

Conspiracy Theories and Institutional Trust: Examining the Role of Uncertainty Avoidance and Active Social Media Use

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A generalized climate of distrust in political institutions is not functional to healthy democracies. With the advent of social media, recent scholarly efforts attempt to better understand people's conspiracy theory beliefs in inhibiting institutional trust. This study contributes to this literature by considering the direct antecedent effects of uncertainty avoidance and the moderating role of active social media use—SMU (i.e., interactional SMU, informational SMU, and political expressive SMU). The former is theorized to enable conspiracy theories to thrive, while the latter should cushion the negative effects of conspiracy beliefs on institutional trust. Relying on diverse survey data across different cultures from Europe, the Americas, and New Zealand (N = 11,958) and applying structural equation modeling, findings supported the hypothesized model. In high uncertainty-avoidance societies, where less well-known situations are perceived as uncomfortable or downright threatening,

conspiracy beliefs proliferate and negatively impact institutional trust. Active SMU attenuates these effects. Via social media, citizens have the ability to strengthen social relationships (interactional SMU), keep themselves informed about the community (informational SMU), and engage in political self-expression (political expressive SMU), which mitigate conspiracy-belief negative effects on institutional trust. Future research implications and key limitations of the study are all discussed.

KEY WORDS: conspiracy beliefs, institutional trust, digital influence, social media use, cultural uncertainty avoidance

A significant body of literature argues for greater attention to the study of trust in political institutions (e.g., Fukuyama, 1995; Putnam, 2001). Numerous scholars have also found that low and sometimes decreasing levels of trust in many democratic institutions is becoming a widespread conundrum (e.g., Twenge, Campbell, & Carter, 2014). Building citizens' trust is fundamental to the development and the consolidation of democracy, and the erosion of Institutional Trust (IT) may endanger established democracies and the system of government. Detecting antecedents that may inhibit trust and identifying possible mechanisms to counteract these negative effects are increasingly becoming vital. This article seeks to contribute to this goal. Primarily, the current study focuses on a specific IT-reducing factor: the tendency to believe in conspiracy theories (e.g., Douglas, Sutton, & Cichocka, 2017). We examine how conspiracy beliefs (CBs), a mindset guiding attitudes and behavior, may contribute to corrosion of trust in specific democratic institutions. The link between CBs and trust is not novel in the social-psychological research, but trust is usually operationalized in this literature at the *interpersonal* level, as trust in people at large (Abalakina-Paap, Stephan, Craig, & Gregory, 1999). Because of a prevalent notion that CBs are trivial and inoffensive, research focusing on the consequences of CBs, and its role on reducing IT, has largely been scarce (see Jolley, Mari, & Douglas, 2020). CBs may feed into a climate of suspicion, which can destroy social capital, and contributes to a general climate of distrust to pervade society at large, negatively affecting public opinion's views on political and government institutions.

First, this article considered the effects of culture in a cross-country sample of 11 democracies and examined how a distrusting climate for democratic institutions promoted by CBs might hinge on cultural values. Specifically, we theorized cultures with high uncertainty avoidance (Hofstede, 2001), where less well-known situations are perceived as uncomfortable or downright threatening, may harbor higher endorsement of beliefs in conspiracy theories and a stronger link between conspiracy theories and IT. Second, the article aims to examine whether social media use (SMU) moderates the CBs-IT relationship. It is well recognized that the Internet and social media have been involved in the spread of CBs (Del Vicario et al., 2016). However, the role of Internet and social media should not be monolithically considered negative per se. Rather, with respect to SMU, motives driving Internet use represent significant individual differences (Gil de Zúñiga, Huber, & Strauß, 2018). For instance, three specific ways of using social media are important positive predictors of prodemocratic outcomes. As detailed later, interactional SMU explains social capital and informational and news gathering, along with politically expressive online behaviors associated with political participation (see Gil de Zúñiga, Molyneux, & Zheng, 2014; Yamamoto, Kushin, & Dalisay, 2015). We hypothesize that these forms of SMU, conceived as indicators of a general propensity towards *active* SMU (Yu, 2016), buffer the CBs effects on IT.

Understanding Institutional Trust

Trust is a multidimensional construct. However, a definitional consensus has not yet been reached (PytlikZillig & Kimbrough, 2016). McKnight and Chervany (2001), for instance, distinguished

trust according to its target. In dispositional trust, the direct target is people in general, while in institution-based trust—the focus in this study—the direct target is the environmental structure: political institutions.

Even though previous scholarship highlighted the gradual decrease in trust over time (Putnam, 2001), some authors have also debunked this decline as a myth. Indeed, some evidence shows that, at least in Europe, the level of political trust has been generally low, with some fluctuations over time due to prevalent political discourses not describing a stable decreasing trend (van de Walle, van Roosbroek, & Bouckaert, 2008). In any case, to establish a civil society, building *institutional* trust is viewed as essential, since it may promote collective participation in political, economic, and social institutions and foster community involvement (Fukuyama, 1995; Putnam, 2001). Higher levels of trust, additionally, may foster better provision of public services and encourage democratic practices of cooperation and compliance without relying on coercion. Institutional distrust, on the other hand, can hinder the success of policymaking, as showed also by the recent pandemic (Devine, Gaskell, Jennings, & Stoker, 2020).

Drawing from the literature describing trust as an expectation of goodwill or benign intent from the target of trust (Yamagishi & Yamagishi, 1994), Liu and colleagues (2018) developed the Global Trust Inventory, a reliable instrument capable of measuring trust both *within* and *across* cultures. Trust is conceptualized as a “system of meaning that encompasses both the sub-components of and an overall grasp of the risks of opening oneself up to a range of dependencies on others” (p. 790). In this interpretation, trust ranges from trust at the level of close interpersonal relationships up to trust in local, national, and international bodies. The authors also differentiated trust in government between representative (and thus partisan) institutions and order/implementation (impartial) institutions. Specifically, they developed a seven-factor model of trust, including—most relevant to the current study—three targets of trust in governing institutions: *trust in government*, referring to the representative/partisan governing bodies; *trust in order/implementation government bodies* (such as the judiciary and election outcomes); and *trust in security institutions* (police and military). In the current study, we will consider specifically trust in these institutions, since they cover a variety of authorities at the country-level important for the effective functioning of a democracy (see Rothstein & Stolle, 2008).

