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How Technological Affordances Predict Political Expression via Quora: Mediated by Risk Appraisal and Moderated by Social Motivation

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Abstract

Drawing upon social exchange theories, the present study examines how technological affordances predicted individuals' expectation for social sanction, and how their social motivation moderated the relationship between expected social sanction and their usage of political expression strategies. Results of an online survey of Quora users (N = 420) show that network association and anonymity predicted expected social sanction positively, which motivated individuals to use four strategies to express their political opinion strategically: self-censorship, adjusting expression, access control, and faking. Furthermore, these mediations except access control were consistently stronger when individuals exhibited higher levels of social motivation. This study provides additional evidence on the risk-appraisal approach to understanding political expression online and suggests that user motivation may play an important role in their political expression.

Keywords: political expression online; risk; technological affordances; user motivation; expression strategies

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Introduction

As of 2021, the number of smartphone users in the U.S. was estimated to reach 298 million (O'Dea, 2021). As Internet-based technologies become accessible, political discussions through online forums and social networking sites (SNSs) are increasingly prevalent. For instance, nearly one third of SNS users often or sometimes commented or posted political content on these platforms (Duggan & Smith, 2016). However, many Americans had negative experiences of online political discussion. In 2016, 37% of Americans reported that they were worn out by political discussions online (Duggan & Smith, 2016), and this number increased to 55% in 2020 (Anderson & Auxier, 2020). Around half of SNS users in the U.S. thought online political discussions were less respectful (53%), less civil (49%) and angrier (49%) than discussions in other venues (Duggan & Smith, 2016). Additionally, 59% of SNS users in the U.S. described their experiences of online political discussions stressful and frustrating (Anderson & Auxier, 2020). These negative experiences suggest that engaging in political discussions online may involve heightened levels of social risks.

Previous research has revealed that technological affordances could affect whether and how individuals express their political opinion online (Chen, 2018; Fox & Holt, 2018; Halpern & Gibbs, 2013; Neubaum, 2021). In addition to simply presenting the relationship between technological affordances and online political expression (Fox &

Holt, 2018; Halpern & Gibbs, 2013), research also started to explain the mechanism of this relationship (Chen, 2018; Neubaum, 2021). Specifically, Neubaum (2021) demonstrates that perceived persistence of online messages shaped individuals' appraisal of costs and benefits, which then predicted their likelihood of expressing their political opinion on SNSs. In other words, Neubaum (2021) offered an approach of cost appraisals to online political expression. By integrating social exchange theories (Kim, 2016; Stafford, 2014) and the extant scholarship on computer-mediated communication (e.g., Culnan & Markus, 1987; Lim et al., 2013; Postmes et al., 2002), the present study aims to extend Neubaum's work (2021) to other technological affordances and offer additional evidence on the role that individual appraisal of social risks plays in the relationship between technological affordances and political expression online.

In addition, previous research demonstrated a linear relationship between cost-benefit evaluation and political expression such that costs are negatively related to political expression, but benefits are positively related to political expression (Lane et al., 2019; Neubaum, 2021; Neubaum & Krämer, 2018; Rui et al., 2020). However, the expectancy-value theory suggests that individuals may be less motivated to avoid potential sanction if they dismiss the importance of these costs (Eccles et al., 1983; Wigfield & Eccles, 2000). Individuals engage in online political discussion not only to fulfill their needs for self-expression but also for socialization (Lane et al., 2019; Wu & Atkin, 2017). Therefore, we argued that social motivation might moderate the relationship between expected social sanction and political expression online such that social motivation might lower this relationship. By testing the possible moderation effect of social motivation on the relationship between expected social sanction and online political expression strategies, the present study seeks to extend social exchange theories by showing that the link between cost/benefit appraisals and behaviors may not be a linear relationship but contingent on other variables. Additionally, this study aims to demonstrate the potentially important role that user motivation plays in online political expression.

Technological Affordances and Political Expression

Defining Technological Affordances

Affordance was originally conceptualized by Gibson (1979) as actions made possible in the environment. Norman (1988) extended affordance to the field of human-computer interaction, so he defined affordance from the perspective of technological characteristics and designs. Specifically, according to Norman (1988), affordance refers to the attributes of an object that enable individuals to perform certain actions. In other words, Norman (1988) suggested that technological features *determine* what individuals can do. However, other research challenged this deterministic view and argued that affordance is a product of the interaction between users and technologies (Gaver, 1991). For example, individuals may be cultivated by certain technology and adapt to its design, but they may also create new ways of usage based on their needs and contexts. Therefore, affordances are not determined by technological features but *constructed* through human activities (Gaver, 1991).

More recent work integrated both perspectives and defined affordances as a product of technological features and user behavior (Faraj & Azad, 2012; Leonardi & Barley, 2008; Majchrzak et al., 2013). For instance, Majchrzak et al. (2013) conceptualized affordances as "the mutuality of actor intentions and technology capabilities that provide the potential for a particular action" (p. 39). This perspective, which underscores the combined effects of technological features and users on potential action, suggests that technological affordance has variability because of objective technological features as well as user intentions and actions. For example, Gibbs et al. (2013) found that the degree of visibility of Skype chat was often manipulated in organizational settings for boundary management. This finding shows that even the same technology can exhibit different technological affordances because user activities can redefine its function. Therefore, technological affordances can be defined as *perceptions* about what technologies enable users to do (DeVito et al., 2017; Evans et al., 2017; Fox & Holt, 2018).

The present study focuses on two technological affordances: network association and anonymity. *Network association* is conceptualized as the extent to which one's online network overlaps their offline network, whereas *anonymity* refers to the extent to which individuals perceive they can communicate online without showing their true identity (Fox & Holt, 2018). As we conceptualize technological affordances as human perceptions of technologies (DeVito et al., 2017; Evans et al., 2017; Fox & Holt, 2018), there could be within-subject variances in network association and anonymity even if we focus on one technological platform.

