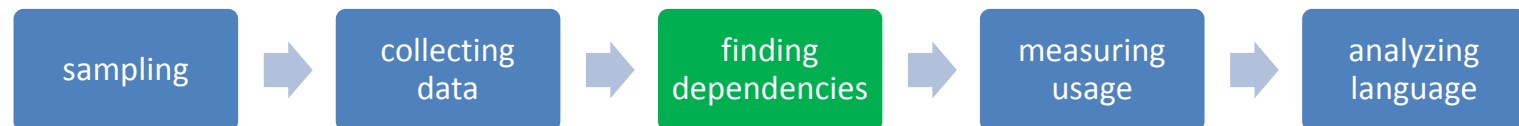
- Collect all available press releases from corporate websites
- Use “web scraping” to automate process



Finding Dependencies

1. Split documents into words
2. Find all matching sequences (optimal length = 7)
3. Eliminate those which are more than one month apart
4. Manually examine the remaining press release/article pairs
5. WE'RE DONE!

1,643 pairs (797 press releases were used in 1,522 articles)



Calculating Proportions of Used/Added Text (measured in words)

#	length	match
1	31	Our goal is to provide services that are relevant to our customers and Wells Fargo customers are enthusiastic about anytime anywhere mobile banking
2	27	We are excited about the benefits mobile banking offers consumers from better day-to-day money management to greater peace of mind
3	13	head of the Retail Mobile Channel at Wells Fargo 's Internet Services Group
4	12	Apple App Store BlackBerry App World and HP App Catalog
5	8	Wells Fargo Mobile banking apps are available

Wells Fargo Mobile Banking Application Now Available from Amazon Appstore for Android

Wells Fargo Mobile Banking Application Now Available from Amazon Appstore for Android Keep track of your finances while on the go with Wells Fargo Mobile Banking

San Francisco - January 10, 2012

Wells Fargo customers who use Android-powered smartphone and tablet devices, like the new Kindle Fire, can now keep track of their finances while on the go with Wells Fargo Mobile banking services. Wells Fargo & Company (NYSE: WFC) announced today its new Wells Fargo Mobile banking app for Android is available for download from the Amazon Appstore for Android.

"Our goal is to provide services that are relevant to our customers, and Wells Fargo customers are enthusiastic about anytime, anywhere mobile banking," said Brian Pearce, senior vice president and head of the Retail Mobile Channel at Wells Fargo's Internet Services Group. "We are excited about the benefits mobile banking offers consumers, from better day-to-day money management to greater peace of mind."

Wells Fargo has more than 7 million active consumer and small business customers using Wells Fargo Mobile - the fastest-growing delivery channel at Wells Fargo. Wells Fargo offers three easy mobile banking services including mobile web (wfc.com), app, and text (to short-code 93557, which spells "Wells" on traditional telephone keypads). The services are free from Wells Fargo; however, mobile carrier text messaging and web access charges may apply.

Wells Fargo Mobile Banking Security & Fraud Prevention Wells Fargo's mobile banking services use the same security standards as Wells Fargo Online, including ongoing efforts to protect customers' information and privacy, since Wells Fargo launched internet account access in May 1995

Wells Fargo Posts Android App on Amazon App Store

Wells Fargo & Co. said Tuesday that its mobile banking app for Android-powered devices is now available in the Amazon Appstore.

"Our goal is to provide services that are relevant to our customers, and Wells Fargo customers are enthusiastic about anytime, anywhere mobile banking," Brian Pearce, head of the retail mobile channel at Wells Fargo's Internet services group, said in a news release. "We are excited about the benefits mobile banking offers consumers, from better day-to-day money management to greater peace of mind."

Besides Amazon, Wells Fargo mobile banking apps are available through the Android Market, the Apple App Store, BlackBerry App World and HP App Catalog. The San Francisco-based company said that it has more than 7 million active customers using its mobile capabilities.