Some forms of trust are performance based, where citizens develop trust toward the institutions that are perceived as effective, based on the assessment of past accomplishments (van de Walle & Bouckaert, 2003). Askvik, Jamil, and Dhakal (2011) also described a social-identity-based form of trust, which refers to institutions that are perceived to represent the interests and values of a specific group in society. Other literature has focused on understanding the social, economic, and political circumstances that can explain the shifts in trust over time (e.g., PytlikZillig et al., 2017). Here, we argue that as IT is susceptible to individuals’ perception of sociopolitical climate: CBs endorsements may impact overall IT levels.

Conspiracy Beliefs

Conspiracy theories may be defined as the tendency to explain prominent political and societal events (e.g., the death of an eminent person) as due to a malevolent plot by hidden, powerful agents aimed at some goal through systematic deception (e.g., Douglas et al., 2017; Goertzel, 1994). In the social-psychology literature, CBs are generally measured through self-reported agreement with a list of specific conspiracies. Research, however, has shown that endorsing one conspiracy theory reinforces other conspiratorial ideas, enhancing the likelihood that one who believes in a specific conspiracy will also believe in other conspiracies (Goertzel, 1994; Lewandowsky, Oberauer, &

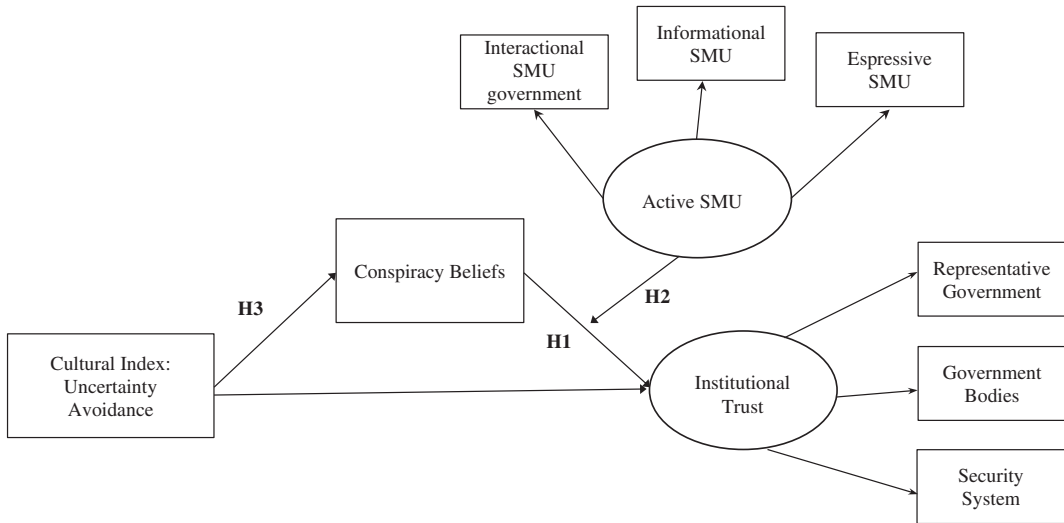


Figure 1. Summary of the main hypotheses.

Gignac, 2013), even despite the fact that these beliefs may contradict one another (Wood, Douglas, & Sutton, 2012).

Subscribing to conspiracy theories can impact people in many ways (Jolley et al., 2020 for a review). Along with research indicating some positive consequences of CBs, such as increase in openness to political debate and attention to contradictions (e.g., Clarke, 2002), research has also shown negative consequences of CBs, mainly linked to the political sphere (Ardèvol-Abreu, Gil de Zúñiga, & Gámez, 2020; Thórisdóttir, Mari, & Krouwel, 2020). For instance, suspicious climate that is generated by endorsing CBs can produce political disengagement (Lewandowsky et al., 2013), violent political reactions (Mari et al., 2017), and even lower people's intention to vote after exposure to a conspiracy theory about government (Jolley & Douglas, 2014). Conspiracy theories may, indeed, have insidious effects of which the individual may not be completely aware of (Douglas & Sutton, 2008).

Conspirational processes may be informative about the origins of trust and distrust towards target political institutions. Research shows that conspiracy ideation may be characterized by a general opposition to the mainstream, or distrust of society at large (Lewandowsky et al., 2013). Relevant theoretical work maintains that in such beliefs, antiauthoritarian ideation is predominant, focusing on challenging dominant societal power structures and providing counter-narratives to mainstream understandings of the world (Harambam & Aupers, 2015; Sapountzis & Condor, 2013). Bartlett and Miller (2010) asserted that, like populism more broadly, conspiracy theories serve to disrupt the trust between people and their governments. This empirical link has also been established by other experimental work. For instance, the presentation of a movie describing the moon landing as a governmental plot diminished trust in government officials (Kim & Cao, 2016). Not only that, exposure to conspiracies also augmented disillusionment with politicians and scientists (Jolley & Douglas, 2014). Thus, in line with these observations, we hypothesized that:

H1: The endorsement of general belief in conspiracy theories will be negatively associated to trust toward *specific* governmental institutions (see Figure 1 for theoretical model).

Conspiracy Theories and Institutional Trust in the Digital Era

Aupers (2012) argued that “conspiracy culture evolved over the last decades from a deviant, exotic phenomenon to a mainstream narrative that has spread through the media and is increasingly normalized, institutionalized and commercialized” (p. 24). The Internet and social media may enable minority ideas, like unverified rumors and conspiratorial ideas, to avoid being smothered by majority social pressure or being filtered by mainstream media. False information, developed for minority audiences, is particularly pervasive on social media, fostering collective credulity. Del Vicario and colleagues (2016) showed that online social media enables the aggregation of people around common interests, worldviews, and narratives, acting as echo chambers with potential deleterious effects on communities’ political polarization and trust. Thus, a deeper and balanced reflection on how new technologies may inform debate is necessary, going beyond enthusiastic rhetoric describing how the Internet and social media have contributed to interest in political debate (e.g., Bekkers, Beunders, Edwards, & Moody, 2011).

Against this general trend in the literature, this study argues that certain specific active forms of SMU, which tend to promote political engagement (Gil de Zúñiga et al., 2014), are able to cushion the detrimental effects of CBs on IT. Indeed, research considering social media an extension of everyday life has shown that SMU may bring citizens into contact with the political realm and foster a common sense of civic identity (Dahlgren, 2009). Interestingly, Yu (2016) distinguished between *passive* and *active* forms of SMU. The former refers to content consumption not involving direct interaction with others (e.g., reading posts), whereas active SMU involves content production (e.g., posting comments) that facilitate social interaction. Yu found that active SMU, conceived as self-expression, was a positive driver of political participation. Civic engagement is strictly connected to trust—both interpersonal and institutional—restoring a sense of community (Miranti & Evans, 2019) that helps satisfying basic needs, like social belonging and existential security need, sometimes eroded when subscribing to CBs (Douglas et al., 2017). Extending these observations, we hypothesized that active SMU forms might be beneficial in counteracting the negative effects of CBs, as contributing to the creation of social inclusion.

