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ARTICLE

Understanding Antecedents of Civic Engagement in the Age of Social Media: From the Perspective of Efficacy Beliefs

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ABSTRACT

This study examines three efficacy beliefs-political self-efficacy, political collective efficacy, and knowledge sharing efficacy-as antecedents of social media use and civic engagement. Employing more than one thousand samples in Singapore, we empirically test (a) a conceptual framework that can provide an understanding of the relationship between the three types of efficacy and civic engagement and (b) the underlying mechanism through which the three types of efficacy beliefs affect civic engagement via social media. The findings suggest that knowledge sharing efficacy was found to play an important role in mediating the relationships between social media use and political self-efficacy, political collective efficacy, respectively, which, in turn, influences the social media use.

1. Introduction

Global society has seen the thriving power of social media in facilitating civic engagement. Social media is a significant vehicle in triggering grassroots movement for various social causes thus plays an important role to motivate civic engagement. For example, early 2017, Uber, the Silicon valley business tycoon, faced the backlash from consumers called ‘Delete Uber’ movement as a former employee of Uber wrote about the systemic sexism such as discrimination and harassment against female that she had experienced at Uber ^[1,2]. The movement encourages users to delete their Uber accounts after Uber feedback to the blog such that “Everyone at Uber is deeply hurting after reading Susan

Fowler’s blog post” ^[3].

Asian countries such as China and India are no exception as for the impact of social media use on civic engagement and participation. Despite social pressure and censorship inhibiting freedom of expression, it appears that social media use could change Chinese society as the online media facilitates loosely structured networks and subsequently increases civic engagement. For example, Starbucks closed its store at the Forbidden City in China due to overwhelming criticism from power bloggers and online users who perceived Starbucks’ business in the Forbidden City disrespectful for China’s historical and cultural heritage. ^[4] India has also seen the power of social media in providing marginalized stakeholders with global attention and support and connections with international

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NGO (non-governmental organization)s. A YouTube video of a rap song which criticized the dealing of mercury poisoning by Hindustan Unilever instantly drew the attention from a global community and generated enormous support for the victims of mercury poisoning and activists.^[5] As such, research in civic engagement has paid attention to the role of social media in civic engagement and reported a positive association between social media use and civic engagement^[6].

Despite a number of studies that examined the relationship between the social media use and civic engagement, little is known as to how citizens' use of social media such as Facebook and Twitter works as motivators for civic engagement, and more importantly, what antecedents exist to people's social media use. Based on previous research on efficacy, media use and civic participation,^[7,8] we pay particular attention to the roles of efficacy in social media use and civic engagement.

Efficacy has appeared in political participation research for decades.^[9,10] As Bandura (1997) posited that the efficacy concept needs to reflect the specificity of the task and the context,^[11] we would like to investigate the effects and roles of three types of efficacy about civic engagement, namely political self-efficacy, political collective efficacy, and knowledge sharing efficacy.

Political self-efficacy is defined as "the feeling that political and social change is possible, and that the individual citizen can play a part in bringing about this change".^[12] Political collective efficacy is a group-level concept that can be achieved only through interactive and collaborative group processes. Evidence about the effects of political self- and collective efficacy has accumulated in the literature on political and civic engagement. However, these two efficacy beliefs are not enough in explaining the recent trend of civic engagement that is characterized by its excessive use of social media.

Many civic and social movements such as Occupy Wall Street (2011) and Ice Bucket Challenge (2014) are known for their strategic use of social media.^[13,14] The nature of social media makes all social media communication as a public good directs our attention to another efficacy belief, knowledge sharing efficacy,^[15] which is defined as the self-assessment of one's confidence that his or her knowledge can improve the collective processes.^[15, 16] Without such confidence, one may not overcome the fear of being criticized, losing face, or creating a negative impression when sharing and expressing opinions on social media. Surprisingly, little research has been conducted so far as to the role and the effects of knowledge sharing efficacy in motivating civic engagement.

To address the gaps mentioned above, we draw on the

concepts of three efficacy beliefs -political self-efficacy, political collective efficacy, and knowledge sharing efficacy-and propose a research model with which we empirically tested the relationship between social media use and civic engagement. Specifically, our objectives of this study are: (a) to develop a conceptual framework that can provide a better understanding of the relationship between the three types of efficacy and civic engagement; (b) to delineate the underlying mechanism through which social media use is connected with the efficacy beliefs and civic engagement; (c) to empirically examine the degree to which the three efficacy beliefs have an impact on civic engagement. Therefore, this study aims to contribute to the body of knowledge to the research area of social media use and civic engagement by explicating the dynamics of three types of efficacy, social media use, and civic engagement.