The Effect of Technological Affordances on Political Expression Online

Prior research provided empirical evidence showing the impact of technological affordances on online political expression (Chen, 2018; Fox & Holt, 2018; Halpern & Gibbs, 2013; Neubaum, 2021). For example, Halpern and Gibbs (2013) content analyzed the comments on Facebook and YouTube, and found significant differences in message politeness, level of argumentation, and equality of participation between these two platforms. However, their investigation did not explain how specific technological affordances of Facebook and YouTube contributed to these message features. Fox and Holt (2018) found that while the degree of overlap between on- and offline networks lowered one's willingness to engage in self-censorship, perceived anonymity and persistence of messages made individuals more likely to refrain from expressing their political opinion. However, their investigation did not explain the mechanism by which these technological affordances affect self-censorship.

Other research has made scholarly efforts to explain the process by which technological affordances affect political expression online. For example, Chen (2018) found that the level of public visibility of one's SNS profile moderated the relationship between fear of isolation and willingness to self-censor, which then affected their expressive and withdrawal behaviors. This might be because publicly visible SNS profiles enhanced the level of social risks derived from expressing political opinion. Thus, Chen (2018) suggests that technological affordances might shape individuals' *risk appraisals* of engaging in political discussions online, which subsequently affect their expression decisions.

Additionally, Neubaum (2021) revealed that perceived message persistence predicted perceived costs and benefits of political expression, which then affected their likelihood of expression. This conclusion aligns with Chen (2018) and offered direct evidence on the impact of risk appraisals on political expression, which can be explained by social exchange theories (Kim, 2016; Stafford, 2014).

Appraising Social Risks of Political Expression

Social exchange theories assume that individuals are motivated to maximize benefits and minimize costs (Kim, 2016; Stafford, 2014). People are more driven to engage in the behaviors that cause more benefits than costs. Conversely, they are more likely to avoid the given act to minimize possible costs (Kim, 2016; Stafford, 2014).

Central to the social exchange theories is that human behavior is guided by cost-benefit appraisal. This argument aligns with the basic logic of the spiral of silence theory, which was widely used to explain how individuals make decisions about expressing their political opinion (Noelle-Neumann, 1974). According to Noelle-Neumann (1974), individuals choose not to reveal their opinion because they are afraid of being isolated if they disclose their true opinion directly. Hence, political expression is driven by the motivation to avoid social sanctions (Noelle-Neumann & Petersen, 2004). When individuals feel that their opinion is different from the political climate, their fear of isolation—as a type of aversion to social risks¹—can elevate, which motivates them to refrain from disclosing their political opinion (Neuwirth et al., 2007; Noelle-Neumann, 1993; Wu & Atkin, 2018). Conversely, when individuals feel that their opinion is consistent with the majority, they may not be concerned about social isolation and thereby tend to express their true opinion directly.

Additional research extended the spiral of silence theory by showing that other forms of risks can also inhibit political expression (Liu et al., 2017; Mosher, 1989; Rui et al., 2020; Yun & Park, 2011). For example, individuals can be reluctant to express their true opinion if the topic is morally loaded and controversial because they are afraid of being morally judged (Mosher, 1989). Personal attack is another type of risks that individuals are driven to avoid through self-censorship (Yun & Park, 2011). Finally, self-presentational concern can inhibit direct expression of true opinion because individuals can be concerned about their public image if they express their political stance publicly online (Liu et al., 2017; Rui et al., 2020).

Taken together, the spiral of silence theory essentially argues that cost/risk appraisal of political expression influences whether and how individuals disclose their political opinion. Indeed, Neubaum and Krämer (2018) proposed that expected social sanctions should inhibit disclosure of political opinion and conceptualized this construct as expectations of three forms of social risks: social isolation, negative judgment, and personal attacks. Neubaum (2021) argued that disclosing political opinion involves four types of costs (i.e., negative judgment, relationship dissolution, personal attack, and time investment with zero effect) and five types of benefits (i.e., persuasion/mobilization, corrective action, self-presentation, civic contribution, and relational maintenance). He further found that message persistence increased the level of expected social sanction and decreased perceived

benefits, which affected whether and how individuals disclosed their political opinion (Neubaum, 2021). Likewise, Lane et al. (2019) showed that political self-presentation as a form of disclosure benefit drove individuals to express their political opinion.

In addition, although the spiral of silence theory focuses exclusively on self-censorship as a strategy that minimizes social isolation (Noelle-Neumann, 1974), subsequent research found that additional expression strategies were employed to avoid social sanction (Hayes, 2007; Neubaum, 2021; Neubaum & Krämer, 2018; Rui et al., 2020). These strategies include pretending to agree, expressing ambivalence, and blocking certain individuals from viewing their opinion (Hayes, 2007; Neubaum, 2019; Neubaum & Krämer, 2018; Rui et al., 2020).

The central argument of the present research is that technological affordances could affect political expression strategies online because one's perceptions of these affordances might shape how they evaluate the social risks of expressions. As mentioned earlier, this study focuses on two technological affordances: network association and anonymity.

Network association indicates how much on- and offline networks overlap (Fox & Holt, 2018). For individuals perceiving high levels of network association, what they disclose online can have an impact on their life offline because their contacts can easily link their online expression with their real-life identity (Lim et al., 2013). Moreover, social contacts that are kept in one's on- and offline networks simultaneously are more relevant to their life. This enhanced level of relevance can heighten one's extent of expected social sanction (Neubaum & Krämer, 2018). Thus, individuals perceiving high levels of network association may be more careful of their political expression online because of the enhanced level of potential social sanction.

In addition, perceived anonymity can increase the chance of conflicts and flaming (Cho & Kwon, 2015; Yun & Park, 2011). The social identity model of deindividuation effect posits that anonymous individuals tend to develop strong in-group identities, thereby making them more motivated to reject different opinions as those persons can be perceived as out-group members (Postmes et al., 2002). Additionally, the cues-filtered-out model maintains that anonymity can render people less accountable, making them less bound by social norms and thereby encouraging flaming (Culnan & Markus, 1987; Halpern & Gibbs, 2013; Kiesler et al., 1984; Yun & Park, 2011). Hence, anonymity can enhance the level of expected social sanction. Taken together, network association and anonymity should both predict expected social sanction positively, which should motivate individuals to employ strategies when engaging in political discussions online. Thus, expected social sanction should mediate the relationship between two technological affordances and individuals' usage of political expression strategies.

H1: Network association predicts expected social sanction positively, which predicts usage of political expression strategies.

H2: Anonymity predicts expected social sanction positively, which predicts usage of political expression strategies.