Here, we will focus on three specific types of active SMU as a possible buffer (i.e., moderator) of the CBs-IT link. Zeroing in on the motivational bases of active SMU, Correa and colleagues (2010) noted that people may approach the Internet and social media with different motivations, and these count for more than the affordances of technology alone. Some people may use them to simply stay in contact and interact with other individuals, thus contributing to creating a form of online social capital (*interactional motive*) (Ardèvol-Abreu, Diehl, & Gil de Zuniga, 2018). According to Lin (2008), the latter refers to the “resources embedded in one’s social networks, resources that can be accessed or mobilized through ties in the network” (p. 51), and is useful to achieve personal goals. Other people may want instead to use social media to actively stay informed about news and public affairs (Huber, Gil de Zúñiga, Diehl, & Liu, 2019), thus having the chance to be exposed to dissimilar political views and enriching openness of information (*informational motive*). The opportunity to receive such a large amount of information enhances the chance to be exposed to political information, which in turn may promote an *expressive motive* of SMU (Yamamoto et al., 2015). Online political expression, which serves identity motives, can take the form of forwarding e-mails and sharing or commenting on information about politics and current events (Gil de Zúñiga, Diehl, Huber, & Liu, 2019).

Consumption of public-affairs information is positively associated with higher trust, whereas consumption of information loosely available on social media is linked to lower trust levels (Ceron, 2015). Drawing from these observations, we reasoned that in the general population, those who are motivated to use the Internet and social media in an active way (i.e., for interactional, informational, or expressive purposes), might be more trusting in institutions. Thus, we hypothesized

the moderation effect of an overall Active SMU factor (see Figure 1) on the negative relationship between CBs and IT (H2):

H2: For people engaging more (vs. less) in active SMU, the adverse effect of conspiracy beliefs on IT might be then attenuated.

Indeed, the ability of people to build on relationships with others (interactional SMU), to keep themselves informed about their community (informational SMU), and to engage in political self-expression (expression SMU) might contribute to reducing the general suspicious atmosphere. The individual may perceive themselves as more included and supported by their community, thus contributing to less distrust towards authorities.

The Role of Culture: Uncertainty Avoidance

The theoretical SMU connections just described are generally conceived to fit people living in democratic societies where access to social media allows active and free involvement in political affairs (e.g., Loader & Mercea, 2011). However, some differences in the endorsement of CBs might be ascribed to culture, a factor still overlooked in CBs literature (see, e.g., Troian et al., 2020 for an exception). Hence, we also took into consideration the role of uncertainty avoidance (Hofstede, 2001) as a potential cultural source of CBs.

Hofstede's (2001) conceptualization of culture has attained prominence in cross-cultural research (Taras, Kirkman, & Steel, 2010). Among the six cultural value dimensions he proposed, uncertainty avoidance refers to "the extent to which the members of a culture feel threatened by uncertain or unknown situations" (Hofstede, 2001, p. 161; see also Hofstede, Hofstede, & Minkov, 2010). Cultures with high uncertainty avoidance tend to define a clear set of beliefs and rules that seek to prevent ambiguous situations, and they do not tolerate unconventional behaviors. At the other end of the spectrum, cultures with low uncertainty avoidance tend not to make efforts to eliminate uncertainty, since they positively value a flexible future and reflect a more relaxed attitude to normative situations (Smith, 1992).

It stands to reason that a cultural preference for reducing uncertainty is likely to encourage the endorsement of conspiracy theories, as this type of conspiratorial beliefs yield a nuanced way to deal with unclear situations. Belief in conspiracy theories may fulfill existential motives (Douglas et al., 2017), by managing uncertainty or anxiety over the external environment (Grzesiak-Feldman, 2013). After all, trusting an unknown interaction partner implies a willingness to accept vulnerability in dealing with such a target (Hetherington, 2005), therefore contributing to uncertainty acceptance. We expect that:

H3: A high level of uncertainty avoidance within a culture might exert a negative influence on IT, reducing it directly and indirectly, through the mediation of CBs.

All hypotheses presented are summarized in Figure 1.

Method

The present data collection is part of a wider international cross-cultural study, the Digital Influence Project, involving 22 countries from five continents. In the current study, we considered only the data of 11 democracies, described culturally as relatively homogenous including Western (European or Anglo countries) and Latin American societies, with all a Christian background.

Additionally, since the importance of considering cross-culturally valid measures, we selected those countries where the used measure of institutional trust was already proven to be cross-culturally valid (Liu, Milojevic, Gil de Zúñiga, & Zhang, 2018). We did not select the data from East Asian societies, as the trust structure does not equate to those of Western societies (Zhang et al., 2019). The selected items were translated from English into the country's language, when necessary, by a panel of participating scholars, who applied either the back translation (Behling & Law, 2000) or the committee approach (Brislin, 1980). Data collection was conducted in September 2015, by a professional polling company, Nielsen, which provided the online panels in all involved countries through Qualtrics (2014) software. In each country, a stratified quota sampling was employed. Gender, age, and geographic area were stratified such that sample demographics were representative for these variables (e.g., matched the official census statistics).

The final sample includes $N = 11,958$ (52.3% women, 2.1% missing values) participants, whose average age was $M = 43.76$, years $SD = 15.71$ (range 18–94 years). The represented 11 democracies were: Argentina, Brazil, Chile, Spain, Italy, Poland, Estonia, Germany, New Zealand, United Kingdom, and the United States. The demographics relative to each country are summarized in upper panel of Table 2.

Measures

From the Digital Influence Project, we selected the following self-report measures. Furthermore, we tested measurement invariance for the key concepts, including SMU and IT, which we claimed to be multidimensional. We employed the multigroup CFA (MGCFAs) approach with R packages Lavaan (Rosseel, 2012), semTools (semTools Contributors, 2016), and MPlus 7 (Muthén & Muthén, 1998–2012).