2. Literature Review

In this study, civic engagement is defined as based on the concept of political consumerism suggested by previous work.^[17] This study examines the communicative aspects of political consumerism in light of the theoretical framework of civic engagement as an extension of traditional political participation.

As such, this study looks at civic engagement activities encompassing individual and collective, and various forms of voluntary activities to resolve social problems that might affect communities and a broad society, especially in the digital context.

It can include an individual's donation to and participation in the charitable activities for non-profit or non-government organizations, participating in the discussion about politics or social issues on social media, signing an online petition about a local, national, or international issue, and boycotting or purchasing certain products or services for political/ethical/environmental reasons.

However, we excluded explicit forms of political behavior such as volunteering to help a political party or a politician, or donation to a politician or a political party, attending political rallies, meeting politicians, expressing supports for politicians on social media, and writing to the government or a member of parliament.

2.1 Social Media and Civic Engagement

The advent of social media has transformed significantly the way civic engagement occurs^[18,19,20]. Digital media technology has facilitated and streamlined civic and political engagement through prompt and convenient

content creation and distribution online.^[6, 21] Even though the relationship between social media use and civic engagement still needs to be further investigated,^[17,22,23,24] extant research has so far indicated a strong association between social media use and civic participation. People who engage in civic activities are identified as frequent social media users.^[25,26] Further, digital media use has effect on political consumerism,^[6] political participation,^[27] youth protest,^[26] and youth collective activism,^[28] although the relationship between these varies^[29].

Some of the possible explanations about the relationship between social media use and civic may be found in several previous research. Kim, Hsu, and Gil de Zúñiga's (2013) suggested due to the nature of social media which allows easy access to information, anonymous participation, and sharing of information with others, even people who are shy and less open to participation or who feel their ability is limited, can consider social media as their channel for civic participation.^[30] Gil de Zúñiga et al. (2012)'s study indicates that "seeking information via social network sites predict people's civic engagement and political participatory behavior that encompasses both online and offline activities".^[31] Shirky (2008) emphasized that "social media technologies contributed to the ease and speed with which a group can be mobilized" (p. 12).^[32]

Based on the above literature review, we presume that social media use will be related to civic engagement behavior. Our research delimits the scope of civic engagement to apolitical, voluntary activities to resolve social problems that might affect communities and broad society.

H1: Social media use is positively associated with their civic engagement behavior.

2.2 Political Self-efficacy and Political Collective Efficacy

Among various factors that influence civic engagement, efficacy has been identified as a key determinant. Bandura (1997) defined self-efficacy as one's strong belief that one can exert substantial controls over events in one's life and proposed that self-efficacy is a motivator to exert an effort, endure hardship, welcome challenge, and strive for success.^[11] Cumulative research has discerned an accumulated significant effect of perceived self-efficacy on individuals' decision-making processes and outcomes in various settings including education, society, politics, and organizations.^[33, 34] Self-efficacy is a task- and situation-specific concept because people evaluate their level of self-efficacy about specific goals or contexts. Since then, a variety of self-efficacy judgments has been proposed and measured for different tasks or in different

settings.

In the area of civic engagement, political self-efficacy (PSE) has been proposed as a task specific efficacy concept. PSE is defined as "the feeling that political and social change is possible, and that the individual citizen can play a part in bringing about this change".^[12] Empirical research has consistently linked PSE with political participation such as voting, writing letters and petitions for a political group, and donating to political parties or politicians.^[12, 35,36] Recent studies have tested the role of PSE in the context of civic engagement. Delli-Carpini (2000) suggested that PSE is the motivation for civic participation.^[37] Hoffman and Thompson (2009) and Hope (2016) both found a moderating effect of PSE on civic participation.^[38, 39] Kahne and Westheimer (2006) found that participation in the community-based project increased PSE among Black youth.^[40] Therefore, we posit that PSE has a positive relationship with civic engagement.

H2: PSE has a positive relationship with civic engagement.