Extending the Social Exchange Perspective With User Motivation

Individuals may engage in strategic political expression to avoid social sanction, but they may be less motivated to do so if they dismiss the value of maintaining social relations. Hence, the extent to which we value social relations may moderate the relationship between expected social sanction and usage of political expression strategies.

Although direct evidence is lacking, the extant scholarship provided indirect support to our prediction. Particularly, the expectancy-value theory posits that whether individuals are motivated to engage in certain behavior depends on one's expectancy for success and perceived value of the behavior (Eccles et al., 1983; Wigfield & Eccles, 2000). Empirical research found that perceived value of the target behavior moderated the effect of expectancy for success on one's motivation to engage in the given behavior (Putwain et al., 2019; Trautwein et al., 2012). For example, Trautwein et al. (2012) revealed that expectancy for success motivated educational activities more strongly for students perceiving these activities as more important. Similarly, Putwain et al. (2019) demonstrated that perceived importance of studying moderated the relationship between expectancy for success and student engagement in learning such that this relationship was stronger when perceived importance of studying was high. Therefore, individuals' expectation for success may only translate into certain behavior if they think the behavior is valuable.

Similarly, one's expected social sanction may only motivate protective behaviors if individuals recognize the value of these behavior. Political discussions often happen along with daily interactions (Hayes, 2007). Thus, in addition

to exchanging political opinion and gaining political knowledge, a major motivation for engaging in political discussions is socialization, more specifically, to establish, maintain, and develop social connections. This social motivation also applies when individuals engage in political discussions online. Indeed, Wu and Atkin (2017) found that making political comments online is driven by users' social motivation. Therefore, online, individuals exhibiting high levels of social motivation should value strategic political expression more because these strategic acts can lower their chance of social sanction. Hence, for individuals exhibiting high levels of social motivation, they should be more concerned about potential social sanction. Consequently, when they expect social sanctions, they should be more driven to engage in strategic political expression online to avoid these social risks, compared to those exhibiting low levels of social sanction.

H3: Individuals' social motivation moderates the relationship between expected social sanction and usage of political expression strategies such that their relationship is stronger when individuals exhibit high levels of social motivation compared to low levels.

Taken together, we propose a moderated mediation model. Network association and anonymity might both enhance expected social sanction, which interacts with one's social motivation to predict their usage of political expression strategies online. Based on our explanations above, we propose following hypotheses.

H4: The mediation between network association and usage of political expression strategies online through expected social sanction is stronger at high levels of social motivation compared to low levels.

H5: The mediation between anonymity and usage of political expression strategies online through expected social sanction is stronger at high levels of social motivation compared to low levels.

Methods

Sample

We tested our hypotheses with a sample of Quora users. Quora is an online question-and-answer forum with social networking functions. Registered users can choose whether to use their real name when they ask and answer questions, write blogs, and share their posts (Guertin, 2015; Quora, 2018). Moreover, users can follow the contacts and topics of their interest (Guertin, 2015). Thus, in addition to information acquisition and sharing, individuals may also be motivated to use Quora for socialization, including establishing new ties and maintaining existing ties. Given these motivations, Quora provides an appropriate context for our hypotheses testing.

Data were collected from a convenience sample of Quora users through Qualtrics. Participants must be at least 18 years old and a current user of Quora when completing the survey. Potential participants from the respondent pool that Qualtrics maintains received an invitation to the survey link. After reading the informed consent sheet, respondents could choose whether to proceed to the questions. Those indicating their agreement to participate received monetary compensation from Qualtrics when they finished completing the survey. A total of 420 complete responses were received. There were more female participants (61.9%) than male (38.1%), with an average age of 34.44 years old ($SD = 11.35$). Over half of the participants were White (57.4%), followed by African American (24.8%), Hispanics/Latinos (8.8%), mixed race (3.1%), Asian or Pacific Islanders (2.9%), other (1.9%), and Native American (1.2%). More Democrats participated in our study (40%), compared to Independent (28.3%), Republicans (25.5%), and other (6.2%). A quarter of our participants reported their household income of \$50,000–\$74,999 (25.0%), followed by over \$75,000 (23.8%), less than \$20,000 (15.7%), \$35,000–\$49,999 (15.0%), \$25,000–\$34,999 (13.6%), and \$20,001–\$24,999 (6.9%). Almost equal number of participants reported to have received some college education (22.9%), finished high school (22.6%), and hold the bachelor's degree (22.4%), followed by master's degree (10.5%), associate degree (9.8%), trade/technical/vocational training (4.0%), not finishing high school (3.6%), professional degree (2.4%), and doctorate degree (1.9%).

Measures

All variables except demographics were measured on 7-point Likert scales (1 = *strongly disagree*, 7 = *strongly agree*). Latent variables were compiled by calculating the mean of items that were used to measure them. Following previous research which argued that individuals may employ multiple strategies of political expression (Hayes, 2007; Neubaum & Krämer, 2018; Rui et al., 2020), the present study tested four strategies of political expression

via Quora: (1) *self-censorship; Sometimes I choose not to share my true opinion on Quora, even if I feel like talking about it* ($M = 4.54, SD = 1.85$), (2) *adjusting expression; Sometimes I adjust certain wording of my political posts on Quora* ($M = 4.69, SD = 1.72$), (3) *access control; Sometimes I restrict certain Quora contacts' access to my political posts before sharing* ($M = 4.71, SD = 1.74$), and (4) *faking; Sometimes I post something that is not my true opinion on Quora* ($M = 3.94, SD = 2.00$). Given the differences between these expression strategies, we tested them separately, although they can be compiled to form a new variable (Cronbach's $\alpha = .77$).

The 13-item Likert scale of expected social sanction (Neubaum & Krämer, 2018), which measured the extent to which individuals felt they might lose socially if they expressed their political opinion, was adapted to measure *expected social sanction*. This scale includes three types of social sanction: social isolation, personal attacks, and negative judgment (Neubaum & Krämer, 2018). Sample items include, *If my Quora contacts think negatively of me based on my political posts on Quora, I could be rejected/lose face/verbally attacked* (Cronbach's $\alpha = .95, M = 4.67, SD = 1.37$).