#	length	match
1	97	Based on lessons learned from the first two SBIRS geosynchronous satellites production of GEO-3 and GEO-4 is proceeding very well. In addition we have a number of affordability initiatives in place jointly with the Air Force to continually reduce the cost of each follow-on SBIRS satellite Lockheed Martin engineers and technicians will now integrate the propulsion subsystem with the core structure which is essential for maneuvering the satellite during transfer orbit to its final location as well as conducting on-orbit repositioning maneuvers throughout its mission life
2	80	The structure was delivered to Lockheed Martin 's Mississippi Space Technology Center where engineers and technicians will integrate the spacecraft 's propulsion subsystem Featuring a mix of GEO satellites hosted payloads in highly elliptical earth orbit and associated ground hardware and software SBIRS delivers resilient and improved missile warning capabilities for the nation while simultaneously providing significant contributions to the military 's missile defense technical intelligence and battlespace awareness mission areas
3	63	The team expects to receive funding to begin long lead parts procurement for the fifth and sixth GEO satellite by the end of the year. Additionally under the Air Force 's Overhead Persistent Infrared OPIR Space Modernization Initiative SMI Lockheed Martin will evolve technologies to improve capability and affordability for future SBIRS spacecraft
4	55	The integrated core propulsion module will then be shipped to Sunnyvale Calif. for final assembly integration and test SBIRS GEO-4 is on schedule to be available for launch in 2015 Lockheed Martin 's SBIRS contracts include four highly elliptical orbiting HEO payloads four GEO satellites
5	44	The GEO-4 structure identical to the previous three SBIRS GEO spacecraft is made from lightweight high-strength composite materials designed to withstand the accelerations and vibrations generated during launch and support the spacecraft throughout on-orbit operations
6	16	has received the core structure for the U.S. Air Force 's fourth Space Based Infrared System
7	15	Louie Lombardo Director of Lockheed Martin 's SBIRS Follow-on Production SFP program

Lockheed Martin Delivers Core Structure for Fourth SBIRS Satellite

STENNIS, Miss., May 24, 2012 - Lockheed Martin [NYSE: LMT] has received the core structure for the U.S. Air Force 's fourth Space Based Infrared System (SBIRS) geosynchronous satellite (GEO-4). The structure was delivered to Lockheed Martin 's Mississippi Space & Technology Center, where engineers and technicians will integrate the spacecraft 's propulsion subsystem.

Featuring a mix of GEO satellites, hosted payloads in highly elliptical earth orbit, and associated ground hardware and software, SBIRS delivers resilient and improved missile warning capabilities for the nation while simultaneously

Lockheed Martin 's Mississippi Space & Technology Center receives core structure for GEO-4 satellite

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sampling

collecting
datafinding
dependenciesmeasuring
usageanalyzing
language

Analyzing Language

- Compare press releases to news articles in terms of evaluative, or subjective, language usage
- Compare press releases to news articles in terms of the polarity (positive or negative) of such language
- Two approaches: computational and manual



Analyzing Language Computationally

CVS/pharmacy 's " Project Health " Will Deliver More Than \$ 21 Million Worth of Preventive Health Screening Events Across the U.S. in 2012

Wellness program aims to help African American and Hispanic consumers on their path to better health with more than 1,000 free health screening events

WOONSOCKET , R.I. , Feb. 8 , 2012 /PRNewswire/ -- CVS/pharmacy , the nation 's leading retail pharmacy , announces today the launch of Project Health (Proyecto Salud in Spanish) , a wellness program delivering more than \$ 21 million worth of free health screenings to multicultural communities .

The program , which aims to prevent disease through early detection , grew from CVS/pharmacy 's highly successful To Your Health/A Su Salud campaigns . This year , Project Health will offer an array of free comprehensive health risk assessments and screenings during five disease-specific national health awareness months from American Heart Month (February) to Diabetes Awareness Month (November) . Over 1,000 Project Health events are scheduled for 2012 in Atlanta , Chicago , Dallas-Fort Worth , Detroit , Houston , Los Angeles , Miami , New York City , Philadelphia and Washington , DC . Events are also planned at CVS/pharmacy locations in Puerto Rico .