While political efficacy is limited to the exercise of the individual agency, collective efficacy is a group-level concept that can be achieved only through interactive and collaborative group processes.^[11] Cumulative literature has found the positive relationships between the perceived collective efficacy and the groups' motivational investment in their undertakings, their staying power in the face of impediments and setbacks, and their performance accomplishments^[41,42]

Collective efficacy is particularly important in the context of civic engagement because civic engagement in its very core is collective behavior. Virtually all social issues such as neighborhood crime, public disorder, and poverty need to amass the aggregated efforts from the public to bring about changes at a broader level. In this regard, Yeich and Levine (1994) proposed political collective efficacy (PCE) as a component of the political efficacy construct.^[43] This component represents perceptions of systematic responsiveness to collective demands for change. While PSE represents perceptions of the responsiveness of the political system to the actions of individuals, PCE represents perceptions of system responsiveness to those of the masses. Past studies have found a positive effect of PCE on various civic activities. For example, PCE was negatively associated with both homicide rates and non-lethal partner violence.^[44] Along with social capital, PCE was also found as a significant predictor of lowering mortality rates in both men and women across sub-regions of Hungary.^[45] In the same vein, Burdette, Wadden, and Whitaker (2006) studied the

link between health and collective efficacy, reporting that obesity was more prevalent in neighborhoods with lower levels of collective efficacy.^[46] Therefore, we posit that PCE has a positive relationship with civic engagement.

H3: PCE has a positive relationship with civic engagement.

Since Bandura (1997) asserted that self-efficacy and collective efficacy are correlated, we hypothesized as follows.^[11]

H4: PSE and PCE have a positive association.

2.3 Efficacy Beliefs and Social Media Use

Efficacy and goals are highly related. Highly efficacious people are motivated to perform well and try to organize and coordinate efforts and resources to achieve their goals.^[47] Social media is an excellent tool for these people by providing them with information, knowledge, networks, and other resources that may not be locally available. For example, people follow Facebook pages of organizations that they like and join Facebook groups to share their interests and views about a common cause and issue and organize activities and events to make changes or create impacts. According to a recent study, the average number of pages, groups, and events a user is connected to is 80 (Aslam, 2018).^[48] Twitter has also active online dialogues and campaigns about social issues and problems. Hashtags are widely used to create discussion threads for an issue or to support a movement on Twitter (e.g., #MeToo, #BlackLivesMatter, #IceBucketChallenge, etc.).

Past studies examined the relationship between PSE and social media use.^[49] Use of social networking sites for political purposes could have a positive impact on political learning efficacy and, thus, on knowledge and participation.^[50] Unlike PSE, however, little research has been conducted to examine the relationship between media use and PCE. Given the similarity in belief foundation of PSE and PCE, a positive relationship between social media use and PCE is expected.

H5: There is a positive relationship between PSE and social media use.

H6: There is a positive relationship between PCE and social media use.

2.4 Knowledge Sharing Efficacy

While literature in civic engagement has widely accepted PSE and PCE as key determinants, these two efficacy beliefs alone are not sufficient to explain civic engagement. The nature of social media platforms makes all communication public, making the individual

subject to judgment and criticism of the audience. To withstand the negative responses and scrutiny of other participants on social media, one must be confident about the knowledge and information that he or she shares with others. This type of confidence is different from PSE and PCE and is more pertaining to the value and utility of one's knowledge of the goals. This type of confidence is called knowledge sharing efficacy (KSE) which is defined as the self-assessment of one's confidence that his or her knowledge can improve the collective processes.^[15, 16] KSE has been tested in the context of management and education and found significant in its effect on knowledge sharing intention.^[51, 52] Cho, Chen, and Chung (2010) also found a positive effect of KSE on the information sharing intention among Wikipedia contributors.^[53]

KSE is expected to play a more critical role in social media environment. As mentioned earlier, information or opinions shared on social media become a public good which is met with the public scrutiny and potential criticism.^[15] An individual who decides whether or not to share information or opinion on social media considers costs and benefits associated with this sharing behavior. The cost includes a fear of misleading others with wrong or outdated information, a fear of being evaluated negatively by others, a fear of creating negative impressions on others, a fear of losing face.^[54, 55] Ardichvil, Page, and Wentling (2006) stated that "people are afraid that what they post may not be important (may not deserve to be posted), or may not be completely accurate, or may not be relevant to a specific discussion" (p. 70).^[54] These fears will discourage the desire to share information and opinion with others.

A high level of perceived benefits of sharing information can help overcome these fears and increase online sharing behavior. If an individual favorably assesses the value and utility of the contribution of one's knowledge to a collective action, the person is likely to participate in sharing behavior on social media. The person with high KSE foresees the goodness that his/her information sharing brings to the causes, overcomes the psychological barriers, and engages in active sharing information, knowledge, and resources on social media. Hence, we hypothesized as follows.