Technological affordances were measured by using the scale by Fox and McEwan (2017) that assesses social affordances of communication technologies. *Network association* was measured with three items, including *My social network on Quora overlaps my offline social network; I can interact with my real-life contacts on Quora*, and *Quora enables me to keep in touch with my real-life friends* (Cronbach's $\alpha = .85, M = 4.46, SD = 1.67$). *Anonymity* was measured with five items such as *Quora can mask my true identity when communicating* (Cronbach's $\alpha = .85, M = 5.04, SD = 1.27$).

The scale by Alhabash and Ma (2017), which measures the motivation of social media usage, was adapted to assess *users' social motivation*. Specifically, we adapted three items from the scale, *I use Quora to stay in touch with my friends in real life; I use Quora to provide updates on my current life to friends*, and *I use Quora to connect with people who share some of my values* (Cronbach's $\alpha = .84, M = 4.61, SD = 1.68$). Table 1 shows results of descriptive statistics and bivariate correlations between these variables.

Table 1. Descriptive Statistics and Zero-Order Correlations; Means (Standard Deviations) Presented Along the Diagonal.

	1	2	3	4	5	6	7	8
Network association	4.46 (1.67)							
Anonymity	.50***	5.04 (1.27)						
Social motivation	.78***	.46***	4.61 (1.68)					
Expected social sanction	.55***	.50***	.59***	4.67 (1.37)				
Self-censorship	.40***	.39***	.48***	.57***	4.54 (1.85)			
Adjust expression	.38***	.33***	.42***	.57***	.52***	4.69 (1.72)		
Access control	.40***	.38***	.42***	.58***	.46***	.55***	4.71 (1.74)	
Faking	.39***	.14**	.48***	.47***	.44***	.52***	.34***	3.94 (2.00)

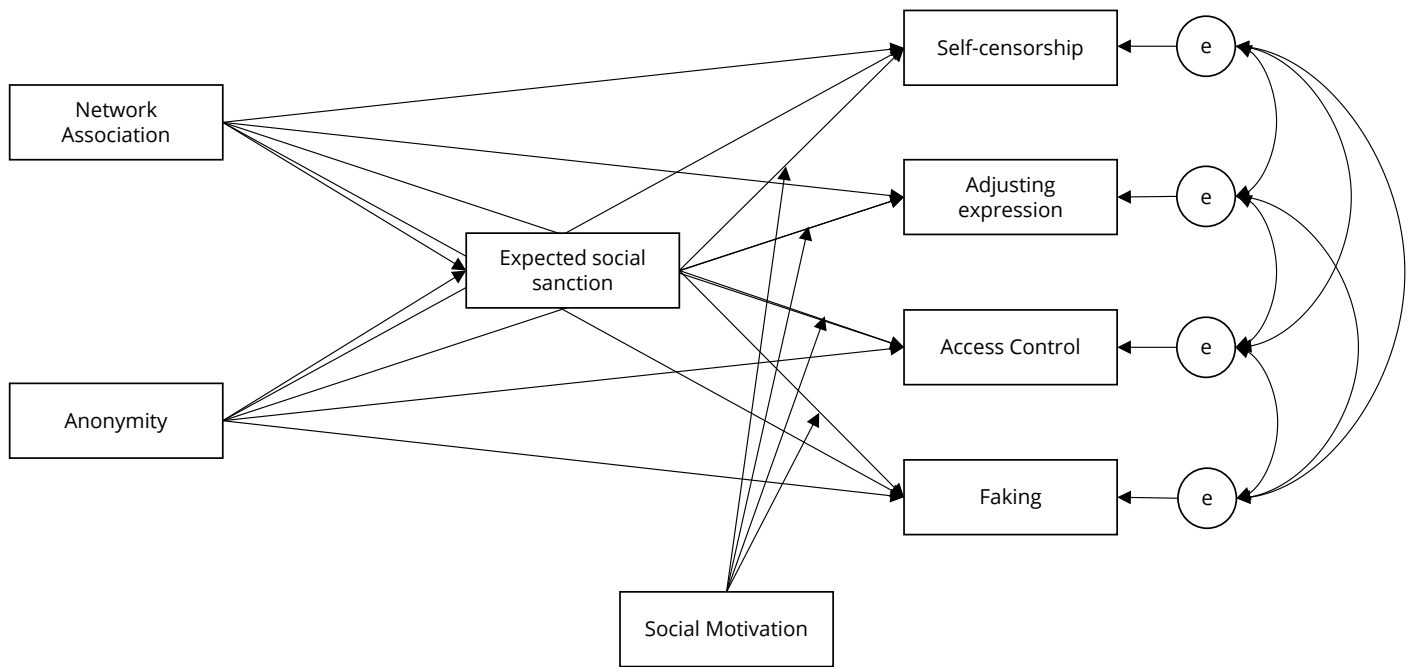
Note. *** $p < .001$, ** $p < .01$.

Statistical Analysis

Given the correlations between the four political expression strategies (Table 1), we tested our hypotheses by using the Lavaan package through R. Figure 1 shows the model that we tested. Expected social sanction, social motivation, and their product were standardized to lower the chance of multicollinearity. Simple effect tests were conducted if significant moderation effects emerged by comparing the effect of expected social sanction on self-censorship, adjusting expression, access control, and faking respectively, at the high (1 standard deviation above mean) and low (1 standard deviation below mean) levels of social motivation. 95% confidence interval (CI) was computed to indicate the effect and significance of the proposed moderated mediation relationships. The model was tested through bootstrapping with 5,000 resamples.

We compared expected social sanction and four strategies of political expression between different demographic groups, including biological sex, ethnicity (0 = non-white, 1 = white) and party affiliation (0 = non-Democrats, 1 = Democrats) through multivariate analysis of variance. Additionally, bivariate correlation was tested to examine whether the mediator and the four dependent variables were correlated with age, education ($M = 6.25, SD = 2.07$), and income ($M = 3.98, SD = 1.74$). Most results were not significant, so these variables were excluded from further analysis.