" We know that for a variety of reasons multicultural populations have difficulty accessing and benefitting from preventive care , " said Troyen A. Brennan , M.D. , M.P.H. , Executive Vice President and Chief Medical Officer , CVS Caremark . " Making this issue even more disconcerting , these same patients disproportionately suffer from certain treatable conditions , like high blood pressure and diabetes . Through Project Health , CVS/pharmacy will work to achieve better health outcomes among multicultural populations and is once again making the commitment to helping people on their path to better health . "

Project Health is a part of efforts by CVS/pharmacy to improve access to preventive care and ensure that cost is not a barrier to important services , like professional health assessments and screenings . Project Health events , while offered to address and raise awareness of ethnic health disparities , are open to everyone and will not require an appointment .

Medical personnel will be on hand to provide diabetes , blood pressure , cholesterol and osteoporosis screenings , and examine patients for oral care issues . Referrals for mammograms and pap smears will also be provided as well as consultations with nurse practitioners and CVS pharmacists . A selection of screenings will be available at each event.

Once screened , CVS/pharmacy will help patients through on-site consultations with bi-lingual (Spanish/English) nurse practitioners who will analyze the results and refer patients to no-cost or low-cost medical facilities within that neighborhood or to their primary care physician should additional follow-up be required .



Detecting Subjective Words

Mozilla Firefox

file:///C:/Users/serg...entences/2/pr/122.htm

file:///C:/Users/sergeig/Documents/Dropbox/docs/project docs/jhd/dissdata/dissdata/sentences/2/pr/122.htm

CVS Caremark

ID	text	POS	NEG	BOTH	N/A
2-R-122-1	CVS/pharmacy 's " Project Health " Will Deliver More Than \$ 21 Million Worth of Preventive Health Screening Events Across the U.S. in 2012 .				
2-R-122-2	Wellness program aims to help African American and Hispanic consumers on their path to better health with more than 1,000 free health screening events WOONSOCKET , R.I. , Feb. 8 , 2012 /PRNewswire/ -- CVS/pharmacy , the nation 's leading retail pharmacy , announces today the launch of Project Health (Proyecto Salud in Spanish) , a wellness program delivering more than \$ 21 million worth of free health screenings to multicultural communities .				
2-R-122-3	The program , which aims to prevent disease through early detection , grew from CVS/pharmacy 's highly successful To Your Health/A Su Salud campaigns .				
2-R-122-4	This year , Project Health will offer an array of free comprehensive health risk assessments and screenings during five disease-specific national health awareness months from American Heart Month (February) to Diabetes Awareness Month (November) .				
2-R-122-5	Over 1,000 Project Health events are scheduled for 2012 in Atlanta , Chicago , Dallas-Fort Worth , Detroit , Houston , Los Angeles , Miami , New York City , Philadelphia and Washington , DC .				
2-R-122-6	Events are also planned at CVS/pharmacy locations in Puerto Rico .				
2-R-122-7	" We know that for a variety of reasons multicultural populations have difficulty accessing and benefitting from preventive care , " said Troyen A. Brennan , M.D. , M.P.H. , Executive Vice President and Chief Medical Officer , CVS Caremark .				
2-R-122-8	" Making this issue even more disconcerting , these same patients disproportionately suffer from certain treatable conditions , like high blood pressure and diabetes .				
2-R-122-9	Through Project Health , CVS/pharmacy will work to achieve better health outcomes among multicultural populations and is once again making the commitment to helping people on their path to better health .				
2-R-122-10	" Project Health is a part of efforts by CVS/pharmacy to improve access to preventive care and ensure that cost is not a barrier to important services , like professional health assessments and screenings .				
2-R-122-11	Project Health events , while offered to address and raise awareness of ethnic health disparities , are open to everyone and will not require an appointment .				
2-R-122-12	Medical personnel will be on hand to provide diabetes , blood pressure , cholesterol and osteoporosis screenings , and examine patients for oral care issues .				
2-R-122-13	Referrals for mammograms and pap smears will also be provided as well as consultations with nurse practitioners and CVS pharmacists .				
2-R-122-14	A selection of screenings will be available at each event .				
2-R-122-15	Once screened , CVS/pharmacy will help patients through on-site consultations with bi-lingual (Spanish/English) nurse practitioners who will				

Subjectivity Lexicon Example

type=weaksubj
word1=help
pos1=adj
priorpolarity=positive

type=weaksubj
word1=help
pos1=noun
priorpolarity=positive

type=weaksubj
word1=help
pos1=verb
priorpolarity=positive

sampling

collecting
datafinding
dependenciesmeasuring
usageanalyzing
language

Calculating Subjectivity and Polarity Scores

CVS Caremark

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2-R-122-14	A selection of screenings will be available at each event .				
2-R-122-15	Once screened , CVS/pharmacy will help patients through on-site consultations with bi-lingual (Spanish/English) nurse practitioners who will lower cost .				