Conspiracy Beliefs

Drawing on previous research (Rose, 2017; Swami et al., 2016; see Ardèvol-Abreu et al., 2020), three items measure a general conspiratorial vision of the world: “When one looks at the bigger picture, it is easy to see that many seemingly unrelated events form part of a larger plan, orchestrated by powerful others acting in secrecy”; “Many significant world events have occurred as a result of a conspiracy”; “Despite what the authorities say, large business and/or government routinely engage in sinister, secret activities in the name of profit.” The items were pretested for comprehension and cross-cultural validity in a cross-cultural pilot study carried out within the Digital Influence Project. Participants answered on a 7-point agreement scale, ranging from 1 = *Completely disagree*, to 7 = *Completely agree*. Overall Cronbach's alpha was good (.81), ranging from .73 to .86 in country subsamples. We tested the three-item CBs scale for measurement invariance with MGCFAs; details are presented in Table 1 (upper panel). Full configural and metric invariances were reached. Although rejecting full scalar invariance, by introducing cultural-specific modifications, we were able to establish partial scalar invariance, which justifies mean comparisons (Fischer & Karl, 2019). These findings confirm the good cross-cultural properties of the scale.

Active Social Media Use

The items of active SMU were adapted from previous research (Gil de Zúñiga et al., 2014) and were introduced by the following statement: “People use social media for a variety of things. Listed below are some more activities you may or may not have engaged in. Please tell us how often you have been involved in the past twelve months in the following activities.” A list of activities followed,

Table 1. Measurement Invariance Across Countries: Conspiracy Beliefs Scale, Active Social Media Use Scale (Three-Factor Model), and Institutional Trust Scale (Three-Factor Model)

Models	χ^2 (df)	RMSEA	$\Delta\chi^2$ (Δdf)	CFI (ΔCFI)
<i>Conspiracy Beliefs Scale</i>				
1. Configural invariance (accept)	3.048 (1)	.044	–	1.00
2. Metric invariance (accept)	180.092 (31)	.067	177.044 (30)	.99 (.01)
3. Scalar invariance (reject)	1201.949 (61)	.132	146.96 (30)	.89 (.10)
4. Partial scalar invariance (accept)	370.005 (51)	.076	113.042 (10)	.97 (.02)
<i>Active Social Media Use Scale, Three-Factor Model</i>				
1. Configural invariance (accept)	6522.0 (682)	.092	–	.957
2. Metric invariance (accept)	6996.9 (782)	.088	474.9 (100)	.955 (.003)
3. Scalar invariance (accept)	9045.0 (882)	.095	2048.1 (100)	.940 (.014)
<i>Institutional Trust, Three-Factor Model</i>				
1. Configural invariance (accept)	3737.0 (264)	.114	–	.944
2. Metric invariance (accept)	4550.1 (324)	.114	813.11 (60)	.931 (.012)
3. Scalar invariance (reject)	7542.8 (384)	.136	2992.65 (60)	.884 (.048)

Note In the test of invariances level: accept = acceptance of invariance; reject = rejection of invariance.

Abbreviations: CFI, comparative fit index; RMSEA, root mean square error of approximation; Δ , the change in value compared to previous model.

which were conceived to measure three factors of active SMU: (1) *SMU for active interaction* (online social capital) four items, e.g., “To find people to solve problems in my community”; (2) *SMU for information*, three items, e.g., “To stay informed about current events and public affairs”; (3) *SMU for political expression*, six items, e.g., “Posting or sharing thoughts about current events or politics.” Respondents answered on a 7-point frequency scale, ranging from 1 = *Never*, to 7 = *All the time*, with 2 = *Rarely*, 3 = *Somewhat rarely*, 4 = *Occasionally*, 5 = *Somewhat frequently*, 6 = *Frequently*. The three factors of SMU had a very good reliability: interactional SMU, overall alpha = .96 (range from .94 to .97 in country subsamples), informational SMU, overall alpha = .88 (range from .79 to .91), and political expressive SMU, overall alpha = .93 (range from .90 to .96). Measurement invariance across countries for a three-factor structure was tested, and scalar invariance was established, as shown in Table 1 (middle panel), confirming the cross-cultural validity of the scale. Additionally, on the whole sample, the three-factor model [χ^2 (65) = 4968.92, $p < .001$, RMSEA = .084, CFI = .966], was compared to an alternative one-factor solution, where all the SMU items loaded on a single factor. The latter solution, however, obtained unsatisfactory fit indexes, χ^2 (62) = 38,540.45, $p < .001$, RMSEA = .229, CFI = .731.

Institutional Trust

We used nine items relative to the trust toward fundamental state institutions. The items were introduced by the following instructions: “Please rate your feelings of trust towards the following people and organizations using the scale below.” Participants answered on a 7-point scale, ranging from 1 = *Do not trust at all* to 7 = *Trust completely*. Then a list of state institutions followed, representing three factors: (1) *Trust in Representative Government* specified by three items, National government, Local government, Prime Minister/President (partisan governing bodies); (2) *Trust in Governing Bodies*, specified by four items, Judiciary, Government surveillance agencies, election outcomes, tax system (nonpartisan government bodies); (3) *Trust in Security forces*, specified by two

Table 2. Descriptive Statistics for the Country Subsamples and the Overall Samples

