

# An Empirical Examination of Anonymity, Intimacy and Self-Disclosure in Social Media

## HYPOTHESES

In order to describe self-disclosure patterns more rigorously, we define the model we will use in the analysis to follow. If we center the intimacy level for different items at zero, and denote the series with  $X$ ; and participant's response of willingness to self-disclose about specific items correspondingly with  $Y$ , then we could establish a linear model:

$$Y = \alpha + \beta X$$

The intercept ( $\alpha$ ) and slope ( $\beta$ ) of the regression line represent two characteristics of self-disclosure that we are interested in examining respectively.

- $\alpha$  = general willingness to self-disclose

This is the expectation of willingness to self-disclose of items at medium intimacy level, which captures the general willingness to self-disclose.

- $\beta$  = regulation effect

Previous studies have found an inverse relationship between the intimacy level of specific items and past self-disclosure behavior, meaning that individuals disclose less about more intimate topics [1, 2]. We refer to this inverse relationship as the regulation effect, which could be represented as a negative  $\beta$  in the linear model if it exists. The absolute value of  $\beta$  would therefore indicate the strength of regulation effect.

We use subscripts to represent different conditions, using  $A$  for anonymous,  $R$  for real-name,  $C$  for social connectivity,  $P$  for physical proximity, and  $*$  for wildcard that matches any of above. For example,  $\alpha_{AC}$  represents general willingness to disclose on anonymous, connectivity-based platform, while  $|\beta_{RP}|$  represents the strength of regulation effect on real-name, proximity-based platform. Finally,  $\alpha_{A*}$  would represent both  $\alpha_{AC}$  and  $\alpha_{AP}$ . We drive the following hypotheses with the benefits and risks model of self-disclosure.

### Anonymity

It is generally understood that anonymity will increase overall disclosure through the disinhibition effect, lowering the risk of harming one's personal image or having the information being disclosed being used against one's interests. Therefore,

**H1 (a)** Anonymity will increase general willingness to self-disclose for both contexts (connectivity and proximity):

$$\alpha_{A*} > \alpha_{R*}$$

### Context

Next, on the effect of context on self-disclosure, as discussed in the background section, closer relationship with target audience correlates with higher level of self-disclosure [3]. Naturally, friends are those one could confide in, and they can provide valued feedback and emotional support than people in mere proximity.

**H1 (b)** For both real-name and anonymous identity, the general willingness to self-disclose will be higher under the context of social connectivity than physical proximity:

$$\alpha_{*C} > \alpha_{*P}$$

### Regulation Effect

Next, we develop hypotheses about the regulation effect of self-disclosure ( $\beta$ ). Considering the fact that the real-name networks resemble face-to-face disclosures in terms of identity, which is the condition previous studies were conducted, we develop our first hypothesis:

**H2 (a)** For real-name networks, regulation effect between item intimacy and willingness to self-disclose will be present, which could be expressed as:

$$\beta_{R*} < 0$$

While people confide in friends, they also care a lot what friends think of them. Especially, in social awareness streams, self-disclosure does not happen on a one-on-one basis, which is the condition under which previous psychological studies were conducted. Phenomenons in social media such as context collapse where the same message becomes visible to all ties may sharply reduce the willingness to self-disclose about highly intimate items. Together, this will result in a sharper regulation effect on tie-based networks than on proximity networks. Based on this,

**H2 (b)** For real-name networks, the regulation effect on tie-based platform will be stronger than on proximity-base platform:

$$|\beta_{RC}| > |\beta_{RP}|$$

Next we develop hypotheses around the effect of anonymity. The interesting question now is whether the effect of anonymity is the same on friendship and proximity networks. In anonymous friendship networks, although there is no identifiers such as real name or photo, because of the very nature of self-disclosure, this technological anonymity could

Paste the appropriate copyright statement here. ACM now supports three different copyright statements:

- ACM copyright: ACM holds the copyright on the work. This is the historical approach.
- License: The author(s) retain copyright, but ACM receives an exclusive publication license.
- Open Access: The author(s) wish to pay for the work to be open access. The additional fee must be paid to ACM.

This text field is large enough to hold the appropriate release statement assuming it is single spaced.

Every submission will be assigned their own unique DOI string to be included here.

more easily be compromised as friends could figure out who posted certain messages based on the information included. The anonymity in the proximity network, on the other hand, will be less likely to be compromised by self-disclosure, as the audience have less information to base the inference on. Thus,

**H2 (c)** *For anonymous friendship network, the regulation effect will still be present, yet weaker compared to real-name friendship network; for anonymous proximity network, we don't expect to see any regulation effect:*

$$\beta_{AC} < 0, |\beta_{Ac}| < |\beta_{Rc}|$$

$$\beta_{AP} \approx 0 \text{ or } \beta_{AP} > 0$$

### Valence

Finally, we explore whether valence of the items (positive or negative) will have different disclosure patterns. For questionnaire items, in addition to making sure they spread across intimacy levels, we will also embed different valence in them. Half the items will have negative valence, such as “negative attitudes towards people I work or study with”; the other half will have positive valence, such as “having good times with my significant other”.

If we regress for positive and negative items separately, there will be two sets of  $\alpha$  and  $\beta$  (we use superscript + and – to denote positive valence and negative valence accordingly). We distinguish two aspects of benefits of self-disclosure. The first is intrinsic, in that it releases stress or getting feedback about the matter. The second is social, in that it adds to one’s social image or connection.

For anonymous networks, there is probably little social value of self-disclosure, and the intrinsic benefits of self-disclosing about negative valence items may be higher than positive valence ones, as seen from the fever model [4] (negative items bring more stress so it will be more rewarding to release this stress). Hence,

**H3 (a)** *For anonymous networks: the general willingness to self-disclose negative valence items will be higher than positive valence items, for both tie-based and proximity-based platforms:*

$$\alpha_{A*}^- > \alpha_{A*}^+$$

On real-name networks, extrinsic benefits of self-disclosing about positive valence items may be higher than negative. Given that identity is associated with posts, positive valence is more likely to add to one’s social image, while negative content poses more risks of harming one’s social presentation. This may be enough to offset the pure intrinsic value dynamic.

**H3 (b)** *For real-name networks, the general willingness to self-disclose positive valence items will be higher than negative valence items, for both friendship and proximity networks:*

$$\alpha_{R*}^+ > \alpha_{R*}^-$$

As regard to regulation effect for different valence, we don’t think we have sufficient enough reason to make hypotheses therefore will leave for the analysis.

### REFERENCES

1. Irwin Altman and William W Haythorn. 1965. Interpersonal exchange in isolation. *Sociometry* (1965), 411–426.
2. Sidney M Jourard and Paul Lasakow. 1958. Some factors in self-disclosure. *The Journal of Abnormal and Social Psychology* 56, 1 (1958), 91.
3. W Babnett Pearce and Stewart M Sharp. 1973. Self-disclosing communication. *Journal of Communication* 23, 4 (1973), 409–425.
4. William B Stiles. 1987. I have to talk to somebody. In *Self-disclosure*. Springer, 257–282.