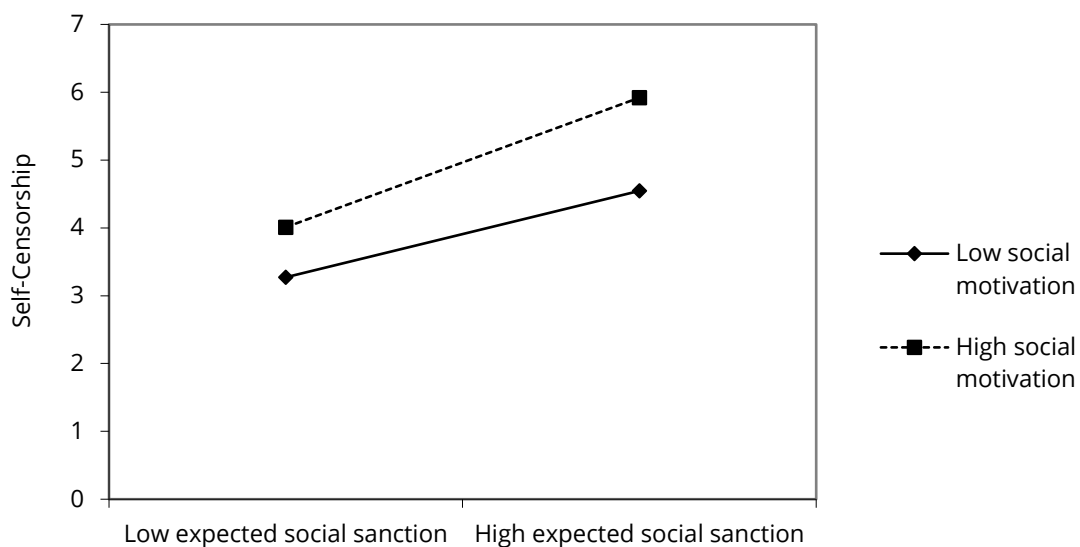
Figure 1. Regressing Political Expression Strategies on Network Association and Anonymity via Expected Social Sanction, Moderated by the Social Motivation.



Results

Table 2 presents results about the proposed moderated mediation model. Network association and anonymity exhibited positive relationships with expected social sanction (network association: $\beta = .39, p < .001$; anonymity: $\beta = .32, p < .001$). Expected social sanction positively predicted self-censorship ($\beta = .46, p < .001$), adjusting expression ($\beta = .51, p < .001$), access control ($\beta = .50, p < .001$), and faking ($\beta = .38, p < .001$). Moreover, social motivation exhibited a positive relationship with all four expression strategies except access control (self-censorship: $\beta = .30, p < .001$; adjusting expression: $\beta = .17, p = .024$; access control: $\beta = .10, p = .255$; faking: $\beta = .43, p < .001$). In addition, the direct effect of network association on the four political expression strategies were not significant. Anonymity did not predict any strategy except faking ($\beta = -.25, p < .001$).

Figure 2. Social Motivation Moderated the Relationship Between Expected Social Sanction and Self-Censorship.



Furthermore, social motivation moderated the effect of expected social sanction on self-censorship ($\beta = .10, p = .026$, Figure 2), adjusting expression ($\beta = .12, p = .003$, Figure 3), and faking ($\beta = .22, p < .001$, Figure 4). Specifically, at a high level of social motivation, expected social sanction exhibited a stronger effect on self-censorship ($\beta = .54, p < .001$), adjusting expression ($\beta = .61, p < .001$), and faking ($\beta = .56, p < .001$), compared to a

low level of social motivation (*self-censorship*: $\beta = .38, p < .001$; *adjusting expression*: $\beta = .41, p < .001$; *faking*: $\beta = .21, p = .001$). The relationship between expected social sanction and *access control* was close at a high ($\beta = .52, p < .001$) and low level of social motivation ($\beta = .48, p < .001$), making the moderation effect of social motivation on the relationship between expected social sanction and access control not significant ($p = .620$).

Figure 3. Social Motivation Moderated the Relationship Between Expected Social Sanction and Adjusting Expression.

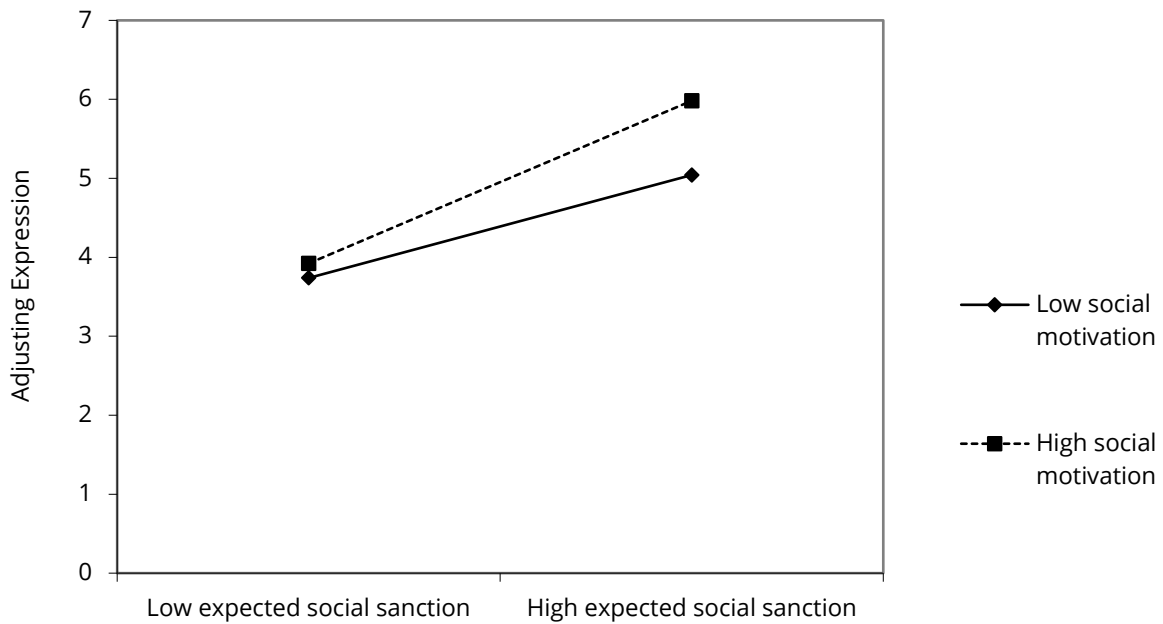
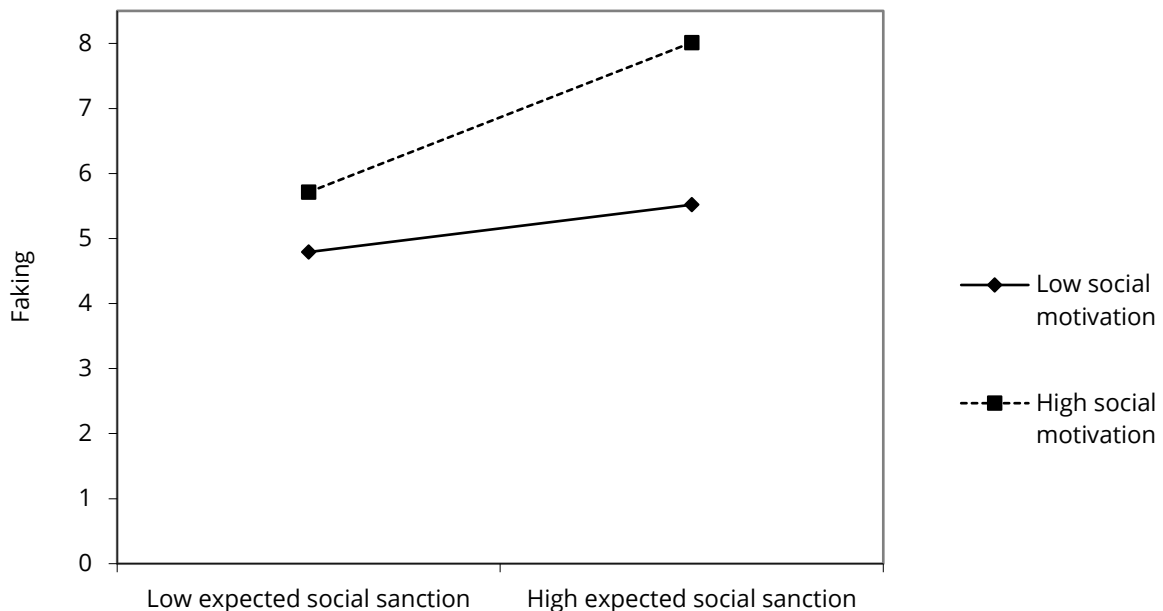