Variables	Country												Total Sample
	Argentina	Brazil	Chile	Estonia	Germany	Italy	New Zealand	Poland	Spain	United Kingdom	United States		
N	1145	1086	964	1168	1093	1041	1157	1060	1019	1064	1161		11,958
% Women	M 50.6 SD 48.6	M 48.6 SD 49.7	M 49.7 SD 49.7	M 48.2 SD 48.2	M 50.3 SD 50.3	M 54.1 SD 54.1	M 56.0 SD 56.0	M 52.9 SD 52.9	M 51.7 SD 51.7	M 53.4 SD 53.4	M 58.9 SD 58.9		M 53.5 SD 53.5
Age	M 40.76 SD 14.30	M 35.87 SD 12.04	M 35.05 SD 12.04	M 47.80 SD 13.10	M 45.10 SD 17.15	M 41.72 SD 15.07	M 59.54 SD 17.32	M 41.96 SD 14.51	M 40.94 SD 14.51	M 50.61 SD 12.63	M 49.76 SD 15.60	M 46.43 SD 16.43	M 43.76 SD 43.76
Socioeconomic status	M 5.56 SD 1.47	M 5.06 SD 1.68	M 5.09 SD 1.61	M 5.60 SD 1.59	M 6.29 SD 1.93	M 5.68 SD 1.93	M 5.40 SD 1.90	M 4.71 SD 1.66	M 5.25 SD 1.66	M 5.18 SD 1.95	M 5.46 SD 1.93		M 5.39 SD 5.39
Conspiracy beliefs	M 4.68 SD 1.45	M 4.47 SD 1.36	M 4.61 SD 1.49	M 4.26 SD 1.29	M 4.11 SD 1.34	M 4.40 SD 1.34	M 4.01 SD 1.38	M 4.41 SD 1.28	M 4.59 SD 1.49	M 4.12 SD 1.34	M 4.02 SD 1.39		M 4.33 SD 4.33
Interactional SMU	M 3.33 SD 1.69	M 4.03 SD 1.70	M 3.53 SD 1.68	M 2.47 SD 1.34	M 2.62 SD 1.67	M 3.50 SD 1.58	M 2.47 SD 1.46	M 3.32 SD 1.58	M 3.27 SD 1.69	M 2.21 SD 1.55	M 2.38 SD 1.53		M 2.99 SD 2.99
Informational SMU	M 4.52 SD 1.44	M 5.08 SD 1.26	M 4.77 SD 1.32	M 4.11 SD 1.54	M 3.56 SD 1.71	M 4.38 SD 1.46	M 3.63 SD 1.59	M 3.94 SD 1.41	M 4.18 SD 1.56	M 3.01 SD 1.75	M 3.41 SD 1.72		M 4.04 SD 4.04
Expressive SMU	M 2.98 SD 1.54	M 3.47 SD 1.57	M 3.01 SD 1.50	M 2.02 SD 1.06	M 1.90 SD 1.32	M 2.96 SD 1.57	M 2.01 SD 1.21	M 2.66 SD 1.47	M 2.98 SD 1.53	M 1.96 SD 1.39	M 2.21 SD 1.39		M 2.55 SD 2.55
Uncertainty avoidance index	M 86.00 SD 86.00	M 76.00 SD 76.00	M 86.00 SD 86.00	M 60.00 SD 60.00	M 65.00 SD 65.00	M 75.00 SD 75.00	M 49.00 SD 49.00	M 93.00 SD 93.00	M 86.00 SD 86.00	M 35.00 SD 35.00	M 46.00 SD 46.00		M 68.29 SD 68.29
Government trust	M 2.42 SD 1.36	M 1.90 SD 1.22	M 2.67 SD 1.23	M 3.62 SD 1.17	M 3.21 SD 1.51	M 2.42 SD 1.33	M 3.20 SD 1.36	M 2.43 SD 2.43	M 2.32 SD 2.32	M 2.94 SD 2.94	M 2.97 SD 2.97		M 2.75 SD 2.75
Government bodies' trust	M 2.58 SD 1.24	M 2.54 SD 1.29	M 2.95 SD 1.29	M 4.13 SD 1.32	M 3.58 SD 1.33	M 2.99 SD 1.35	M 3.96 SD 1.32	M 2.98 SD 2.98	M 3.04 SD 3.04	M 3.65 SD 3.65	M 3.30 SD 3.30		M 3.26 SD 3.26
Security system trust	M 3.01 SD 1.37	M 2.99 SD 1.49	M 3.99 SD 1.57	M 4.68 SD 1.24	M 3.98 SD 1.48	M 4.02 SD 1.48	M 4.65 SD 1.34	M 3.68 SD 3.68	M 3.88 SD 3.88	M 4.20 SD 4.20	M 4.49 SD 4.49		M 3.97 SD 3.97

items, Police and Military. The three factors of IT had a good reliability: trust in government, overall alpha = .87 (range from .78 to .94 in country subsamples), trust in governmental bodies, overall alpha = .86 (range from .82 to .87), trust in security, overall alpha = .77 (range from .69 to .77). Additionally, as shown in Table 1 (lower panel), we could establish metric invariance for this three-factor scale which allows testing all correlation-based analyses.¹ Also in this case, on the whole sample, the hypothesized three-factor model, $\chi^2(17) = 1292.61, p < .001$, RMSEA = .082, CFI = .975, was compared to and found superior to a one-factor solution, with all the trust items loading on a single factor, which obtained poor fit indexes, $\chi^2(20) = 5748.23, p < .001$, RMSEA = .160, CFI = .889.

To sum up, results of measurement invariance tests showed that it is possible to make meaningful mean comparisons for the CBs and SMU scales, and meaningful correlation-based analysis that involves IT, across all societies.

Demographics

Along with age (in years) and gender (0 = men, 1 = women) of participants, we considered also a measure of subjective social status, assessed through a single item: "On a scale of 1 to 10, with 10 being the people who are the most well off, and 1 being the people who are the least well off, where would you describe your position?"

Cultural Uncertainty Avoidance

This index was gathered directly from the website of cultural values by Hofstede et al. (2010). Within the same country, every respondent was assigned with the same index value, which was available for all the 11 considered countries (see Table 2).²

Results

Descriptive Statistics and Correlations

Table 2 summarizes the descriptive statistics of the key variables for the country subsamples and the overall sample. Results showed that in each country, all participants slightly endorsed CBs (i.e., they slightly agreed with the statements; $t_s < .01$, from the midpoint 4), except for New Zealand (95% CI: $-07, .09$) and the United States (95% CI: $-06, .10$), where the sample mean is not different than the neutrality point (*neither agree/nor disagree*). Since we obtained scalar invariance for CBs and SMU scales, we were able to run ANOVAs to compare means directly. Findings showed some differences on the CBs means, $F(10, 11,886) = 33.68, p < .001, \eta^2 = .03$, with Argentina, Chile, and Spain presenting the highest levels. When considering SMU, an ANOVA showed that Brazilian participants reported the highest level in the three different types of use: for interactional SMU, $F(10, 11,875) = 152.13, p < .001, \eta^2 = .11$; for informational SMU, $F(10, 11,875) = 175.56, p < .001, \eta^2 = .13$; for expressive SMU, $F(10, 11,875) = 164.39, p < .001, \eta^2 = .12$.

When considering correlations, the three factors of active SMU were positively intercorrelated but distinct (the confidence interval built around the correlation values were far from including 1), as well as the three factors of IT (see Table 3). Additionally, CBs were significantly correlated with all the considered variables. Importantly, the correlations between the CBs with the three dimensions

¹The near scalar equivalence reported by Liu et al. (2018) was not required for present purposes as these do not involve mean level comparisons across cultures for trust.

²We employed this method since the number of countries in the sample is not considered sufficient to apply hierarchical linear modeling (see e.g., Bryan & Jenkins, 2015).