H7: The paths between PSE and social media use and PCE and social media use are mediated by KSE.

KSE and the other efficacy beliefs can be related. Strongly motivated, a person with high PSE will actively seek, collect, and process information and eventually learn a great deal about the subject, which will boost the confidence in the values and utility of the information he/she shares. Unlike PSE, PCE is a judgment about

the group, Figure 1 shows the research model and the hypotheses.

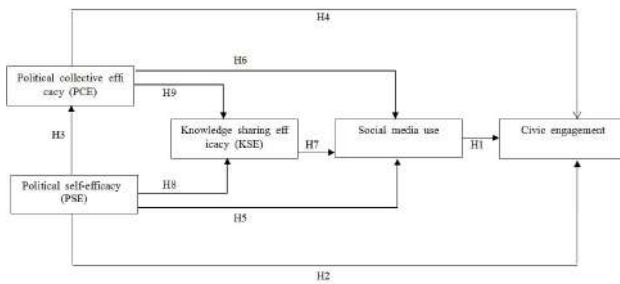


Figure 1. Theorized Research Model and Hypotheses

Notes:

H1: Social media use is positively associated with their civic engagement behavior.

H2: PSE has a positive relationship with civic engagement.

H3: PSE and PCE have a positive association.

H4: PCE has a positive relationship with civic engagement.

H5: There is a positive relationship between PSE and social media use.

H6: There is a positive relationship between PCE and social media use.

H7: There is a positive relationship between KSE and social media use.

H8: There is a positive relationship between PSE and KSE.

H9: There is a positive relationship between PCE and KSE.

3. Method

3.1 Procedure

This study employed focus group interviews and an online survey. To identify unknown psychological attributes and behavioral patterns associated with media use (traditional and social) and the types of civic engagement people participate in, a total of six sessions of focus group interviews were conducted, each session comprising 10 participants. A \$20 voucher was given to each participant as an incentive.

To pre-test the reliability of the measures, we conducted a pilot test of the survey questionnaire using 50 online panels from a research company. Based on the results of the pilot test, we improved the wording and length of the survey. The results showed that the levels of reliability of the measures were adequate. The final survey was distributed by the research company to its online panels. The survey took about 10 to 20 minutes to complete. At the end of the survey, respondents were offered credit from the research company.

3.2 Sample

Of the 1587 respondents, 50.4% ($n = 800$) were female and 49.6% ($n = 787$) were male. This is almost the same as the statistics of the Singapore citizen in 2016^[56]. The percentages of the age group 18-19, 20-29, 30-39, 40-49, 50-59, and 60 or older are 3.6%, 22.7%, 26.5%, 22.4%,

16.4%, and 7.4% respectively. Compared to the statistics, our sample is more in 20-29 (+4.13%), 30-39 (+5.96%), and 40-49 (+0.88%) groups and fewer in 50-59 (-4.78%) and 60 or older (-7.28%) groups. Given the fact that the Internet use is saturated among the younger generations but not among the older generations (CNA, 2015), this distribution is acceptable.^[57]

3.3 Measures

In total, 46 questions were developed; these covered the key variables (41) and the demographic information (4). Most of the survey items were adapted from pre-validated research work, so as to increase the construct validity, except the measure for social media use, which was created for this study. For all measures, 5-point Likert scales were used (5=strongly agree, 3= neither agree nor disagree, 1=strongly disagree) except for social media use which was measured with frequency. The survey items for each scale are presented in Appendix 1; the intercorrelations among them are reported in Table 1.

Civic engagement. The scales of civic engagement were created by adding nine items measuring the frequency of respondents' civic engagement behavior ($\alpha=.882$). The measures cover online civic engagement behavior. These items (total 9) were borrowed from previous research on civic engagement and revised for the purpose of our research.^[6, 31] Then, new five items of online civic engagement were created by authors to measure participating in an online discussion of social issues or sharing information related civic matters with others. (see Appendix for measures).

Political self-efficacy (PSE). This variable ($\alpha = .689$) was measured using nine items (Niemi et al., 1991) such as "I consider myself to be well qualified to participate in politics" and "generally speaking,^[36] I feel that I have a pretty good understanding of the important political issues facing our country."

Political collective efficacy (PCE). This variable was measured with eleven items, borrowed from Yeich and Levine (1994).^[43] These include "Politicians would respond to the needs of citizens if enough people demanded change.", "We are definitely able to accomplish something positive since we are a competent group of people" and "As a people, we can cooperatively develop and carry out programs to benefit us all, even when difficulties arise." ($\alpha=.920$).

