Characterizing Incriminating Information Sharing in Online Communities Using Strategic SIDE

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Objectives

This project was conceived to study the ways in which online communities characterized by participation in illegal or anti-normative behaviors share information. These types of communities exist in abundance online, but research into their structure and behavior is sparse, at best. This project seeks to improve the state of knowledge in this area.

Specifically, this research studies online communities of drug users, and seeks to study how and when they share information about anti-normative activities, incriminating and otherwise.

- **RQ1:** What patterns exist in the ways in which individuals share information related to anti-normative behavior in online communities?
- **RQ2:** What effect do group features have on the propensity for users to share information about anti-normative behavior?

Theory

In many communities characterized by their opposition to a dominant out-group, research has indicated that a lack of control over information influences the behavior of these groups greatly (Chatman 1996). In this situation, termed "information poverty," the management and use of information is an important way in which group membership is defined and group cohesion is maintained.

Social identity theory (Turner & Reynolds 2010) posits that individuals have multiple identities that they deploy depending on the social circumstances they inhabit: a "work self," a "family self," etc. Drawing on Social Identity theory, we posit that the use and sharing of information in communities characterized by information poverty is therefore analogous to enacting the social identity of membership in that group (Fine & Hoyfield 1996).

The Social identity model of deindividuation effects (SIDE) (Lea & Spears 1992) makes predictions about social identity performance – particularly where that performance involves anti-normative behavior - in the context of groups characterized by their subordinate position to a dominant out-group. Specifically, it contends that social identity performance is governed by variables along a *cognitive* and a *strategic* dimension. The cognitive factors include, for instance, the relative salience of group membership.

The strategic factors include the extent to which certain contextual variables impact the usefulness of group membership expression. For instance, the level of anonymity an individual has with respect to other group members, level of perceived visibility of the individual to members of the dominant out-group, and the extent to which the behavior in question is anti-normative with respect to those of the out-group. Accordingly, we can expect the relative strategic value of a particular social identity performance to vary according to the following schedule:

In-Group Anonymity

Out-Group Visibility	Low	High
High	Low Strategic Value: Careless Openness **High strategic value toward out-group**	Low strategic value: nobody cares Moderate strategic value toward out-group: proves little
Low	Moderate strategic value toward in-group: still risky Low strategic value: too risky	**High strategic value toward in-group** Low strategic value: ignores community secrecy

Out-Group Antinormativity	High	Low

Method

SIDE has been used fruitfully in studies of online communities (e.g. Spears, et al. 2002) and especially those groups in which illegal (Barrat 2011) or secret (Lingel et al. 2012) information is discussed. It may be particularly useful in this context because it makes such a direct theoretical connection between identity, information, and power, perhaps the three most important issues in groups hostile to the dominant norms of society, particularly those online in which deindividuation is a matter of course. We therefore apply it here.

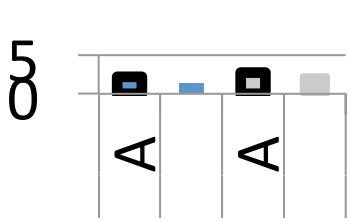
Community posts were collected and coded according to the following schemes, called A and I:

Scheme A - **Individual admits:**	**Code:**
Past use	1
Present or future use	2
Additional illicit behavior related to use	3
Past sale or manufacture	4
Present or future sale or manufacture	5

Scheme I - **Individual provides information concerning:**	**Code:**
Cessation	1
Harm reduction	2
Techniques for ingestion, escaping detection, etc.	3
Sourcing	4
Sale or manufacture	5

First we checked for evidence of strategic SIDE in a single online community: Twitter. In this case only Scheme A was used, on the supposition that 140 characters is too short to convey much detailed information. Using wefollow.com we collected a list of influential Twitter users related to marijuana culture (@HIGH_TIMES_Mag, @stoner_cat, etc.) and then using the Twitter API collected lists of their followers. A sample of these were then categorized into identifiable and anonymous categories. Over the course of 10 days, tweets by users in this sample containing marijuana-related keywords (#4twenty, etc.) were collected, then coded according to Scheme A. During the same period a sample of twitter followers who also mentioned theses same keywords, but did not follow the influential accounts, was also taken and their tweets also coded. Operationalizing the variables discussed above, Twitter users with identifying information in their profiles were considered to have low anonymity, those without to have high. Those who followed influential marijuana culture accounts were considered to have high marijuana community involvement, those who did not to have low.

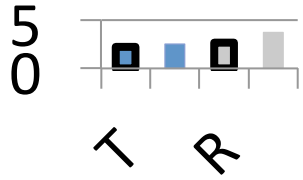
Incriminating admissions on Twitter by user characteristics



	MS	df	F	P-value
Affiliation	12.48	1	66.17	< .001
Identifiability	9.75	1	51.69	< .001
Interaction	2.83	1	645.13*	< .001
Within	6.79	36	0.19	

This demonstrates that both identifiability and group affiliation are factors that influence self-incrimination. Unidentifiable users are more likely to make incriminating statements, as are affiliated users. This provides empirical evidence for the predictions made in the SIDE model. Below, the same procedure was done using Scheme I and across several different websites. These results also provide empirical support for SIDE and demonstrate that in addition to anonymity, perceived visibility can have an effect on information sharing. Specifically, we see strong interaction effects: Anonymity and visibility both effect self-incrimination, but the low anonymity high visibility condition and the high anonymity low visibility condition show larger effects than either factor alone.

Incriminating information sharing by online community



Labels:

Perceived Visibility	In-group Anonymity: Identifiable	In-group Anonymity: Anonymous
High	Twitter.com	Reddit.com
Low	Facebook.com	Bluelight.ru

	df	MS	F	P-value
Anonymity	1	10.79	90.55	< .001
Visibility	1	8.34	69.99	< .001
Interaction	1	6.71	755.15	< .001
Within	36	0.12		

*Note: with 1 df in each factor the interaction df is also 1, which artificially magnifies the effect of the numerator in the interaction F-statistic calculation.

Conclusions

- Variables associated with deindividuation, including anonymity, perceived visibility, and group identification have effects on the willingness of individuals to share incriminating information online.
- When imposed onto individuals by the structure of a particular online community (Facebook.com's requirement to use real names, or Bluelight.ru's rules against this), these effects remain.
- These variables show strong interaction effects, indicating that the conventional models of deindividuation effects (i.e. increased anonymity necessarily implies increased anti-normative behavior) are incomplete
- Observation supports the predictions made by SIDE, indicating that it may be a useful model for predicting antinormative behavior of members of groups characterized by subordination to a dominant, normative out-group.

Recommendations

This project and others like it (Barratt 2011, Fine & Holyfield 1996, Lingel et al. 2012) demonstrate the need for revision of the conventional wisdom surrounding how subordinate, antinormative groups behave. In the present instance, Strategic SIDE predicts that certain combinations of factors can lead to increased willingness to share incriminating information. For instance, individuals may choose to make self-incriminating remarks in the context of high visibility in order to demonstrate the group's actualization. Or they may choose to share certain secret information within the group in order to demonstrate to other members a high degree of belonging. In either case, it is important to note that **in groups characterized by information poverty and/or subordination to a dominant out-group, individual group members will often use, manage, and share information for strategic purposes. In these cases, information is useful not only for the data it contains, but for the purposes for which the act of disclosing it may effect.** Understanding this phenomenon, and they way in which it is exhibited, can lead to a greater understanding of the information sharing practices of these groups.

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