Table 3. Correlation Matrix Among Key Variables

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Gender (0 = men, 1 = women)	1										
2. Age	-.102***	1									
3. Socioeconomic status	-.039***	-.029***	1								
4. Conspiracy beliefs	-.009	.009	-.100***	1							
5. Social media use: Interaction	-.051***	-.151***	.085***	.107***	1						
6. Social media use: Information	.072***	-.215***	.082***	.115***	.655***	1					
7. Social media use: Political expression	-.051***	-.191***	.074***	.120***	.680***	.555***	1				
8. Uncertainty avoidance index	-.023*	-.269***	-.062***	.138***	.269***	.262***	.244***	1			
9. Trust in government	-.077***	.111***	.241***	-.215***	.050***	.037***	.026*	-.196***	1		
10. Trust in government bodies	-.070***	.128***	.241***	-.258***	-.018	-.013	-.045***	-.221***	.737***	1	
11. Trust in security system	-.056***	.167***	.151***	-.152***	-.035**	.008	-.067***	-.200***	.949***	.196***	1

*.100 < p < .10; **p < .05; ***p < .001.

Table 4. Conspiracy Beliefs as Determinant of Institutional Trust: Regression Analyses in Country Subsamples

Independent Variable: Conspiracy beliefs	Dependent Variable					
	Trust in Representative Government		Trust in Governing Bodies		Trust in Security System	
Country Subsamples	B _{st}	R ²	B _{st}	R ²	B _{st}	R ²
Argentina	.003	.001	-.078**	.006	-.018	.001
Brazil	-.039	.002	-.082**	.007	.015	.001
Chile	-.126***	.016	-.103***	.011	-.024	.001
Estonia	-.395***	.156	-.472***	.223	-.273***	.074
Germany	-.201***	.041	-.232***	.054	-.150***	.022
Italy	-.241***	.058	-.283***	.080	-.182***	.033
New Zealand	-.253***	.064	-.315***	.099	-.246***	.061
Poland	-.211***	.044	-.248***	.062	-.121***	.015
Spain	-.177***	.031	-.200***	.040	-.122***	.015
United Kingdom	-.188***	.035	-.238***	.057	-.133***	.018
United States	-.226***	.051	-.262***	.069	-.113***	.013

***p* < .01.

****p* < .001.

of IT were all negative, thus confirming Hypothesis 1. Further simple regression analyses, realized on the 11 country subsamples, with CBs as the independent variable, showed its significant negative effects in almost all the regressions, with the following exceptions: in Argentinean and Brazilian subsamples regression coefficients for predicting both trust in representative government and trust in the security system were not significant; in the Chilean subsample, predicting trust in the security system was nonsignificant (see Table 4).

Testing of Active Social Media Use's Moderation

To test the main study hypothesis (H2), we tested a moderation model using structural equation modeling (SEM). The hypothesis proposed that the effect of CBs toward institutional (dis)trust would be moderated by active SMU. Here, the dependent variable, IT, was conceived as a latent factor, with three different indicators: representative government, government bodies, and security-system trust. Likewise, active SMU was modeled as a latent factor with three indicators (see Figure 1) corresponding to the three different forms of SMU: interactional, informational, and expressive SMU. Consequently, the interaction term between CBs and active SMU was conceived as a latent factor with three indicators as well. We added gender, age, and socioeconomic status as control covariates even though this was not the central focus of the study. The analyses were run by implementing a SEM model in R packages Lavaan (Rosseel, 2012) and semTools (semTools Contributors, 2016) using 1,000 bootstrapped samples for each.

The moderation SEM model fit the data very well: $\chi^2(56) = 2268.785, p < .001, RMSEA = .059, CFI = .955$. Table 5 presents the factor loadings of the latent constructs: All the indicators fit the respective factor consistently and in a homogenous way. Table 6 illustrates the results of the SEM moderation model. The independent variable CBs was a negative predictor of IT whereas the latent construct of active SMU was a positive predictor. The resulting latent factor of the interaction between active SMU and CBs was significantly positive. The explained variance of the dependent variable accounted for by the whole model was .162. We compared this model with a nested model that did not include the interaction term [$\chi^2(32) = 1796.835, p < .001, RMSEA = .074, CFI = .949$], finding that the latter performed worse than the hypothesized SEM moderation model. Furthermore,

Table 5. Factor Loadings of Latent Factors for SEM Moderation Model

Indicators	<i>B</i>	<i>SE</i>	<i>z</i> -value	<i>p</i> (> <i>z</i>)	<i>β</i>
Latent factor: Trust (DV)					
Government trust	1.000				.762
Government body trust	1.283	.014	89.472	.000	.969
Security system trust	1.016	.013	77.685	.000	.696
Latent factor: Active SMU (moderator)					
Interactional SMU	1.000				.903
Informational SMU	.788	.009	79.066	.000	.734
Expressive SMU	.754	.010	81.710	.000	.766
Latent factor: Interaction conspiracy beliefs * SMU					
Interaction indicator 1	1.000				.885
Interaction indicator 2	.737	.010	78.058	.000	.756
Interaction indicator 3	.818	.009	78.992	.000	.744

Note All the variables were modeled using three indicators.

Table 6. Results for SEM Moderation Model: Determinants of Latent Factor of Institutional Trust (H2 Testing)

Predictors	<i>B</i>	<i>SE</i>	<i>z</i> -value	<i>p</i> (> <i>z</i>)	<i>β</i>
Conspiracy beliefs (CBs)	-.181	.007	-26.112	.000	-.240
Latent factor: Active SMU	-.014	.007	-2.197	.028	-.021
Latent factor: Interaction CBs * Active SMU	.043	.005	9.348	.000	.090
Covariates					
Gender (0 = men, 1 = women)	-.095	.019	-5.035	.000	-.045
Age	.011	.001	18.124	.000	.164
Socioeconomic status	.141	.006	25.660	.000	.236

Abbreviation: SMU, social media use.

the inspection of chi-square difference in nested models revealed that the additional path of the interaction term was significantly predictive of IT: $\chi^2_{d(28)} = 471.95, p < .001$.

The inspection of the interaction (Figure 2) involved the estimate of conditional effects at three values of the moderator: the mean, one standard deviation above the mean, and one standard deviation below the mean, using 1,000 bootstrapped samples. Findings revealed that the conditional effect of CBs on representative government trust was negative at any level of the moderators and significantly different from zero at $\alpha = .05$, given the absence of zero from each bootstrap 95% confidence interval (95% CI). For strong conspiracy theory believers, the negative effect of CBs on the general latent factor of IT is reduced when people were also more active social media users. Finally, the three control covariates (Table 6) all had a significant effect: older people, men, and higher socioeconomic-status participants trusted their country’s governing institutions more.