Figure 4. Social Motivation Moderated the Relationship Between Expected Social Sanction and Faking.



The proposed moderated mediation relationship between network association and political expression strategies was significant for self-censorship ($\beta = .04, p = .040, 95\% \text{ CI } [.004, .07]$), adjusting expression ($\beta = .05, p = .009, 95\% \text{ CI } [.01, .08]$), and faking ($\beta = .09, p < .001, 95\% \text{ CI } [.05, .13]$). Specifically, at a high level of social motivation, the mediation between network association and the three expression strategies via expected social sanction was consistently stronger (self-censorship: $\beta = .21, p < .001, 95\% \text{ CI } [.14, .29]$; adjusting expression: $\beta = .24, p < .001, 95\% \text{ CI } [.16, .30]$; faking: $\beta = .22, p < .001, 95\% \text{ CI } [.17, .33]$), compared to a low level of social motivation (self-censorship: $\beta = .15, p < .001, 95\% \text{ CI } [.09, .21]$; adjusting expression: $\beta = .16, p < .001, 95\% \text{ CI } [.09, .21]$; faking: $\beta = .08, p < .003, 95\% \text{ CI } [.04, .16]$).

As mentioned before, social motivation did not moderate the effect of expected social sanction on access control. Therefore, the mediation between network association and access control via expected social sanction was similar across high ($\beta = .20, p < .001, 95\% \text{ CI } [.12, .28]$) and low levels of the social motivation ($\beta = .19, p < .001, 95\% \text{ CI } [.12, .25]$) and thereby was not significant ($p = .625$).

Similarly, the mediations between anonymity and the aforementioned three expression strategies through expected social sanction were significantly moderated by the social motivation (self-censorship: $\beta = .03, p = .036, 95\% \text{ CI } [.01, .08]$; adjusting expression: $\beta = .04, p = .004, 95\% \text{ CI } [.02, .08]$; faking: $\beta = .07, p < .001, 95\% \text{ CI } [.05, .15]$). Specifically, at a high level of social motivation, the mediation between anonymity and the three expression strategies via expected social sanction was consistently stronger (self-censorship: $\beta = .17, p < .001, 95\% \text{ CI } [.13, .35]$; adjusting expression: $\beta = .19, p < .001, 95\% \text{ CI } [.16, .34]$; faking: $\beta = .18, p < .001, 95\% \text{ CI } [.17, .38]$), compared to a low level of social motivation (self-censorship: $\beta = .12, p < .001, 95\% \text{ CI } [.09, .26]$; adjusting expression: $\beta = .13, p < .001, 95\% \text{ CI } [.090, .26]$; faking: $\beta = .07, p = .004, 95\% \text{ CI } [.04, .19]$). Again, the mediation between anonymity and access control via expected social sanction was similar across high ($\beta = .15, p < .001, 95\% \text{ CI } [.12, .31]$) and low levels of the social motivation ($\beta = .16, p < .001, 95\% \text{ CI } [.13, .34]$) and thereby was not significant ($p = .627$).

Table 2. Results of the Moderated Mediation Model.

	Expected social sanction (mediator)		Self-censorship(DV)		Adjusting expression (DV)		Access control (DV)		Faking (DV)	
	β	p	β	p	β	p	β	p	β	p
Network association (IV)	.39	< .001	-.13	.085	-.06	.398	-.01	.947	-.07	.298
Anonymity (IV)	.32	< .001	.09	.163	.03	.670	.09	.157	-.25	< .001
Expected social sanction (mediator)	—	—	.46	< .001	.51	< .001	.50	< .001	.38	< .001
Social motivation (moderator)	—	—	.30	< .001	.17*	.022	.10	.255	.43	< .001
Interaction, social sanction * motivation	—	—	.10*	.026	.12**	.003	.03	.620	.22	< .001
R^2	.37	< .001	.31	< .001	.29	< .001	.31	< .001	.33	< .001

Note. IV = independent variable, DV = dependent variable.