Political knowledge sharing efficacy (KSE). This study introduces five novel knowledge efficacy items intended to tap one's confidence that his or her knowledge can improve the collective processes. Three items were borrowed from Kalman et al. (2002), and Lin (2007)

and two items were created.^[15, 16] These are including “I am confident in my political knowledge that is valuable to others and “I have the expertise required to provide valuable knowledge for others” ($\alpha = .778$).

Social media use. The use of social media was measured with two questions which ask the number of minutes a day people Facebook and Twitter for information related to social and civic matters. Respondents were given with the number of minutes in five-minute intervals (from 5 to 100). The scale was obtained by averaging the scores for Facebook and Twitter use. The internal reliability was at the adequate level ($\alpha = .600$).

Table 1. Bicorrelations of summated items

	PCE	PSE	KSE	SOCIAL MEDIA	CIVIC
PCE	1				
PSE	.301**	1			
KSE	.327**	.556**	1		
SOCIAL MEDIA	.096**	.125**	.198**	1	
CIVIC	.213**	.282**	.384**	.349**	1

Note:

** Correlation is significant at the 0.01 level (2-tailed).

4. Results

To explore relationships among three types of efficacy beliefs, social media use, and civic engagement, we performed path analysis ($N=1587$). To test the hypotheses and the research model, structural equation modeling analyses were performed using a path analysis approach which is useful as it evaluates the global model fit and tests other competing models in comparison with the theorized model. All the factors in the model were composite variables. The data were analyzed with the AMOS 23 software program, with a covariance-based approach, using maximum-likelihood estimation.

4.1 Hypotheses Testing

Regarding the relationships observed among the endogenous variables, research results supported nine direct paths. The path between social media use and civic engagement was significant ($\beta = .196$, $p < .001$) and had a positive association with civic engagement. Hence, H1 is supported. PSE ($\beta = .179$, $p < .001$) and PCE ($\beta = .099$, $p < .001$) were both positively associated with civic engagement, which supported H2 and H4. As predicted, PCE and PSE had a positive relationship ($\beta = .301$, $p < .001$), thus H3 was supported. As for the relationship with social media use, only KSE was found to have a significant relationship ($\beta = .178$, $p < .001$), which supported H7. PSE and PCE did not have a significant

relationship with social media use. Therefore, H5 and H6 were not supported. In terms of relationships with KSE, both PSE ($\beta = .560$, $p < .001$) and PCE ($\beta = .174$, $p < .001$) have a positive association, which provided support for H8 and H9. In terms of total effect on civic engagement, PSE had the most total effect ($\beta_{\text{total}} = .200$, $p < .001$), followed by Social media use ($\beta_{\text{total}} = .196$, $p < .001$), and PCE ($\beta_{\text{total}} = .111$, $p < .001$), KSE ($\beta_{\text{total}} = .035$, $p < .001$).

Overall, the results support our research model, in that the three efficacy beliefs had a positive relationship with one another. KSE has a positive association with social media use, which, in turn, had a positive relationship with civic engagement. PSE and PCE also had a direct positive association with civic engagement.

4.2 Post-hoc Analysis and the Suggested Final Model

The initial test of the theorized model did not fit the theoretical model well (See table 2). To identify the best fitting model, nonsignificant paths were removed via a modification procedure. Also, a path between PSE and civic engagement was added to enhance the model fit.

Table 2. Data-Model Fits for Comparing Theorized Model and Final Model ($n=1587$)

Model	χ^2	df	p	χ^2/df	CFI	TLI	SRMR	RMSEA	$\Delta\chi^2$	Δdf
Theorized Model ^a	66.492	1	.000		.940	.403	.0399	.234		
Final Model ^b	22.861	2	.352		.940	.801	.0091	.117	43.631	1

Notes:

^a Theorized model is the model including all the nine paths hypothesized by theoretical assumptions.

^b Final model is the model without insignificant paths between PSE, PCE and social media use. Also, one path between KSE and civic engagement was included.

The final model is better fitting and more parsimonious than the originally theorized model without substantially changing the theorized relationships (see Figure 2). We assessed the model fit using multiple goodness-of-fit indexes. First, the chi-square statistics were insignificant ($\chi^2 (2) = 2.090$, $p = .352$) which indicated that the fit of the data with the hypothesized model was adequate. Other model fit indexes such as CFI, TLI, SRMR, and RMSEA show an acceptable fit for our research model: CFI = .940, TLI = .801, SRMR = .0093, and RMSEA = .117. These goodness-of-fit indexes indicate that the final model fits the data well.