Subjectivity Score Calculation

Visible sentence counts:

all = 15

positive = 6

negative = 2

both = 3

neutral = 4

subjective = positive + negative + both =
= 6 + 2 + 3 = 11

Subjectivity score =

= subjective / all = 11/15 = .73

Range: 0 to 1

Polarity score =

= (positive - negative) / subjective =
= (6 - 2) / 15 = 4/15 = .27

Range: -1 to 1

sampling

collecting
data

finding
dependencies

measuring
usage

analyzing
language

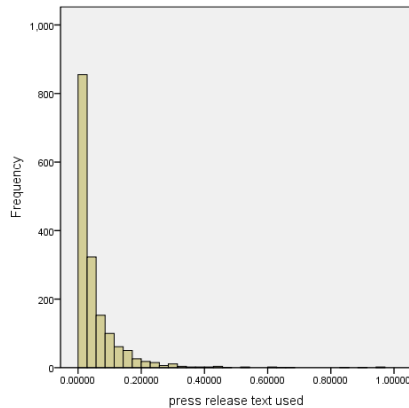
Answering RQ3 and RQ4

1. Sample 30 pairs of press releases and news articles and code each sentence manually
 2. Compare manual and automated coding using manual as gold standard
 3. If automated coding is reliable, use these results; otherwise, use manual results
 4. Run paired samples t tests to compare press release and article scores
- **Expected problems with automated coding results:**
 - prior polarity *does not equal* contextual polarity
Examples: **unpredictable**, but “**unpredictable steering**” vs. “**unpredictable movie plot**”
 - Word sense ambiguity: the same word can mean different things
Example: **vice**, but “a **life of vice**” vs. “**vice president**”



Findings: RQ1 and RQ2

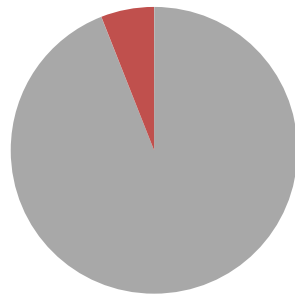
RQ1: How much content journalists **borrow** from a press release



*when a press release
is indeed USED*

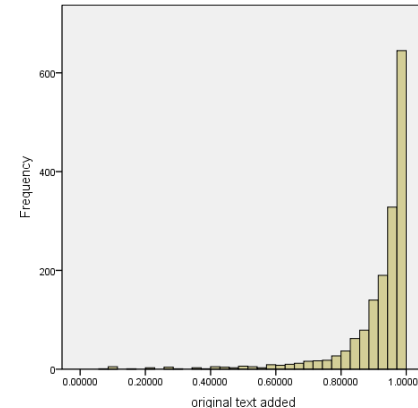
Six percent = PR

($M = .06$, $Mdn = .03$, $s = .0021$)



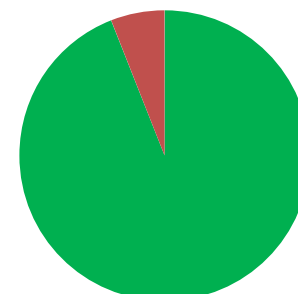
Press releases:
6% used
94% discarded

RQ2: How much journalists **add** to that borrowed content



Ninety two percent = original

($M = .92$, $Mdn = .96$, $s = .1215$)



News articles:
92% original content
8% press release

Main limitation: paraphrased text not taken into account

RQ3 and RQ4: Language Analysis

- RQ3: Hypothesis supported: news articles use language which is less subjective compared to the source press release
 $t(27) = 2.059, p = .025, \alpha = .05$
- RQ4: Hypothesis supported: news articles use language which is less positive compared to the source press release
 $t(27) = 1.876, p = .036, \alpha = .05$
- Results of automated coding can be treated ONLY in terms of word usage
(as expected: sentence scores too different from manual coding results)
- However, there is a difference in word usage:
Testing for subjectivity: $t(1641) = 7.578, p < .001, \alpha = .05$
Testing for polarity: $t(1641) = 26.879, p < .001, \alpha = .05$