Taken together, H1 and H2 received full support, as the links between two technological affordances and expected social sanction as well as the links between expected social sanction and the four strategies of political expression online were all supported. Moreover, the indirect effect between the two technological affordances and the four expression strategies were all significant across the high and low levels of social motivation, since none of the 95% CIs included zero. However, H3, H4, and H5 received support for all strategies except access control. The proposed moderated mediation was confirmed for self-censorship, adjusting expression, and faking.

Discussion

Internet-based technologies such as SNSs and online forums have become a major platform for political discussions, but many Americans' experiences with online political discussions were negative. The present study extends prior research (Chen, 2018; Fox & Holt, 2018; Halpern & Gibbs, 2013; Neubaum, 2021) by explaining the mechanism by which technological affordances may influence strategies of political expression online. Specifically, our investigation underscores the key role that appraisal of social risks plays in this process. In addition, users' social motivation affected the effect of this social risk appraisal on how they disclose their political opinion, specifically self-censorship, adjusting expression, and faking. The mediation between network association/anonymity and expression strategies through expected social sanction was consistently stronger at a high level of the social motivation compared to a low level. These findings suggest that risk appraisal is an important approach to understanding whether and how individuals express their political opinion online. While technological affordances could shape their evaluation of social risks, users' social motivation could affect the consequences of this evaluation. Thus, online political expression is a product of technological and social factors.

Major Findings and Theoretical Implications

The first key finding of the present study is that expected social sanction mediated the relationship between two technological affordances and four strategies of political expression online. Our research shows that network

association and anonymity did not affect most strategies of political expression on Quora directly but influenced them indirectly through expected social sanction. As a result of the link between on- and offline networks, individuals perceiving high levels of network association may be more concerned that their political expression online can be recognized by their offline contacts and thereby affect their real life (Lim et al., 2013). Thus, network association can heighten individuals' perceived risks of disclosing political opinion online, and consequently drives them to employ more strategies in online political expression. Similarly, anonymity can increase the chance of flaming, which a wide spectrum of research has confirmed (Culnan & Markus, 1987; Kiesler et al., 1984; Yun & Park, 2011). Therefore, individuals perceiving higher levels of anonymity are more concerned about potential social risks of online political expression, which makes them more strategic when disclosing their opinion online.

It is interesting to note that anonymity exhibited a positive indirect effect on faking through expected social sanction but their direct effect was negative. On the one hand, previous research shows that anonymity reduced one's pressure of impression management, thereby encouraging individuals to express their true opinion directly (Joinson, 2001; McKenna & Bargh, 2000; Spears & Lee, 1994). This explains the negative direct relationship between anonymity and faking. In other words, anonymity could provide protection for individuals who want to express their true opinion. Therefore, anonymity was a benefit for people who want to disclose their true political opinion directly. On the other hand, as anonymity makes it more challenging to recognize others' identity, the chance of being attacked *by others* also increases because the perpetrator knows that their likelihood to be identified and penalized is lowered (Culnan & Markus, 1987; Kiesler et al., 1984; Yun & Park, 2011). Being aware of the heightened chance of social risks, individuals could be driven to fake their political expression as a protective strategy. Therefore, anonymity can facilitate direct expressions of true political opinion, but when others' reactions are considered, this technological affordance can inhibit the same act by heightening one's perception of social sanction.

Furthermore, while the present investigation did not find the direct effects of network association and anonymity on strategies of political expression via *Quora*, Fox and Holt (2018) found that network association and anonymity directly affected the willingness to self-censor on *Facebook*. One possible explanation lies in the different natures of Facebook friendship versus Quora connections. Previous research shows that individuals can perceive social support from their Facebook contacts (Ellison et al., 2007). This perception of high levels of social support from Facebook friends may make them feel safer and thereby more comfortable to disclose their true political opinion on Facebook (Wu & Atkin, 2018). Additionally, communication on Facebook is characterized by high levels of network association and low levels of anonymity. Hence, individuals may be less likely to express their disagreement or criticism openly or directly targeted at their Facebook contacts. Therefore, Facebook users may expect a relatively low level of social sanction when they engage in political expression there. This could minimize the effect of technological affordances on expected social sanction among Facebook users.

By contrast, Quora connections are formed based on mutual interests or similar opinions (Kang et al., 2019). Although Quora users can extend their online relationships offline, they may not necessarily do so, simply because these connections of similar interests or opinions may not be geographically proximal. Thus, as communication multiplexity suggests (Haythornthwaite & Wellman, 1998), Quora friendship should be less strong compared to Facebook connections, which could lower one's expectation of receiving social support from Quora contacts. In addition, the relatively higher level of anonymity of communicating via Quora compared to Facebook might make our participants concerned about potential flaming from others. Hence, when Quora users engage in political expression, they may be more driven to appraise potential social sanction and rely on this evaluation to decide whether and how to disclose their political opinion. This suggests that perceived social support, or relational closeness with online contacts, may influence the relationship between technological affordances, expected social sanction, and online political expression.

As mentioned earlier, to the best of our knowledge, only Neubaum (2021) explicitly tested the mediation effect of cost appraisal on the relationship between technological affordances, specifically message persistence, and political expression online. Thus, the present study offered additional evidence on the risk-appraisal approach to understanding how technological affordances affect political expression. Moreover, these results also align with the spiral of silence theory, as the theory essentially conceptualizes self-censorship as an act that minimizes social costs (Noelle-Neumann, 1974). Specifically, the spiral of silence theory posits that individuals are refrained from expressing their political opinion when they think their opinion is inconsistent with the majority because people are afraid of social isolation (Noelle-Neumann, 1974). Thus, essentially, according to the spiral of silence theory, individuals' appraisal of social risks might be derived from fear of isolation and perceived opinion climate. The

current research hence offers empirical evidence on technological affordances as the additional factor that may shape social risk appraisal.

Furthermore, our result extended prior work on the effect of cost-benefit appraisals on political expression online (Lane et al., 2019; Neubaum, 2021; Neubaum & Krämer, 2018) by showing that the relationship between social risk appraisal and political expression online may not be linear. Instead, SNS users' social motivation moderated the effect of expected social sanction on self-censorship, adjusting expression, and faking. As explained earlier, users who are motivated for socialization may be more concerned about social sanction. Consequently, they might perceive strategic political expression more necessary, which made the effect of expected social sanction on strategic political expression stronger. Notably, the present investigation consistently shows that expected social sanction exhibited a positive relationship with strategic political expression online, and this positive effect is significant at both high and low levels of social motivation. Thus, these findings suggest that although individuals may be driven to engage in strategic political expression because of their aversion to social risks, this motivation may be stronger when they perceive these risks important. This extends social exchange theories (Kim, 2016; Stafford, 2014) by suggesting that the perceived value of costs and benefits may moderate the effect of cost-benefit appraisal.