Testing of Cultural Effects

Building on the previously tested moderation model, we inspected the effect of Hofstede’s uncertainty avoidance index (H3), hypothesizing an indirect effect, through its effect on CBs, toward the latent factor of IT, while also taking into account the uncertainty avoidance index’s direct effect. We thus developed a SEM moderated mediation model that tested the complete model of Figure 1. The model considered the effects of the sociodemographic covariates (gender, age, and socioeconomic status) as well. The model provided acceptable goodness-of-fit indexes: $\chi^2(66) = 3201.8151$,

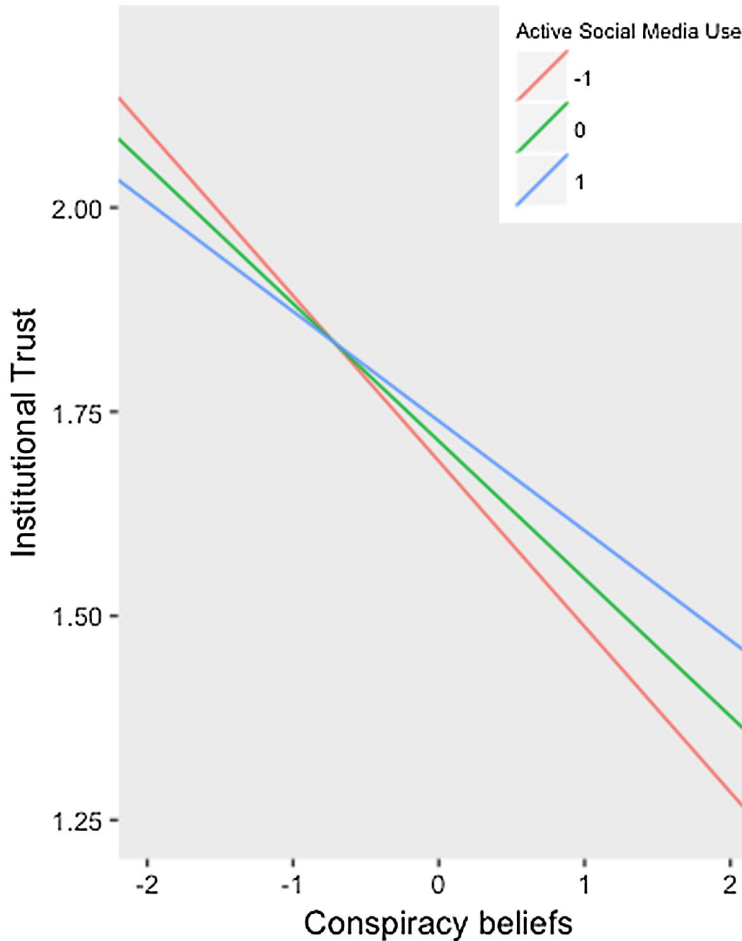


Figure 2. Hypothesis 2 testing: Moderating effect of active SMU latent factor on the relationship between conspiracy beliefs and the latent factor of institutional trust. The conditional effects were estimated at three values of the moderator: the mean, one standard deviation above, and one standard deviation below the mean, 1,000 bootstrapped samples.

$p < .001$, RMSEA = .064, CFI = .938. As shown in Table 7, findings revealed a small positive effect of the cultural index on CBs (explained variance: $R^2 = .021$). Uncertainty avoidance index also diminished institutional trust. The overall addition of the cultural index slightly augmented the explained variance of IT by the whole model ($R^2 = .198$). The conditional indirect effect was very small, $B = -.02$, $SE = .00$, $p < .001$, $\beta = -.032$; the total effect [$B = -.013$, $SE = .001$, $p < .001$, $\beta = -.231$] and was mainly due to the direct effect, $B = -.012$, $SE = .001$, $p < .001$, $\beta = -.20$.

Discussion

A generalized climate of institutional distrust may have severe consequences on community well-being, citizens' political engagement, and overall democratic welfare. This article investigated how the endorsement of CBs contribute to the erosion of trust by augmenting the skepticism toward the good intentions of public institutions and increasingly estranging citizens from trusting the

Table 7. Results for SEM Moderated Mediation Model of Figure 1: Inspection of Culture Uncertainty Avoidance Index Effects (H3 Testing)

Predictors	<i>B</i>	<i>SE</i>	<i>z</i> -value	<i>p</i> (> <i>z</i>)	β
DV: Conspiracy beliefs (CBs)					
Cultural uncertainty avoidance index (UAI)	.011	.001	15.730	.000	.145
DV: Latent factor of institutional trust					
UAI	-.012	.001	-20.826	.000	-.200
CBs	-.167	.007	-22.870	.000	-.221
Latent factor: Active SMU	.022	.007	3.027	.002	.032
Latent factor: Interaction CBs * Active SMU	.038	.005	7.276	.000	.078
Control covariates					
Gender (0 = men, 1 = women)	-.116	.018	-6.299	.000	-.054
Age	.008	.001	12.181	.000	.119
Socioeconomic status	.135	.006	24.371	.000	.224

Abbreviations: DV, dependent variable in the specific part of model; SMU, social media use.

government and its institutions. A central aim was also to investigate a direct effect of uncertainty avoidance, as well as the other mechanisms that may attenuate such a negative effect on trust: Active SMU.

Focusing first on CBs, in the present work we contributed to cross-cultural research on political psychology in the following ways. A new and brief three-item scale was found to be partially invariant across a remarkable number of democracies—11—suggesting a possible methodological extension of its use to other, less homogeneous societies. Its brevity is attractive since there is often not enough room for long measures in large cross-cultural surveys. Additionally, some of the previous measures in the literature tend to be focused on specific conspiracy theories that may lack cross-cultural validity. This is particularly relevant, as globalization and social media may be contributing to the spread of specific conspiracy theories well beyond the country boundaries where they were generated. The current measure, to the contrary, is general, focused to politics, and tries to depict an overall mindset of skepticism toward unrevealed truths about the nasty plots of mysterious powerful forces, which is easily understandable in different cultural settings.