RQ5: The Problem of Attribution

- 10% of news articles explicitly mention press release as source
(method was trivial: search for keywords)
- Main limitation: implicit attribution not taken into account
- Examples of implicit attribution:
 - ***In a statement, Edsel B. Ford II, said:*** "Today, we have lost a legend in Ford Motor Company's history, and my family and I have lost a dear friend... (Automotive News , May 14)
 - ***Target suggested in a statement*** it issued Friday that the deal doesn't do enough to fix the system." Target has no interest in surcharging guests who use credit and debit cards in order to allow Visa and MasterCard to continue charging unfair fees, "the company said. (Star Tribune (Minneapolis, MN), July 24)
 - On Wednesday, ***Microsoft said,*** "We take this matter very seriously and moved quickly to address this problem as soon as we became aware of it." (The New York Times, October 25)
- Measuring implicit attribution on a large scale is a different computational problem requiring further research

When One Case Becomes an Issue

- ***Press release dated September 26, 2012:***

“Alameda and Contra Costa counties have a great inventory of homes and attractive amenities for prospective homeowners in the East Bay,” Gilda Gonzales, chief executive officer of the Unity Council, said in a prepared release. “These grants will help people get over the tremendous financial hurdle of finding funds for a down payment.”

- ***Press release dated November 27, 2012:***

... said Prince George 's County Executive Rushern L. Baker, III.

“Prince George's County has a great inventory of homes and attractive amenities for prospective homeowners in the Washington region. These grants will help people get over the tremendous financial hurdle of finding funds for a down payment...”

Of course, this would never end up in the news...

When One Case Becomes an Issue

- "Alameda and Contra Costa counties have a great inventory of homes and attractive amenities for prospective homeowners in the East Bay , " Gilda Gonzales , chief executive officer of the Unity Council, said in a prepared release . " These grants will help people get over the tremendous financial hurdle of finding funds for a down payment . " (Wells Fargo PR)
- "Alameda and Contra Costa counties have a great inventory of homes and attractive amenities for prospective homeowners in the East Bay, "Gilda Gonzales, chief executive officer of the Unity Council, said in a prepared release. "These grants will help people get over the tremendous financial hurdle of finding funds for a down payment."
(San Jose Mercury News and Contra Costa Times)

Advice from Public Relations Quarterly:

“A press release enables you to tell a story from your perspective...

Of course, you have to disguise it as news...” (Williams, 1994, p. 7).

Take a lesson from Wells Fargo PR:

No need to disguise a corporate story as news ---

if you convince an elected official to tell it for you.



Theoretical and Methodological Implications

- I developed a new method to measure and examine the reliance of news media on the press release
- My results have demonstrated that the problem of PR influence on news content has been considerably exaggerated in previous research
- However: A press release is only one example of information subsidies: my results **do not** imply that PR lacks influence.
- Nevertheless, the role of the press release has clearly diminished.

Theoretical and Methodological Implications

- This dissertation is not a guide to programming. It is an invitation to engage in interdisciplinary projects.
- *“We regularly hear impressive claims for what future technology – always, it seems, future technology – will be able to do for us. Why is this future perpetually just over the horizon? The reason is simple: those who could build these marvels don’t really understand what marvels we need, and we, who understand what we need all too well, don’t really understand what can be built.” (Douglas Oard)*
- This dissertation is one attempt to begin building a bridge between fields.

Thank You!

- Computational Linguistics and Information Processing (CLIP) Lab,
University of Maryland Institute for Advanced Computer Studies
For introducing me to natural language processing
- E-Discovery Lab, College of Information Science
For providing an opportunity to learn to work with a lot of text data
- Department of Measurement, Statistics and Evaluation, College of Education
For helping me understand statistics

AND

- **The Philip Merrill College of Journalism**
*For teaching me about journalism, media and mass communication,
and for providing a meaningful context for all my methodological ideas*