Additionally, the present study used social motivation as an indicator of perceived value of social risks. Previous research has offered empirical evidence on the multiple motivations one may exhibit when engaging in political expression such as self-expression, self-presentation, information acquisition, and socialization (Lane et al., 2019; Wu & Atkin, 2017). Different motivations may have differential influences on one's appraisal of social risks. For instance, if individuals are highly motivated for seeking political information or expressing their political opinion to make sure it is heard, they may dismiss potential social risks. Conversely, if individuals exhibit a high level of self-presentation motivation, they may be more concerned about how they are perceived and hence may overestimate the severity of social risks. Therefore, this study presents a preliminary effort to understand the role that user motivation plays in political expression, which future research can further explore.

We did not find that the social motivation moderated the relationship between expected social sanction and access control. One possible explanation is that access control provides a low-cost, convenient strategy of boundary management. Many individuals employed this strategy in their online self-disclosure across different platforms, no matter whether they are motivated to establish, maintain, and develop social connections (Lewis & West, 2009; Reed, 2011). Hence, whether individuals decide to block certain contacts from viewing their online posts may not depend on their social motivation but their evaluation of social risks.

Finally, it is important to discuss the connections and differences between the model proposed in this study and the spiral of silence theory. As explained earlier, this study aligns with the spiral of silence theory in that both models suggest that aversion to social risks is an important predictor that affects political expression and thereby political expression is an act based on the results of risk appraisals. However, it is important to note that the spiral of silence theory was originally proposed to explain how public opinion forms (Noelle-Neumann, 1974). Specifically, Noelle-Neumann (1974) argued that when most people thinking their opinion is in the minority choose not to speak out, public opinion is leaning towards the perceived majority. More importantly, people's perception of opinion climate is constructed by media, according to the spiral of silence theory (Noelle-Neumann, 1974). This is perhaps why studies on spiral of silence tend to include variables such as media use and perceived opinion climate (Kim et al., 2014; Moy et al., 2001).

However, political expression via SNSs, the focus of the present study, blends mass communication and interpersonal communication (Neubaum & Krämer, 2017). While SNS users can disclose their political opinion by sharing a public post, they can also express their opinion during conversations with their SNS contacts. This change in the communication context may affect the effect of perceived opinion climate on political expression. For example, one meta-analysis study demonstrated that perceived opinion climate exhibited a significant but small effect on political expression, and this effect was moderated by the type of communication targets (Matthes et al., 2017). Therefore, in a communication environment like SNSs where communication targets are ambiguous, the effect of perceived opinion climate on political expression via SNSs can be limited (e.g., Rui et al., 2020).

We acknowledge that missing perceived opinion climate makes political opinion expression interpersonal and driven by avoiding conflicts. However, a wealth of research has shown that SNSs are primarily used to maintain and develop relationships (Burke et al., 2011; Ellison et al., 2007), so political expression is probably not the most predominant activity that people tend to engage in through these sites. Therefore, avoiding conflict, or in general

minimizing potential social risks, should be an important motivation for individuals expressing political opinion on SNSs.

Limitations and Future Directions

Several limitations of the present study warrant discussions. First, the non-probability sampling limits the internal and external validity of current findings. Second, because of the cross-sectional design of this study, cautions are required to make causal claims. Third, we only tested our hypotheses with Quora, which can limit the generalizability of our results. Retesting the moderated mediation model proposed in this study with another SNS is necessary.

Next, we used single-item measures of strategies of political expression online, which can be a threat to the internal validity of these measures. Besides developing more robust measures, these self-reported measures can also be improved through experiments and content analysis.

In addition, by highlighting the role that risk appraisal plays in online political expression, this study suggests that how to disclose political opinion is based on cognitive and deliberate calculations. However, research suggests that political expression can also be driven by emotion (Masullo et al., 2021). Particularly, when individuals feel strongly depressed or angry, they can dismiss perceived opinion climate and speak out their true opinion (Masullo et al., 2021). Thus, future research can examine how emotion predicts political expression especially the role that emotion plays in cost appraisal.

Moreover, research suggests that individuals may still express their opinion directly even if they are aware of the potential social risks because of strong emotion (Masullo et al., 2021) or firm belief (Scheufele & Moy, 2000). As we discussed our speculation earlier, user motivation such as political information seeking and self-expression may also inhibit the silencing effect. Future research can examine the boundaries of self-censorship and strategic ways of political opinion expression.

Furthermore, the present study examined the effects of network association and anonymity independently. However, technological affordances may exhibit combined effects on expected social sanction and political expression strategies. Thus, future research should test the interaction effects between different technological affordances.

Finally, this study did not consider variables such as trait fear of isolation, perceived opinion climate, and willingness to self-censor, which were widely used in the spiral of silence theory and could affect political expression (Chen, 2018; Hayes et al., 2005, 2013). These variables may exhibit independent effects on or interact with technological affordances to predict expected social sanction, which future research can test.

Conclusion

The present study examined how individuals express their political opinion online by evaluating the social sanction based on their perceptions of technological affordances and social motivation. Network association and anonymity heightened expected social sanction, which predicted using political expression strategies more strongly at a high level of social motivation compared to a low level. Thus, political expression can be a result of cost evaluation which technological affordances and user motivation jointly influence.

Footnotes

¹ We distinguished costs and risks, following the conceptualization by Dal and Nisbet (2020). They argued that costs refer to the expenditure committed to certain actions whereas risks refer to potential negative consequences derived from certain actions. In the present study, the definition and measurement of expected social sanction are closer to their conceptualization of risk.

Conflict of Interest

The authors have no conflicts of interest to declare.

Authors' Contribution

Jian Raymond Rui: project administration, formal analysis, writing-original draft. **Xi Cui:** conceptualization, methodology, writing-reviewing & editing.

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