Findings revealed that in the 11-country subsamples, endorsement of such beliefs was quite generalized in the population, with the Latin-American democracies having the highest means. Importantly, Hypothesis 1 was supported: CBs tended to induce distrust toward country's authorities, including both partisan and nonpartisan government bodies, and the security system, that is, toward all the key institutions that preside over the functioning of the nation (Rothstein & Stolle, 2008). These effects were generalized to almost all the considered countries, emphasizing that this link is substantial and needs to be addressed by the involved authorities. Paradoxically, in Latin-American countries of Argentina and Brazil (among those with the highest level of conspiratorial ideation), these effects were nonsignificant when the target of trust was the representative government and security systems. We might contend that the overt political instability that some of these countries have been facing may affect more prominently the way people trust the authorities, so that it becomes difficult to capture the subtle influence of generalized political CBs.

Another important aspect that our cross-sectional research points out is the necessity to establish a clear direction of the link between the CBs and IT. Sometimes research has found a reversed pattern—compared to that one hypothesized and confirmed in the present research—but when considering more general measure of trust at large (e.g., Abalakina-Paap et al., 1999; Goertzel, 1994). Recently, Freeman and Bentall (2017) theorized a framework in which low self-esteem, distrust of

authority, and smaller social networks (or context of marginalization) contributed to the incidence of a specific conspiracy belief. As a short-term benefit, there will be a reduction in uncertainty but also the confirmation and reinforcement of distrust beliefs, through access to homogeneous social networks. In a similar vein, from another theoretical perspective, Harambam and Aupers (2015) argued that conspiracy theories in the scientific domain may emerge in a context of widespread scientific authority erosion. From these viewpoints, then, it might be plausible to contemplate that a *general climate* of distrust may induce the development of more conspiracy theories. Alternatively, the relationship might be more complex. For instance, when the institution is perceived as universally inclusive, then trust will increase, but when an institution with a universalistic claim (i.e., judicial system) is perceived to represent more particular identities, this may lead to the development of CBs (see Askvik et al., 2011).

Hence, we believe that it seems plausible to posit a *recursive* link that needs to be further investigated in longitudinal research, where strong beliefs in conspiracy theories reinforce institutional distrust on the one hand, whereas a distrusting climate at large fuels new CBs. However, it is important to distinguish between a general perception of (dis)trust toward the authorities versus the (dis)trust focused on specific *target* institutions. On the one hand, *general* beliefs in conspiracy theories may reinforce the distrust toward *specific* targets (e.g., state authorities), as we found in the current study. On the other hand, a *general* distrustful climate toward people may reinforce *specific* CBs. Future research should also consider these different levels of analyses to disentangle this quandary.

Our findings fully sustain the hypothesized moderation effect of Active SMU on the relationship between CBs and IT (H2). Indeed, the SEM moderation model was supported, where active SMU was modeled as a latent construct capturing the effects of forms of SMU useful to activate people in the political realm (Yu, 2016). The interaction latent factor (between CBs and active SMU) was indeed a significant predictor of IT. Despite the solid theoretical SEM approach employed, the explained variance in IT is small. Yet, when investigating such complex phenomenon in cross-cultural research, even a low proportion of variance may be notable (see He & van de Vijver, 2012).

Active forms of SMU were found as precursors to other pro-civic attitudes and behaviors (Gil de Zúñiga et al., 2014; Yamamoto et al., 2015). Among those who strongly endorsed conspiracy theories, its negative effect on trust was cushioned when the individual actively used social media to engage in the community and to participate in the public debate. Most likely, this is due to people's augmenting the sense of community inclusion—a psychological mechanism to further confirm in future research. Our results are thus innovative in showing that proactive SMU may be used to fight and challenge the effects of strong, sometimes insidious beliefs that thrive by exploiting the exact same social media channels (e.g., Del Vicario et al., 2016). Public education efforts could aim to raise awareness of the potential malevolent effects of Internet use. What seems clear is that future research should continue to explore the useful distinction between active and passive forms of Internet use and social media use (Yu, 2016) and to investigate whether these have opposing effects. For instance, it would be interesting to compare the moderating effects of active SMU with using social media to interact for purely leisure reasons, to check whether they may have the same, or rather the opposite, effect in determining IT.

In this study, we also inspected the antecedent effects of culture attributes such as uncertainty avoidance (Hofstede, 2001), referring to the extent to which a culture is intolerant of ambiguous situations and has created beliefs and rules that try to avoid such situations. The additional hypothesis considered a possible direct and indirect effect of uncertainty avoidance, through an increase in CBs, toward IT (H3). Our findings showed that such effects of a cultural climate of higher intolerance of the unknown, although present and in the expected direction, contributed to (dis)trust in state institutions in a limited way. Indeed, its effects and the explained variance are small. First, if more countries are tested, a hierarchical linear model may be applied controlling directly for country effects at a higher level of analyses (Bryan, & Jenkins, 2015), which was not recommended with our

countries' number. Also, the impact of other cultural indicators might be considered: for instance, tightness-looseness, which reflects the way in which societies differ in the extensiveness of, and adherence to, social norms (Gelfand et al., 2011). It is also worth noting that intolerance of uncertainty may be investigated also from an individual viewpoint (e.g., Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). Indeed, trust in institution targets implies accepting that the relationship with the target is unpredictable (see e.g., Hetherington, 2005); thus, the relationship may create uncertainty, which can depend also on the perceived cultural climate.

This research also suggests that sociodemographic variables play an important role in determining trust. Trust in institutions is higher for older people, men, and higher social-status people. This finding confirms past research, showing that people from higher social strata tend to express greater support for the authorities and the system in which they live, as they are the ones who most benefit from it (e.g., Anderson & Reichert, 1995; Liu et al., 2018). However, the picture provided by our results also shows the other side of the coin. IT is lower for young people, women, and low socioeconomic-status participants. In other words, trust in authorities is lower for the more vulnerable population segments. When people feel less empowered (Abalakina-Paap et al., 1999) or anxious (Grzesiak-Feldman, 2013), they may more easily develop or accept conspiracy theories. Thus, further research should consider sociodemographics as possible moderators of the CBs-IT relationship. Indeed, the disadvantaged segments of the population, since threatened, might embrace CBs to a higher level, thus exhibiting a higher distrust toward the institutions that govern them (see, e.g., Douglas et al., 2017).

All in all, despite the limitations discussed in this section, findings of this study illustrated specific theoretical and empirical paths that shed light on how conspiracy theories may be useful to depict the institutional distrust that festers in a social media era, across different democratic societies. Albeit valuable CBs theoretical mechanisms have been clarified by this study, many important questions remain open, and we hope this work may inspire future research.

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