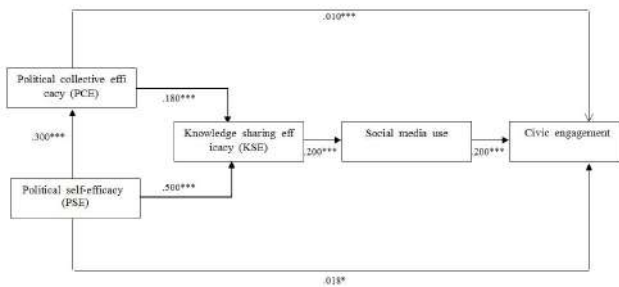


Figure 2. The results of hypothesis testing and Suggested Final model

Note:

*** $p < .001$

5. Discussion

The major goal of this study was to delineate a research framework with which we could identify how efficacy beliefs (e.g., PSE, PCE, and KSE) and social media use have effects on civic engagement. Overall, the findings show that (1) PSE, PCE, and KSE have positive relationships with one another, (2) social media use, PSE, and PCE have positive effects on civic engagement, and (3) both the paths from PSE and PCE to social media use are fully mediated by KSE.

5.1 Inter-relations Among Three Efficacy Beliefs

In political and civic matters, PCE and PSE are specific efficacy beliefs. These beliefs are developed to test the efficacy beliefs in a specific context or tasks such as civic engagement. As Bandura (1997) asserts, efficacy is a specific belief that must be tested for specific situations.^[11] In the digital age where social media use is normalized and normative for various social movements, it is imperative to develop and test a context specific efficacy belief. Likewise, KSE is a specific efficacy belief that tests one's perceived capacity in promoting collective causes by sharing knowledge and information in an open environment.

Consistent with the findings of recent studies^[8,9], we found positive relationships among PSE, PCE, and KSE. Given that the three efficacy beliefs share similar founding belief that one has the capability to accomplish certain tasks, this finding is not surprising. However, it is worth noting that PSE ($\beta = .503$, $p < .001$) had a larger effect while PCE ($\beta = .175$, $p < .001$) had a smaller effect on KSE.

A large effect size of PSE on KSE can be explained considering that skills, efforts, and endurance are required in performing a task, that is, an individual with higher PSE is confident about his or her knowledge in terms of

its accuracy, completeness, depth, and relevancy.

The smaller effect of PCE on KSE is because the basis of PCE is not an assessment of an individual's capability but a group's capability. Even though a person is ensured about the group's ability to make positive changes for politics, an individual can be discouraged from sharing information in concerns of criticism or negative outcomes of information sharing. Therefore, an individual should overcome the pressure based on one's own knowledge sharing efficacy. Social media interactions expand the boundary of one's personal networks, creating instantaneous exposure to the audience of different views, opinions, and sentiments about an issue. Even though PCE increases KSE in the hope of benefiting the group and promoting the causes, PCE alone is insufficient to withstand and manage emotional stress from social media exchanges. Therefore, PCE only explains a small portion at KSE.

5.2 The Role of KSE in Social Media Use

we argue that confidence about the values and utility of one's knowledge helps one overcome the fear of receiving criticism and creating negative impressions, and encourages one to share knowledge on social media. The negative experiences and feelings that people often receive from participating in online discussions and interactions have been reported as a major deterrent of online participation. A recent study reveals that debate and discussion on social media have created anxiety and frustration due to an aggressive and disrespectful tone of political discussions on social media.^[57] Thus, a strong level of KSE where people believe they have good enough knowledge to defeat the naysayers against civic movement is a prerequisite for social media interactions.

Moreover, the study found the full mediation of KSE on the relationships between PSE and social media, and PCE and social media. This means, PSE and PCE increase KSE, which, in turn, increases social media use for civic engagement. Based on our post-hoc analysis, we arrive at the final model which excludes insignificant paths between PSE, PCE and social media use. Further, we found that the addition of the path between KSE and civic engagement significantly enhances the final model. So, these findings highlight a mediating role of KSE in yielding both social media use and civic engagement, eliminating the direct effect of PSE and PCE on social media use.

Social media environment can be hostile and aggressive. Without the conviction that one's knowledge is worth and beneficial for the collective processes (Kalman et al., 2002; Lin, 2007), a person may not be motivated to use social media for civic engagement.^[15, 16] Adding

KSE to the research model significantly contributes to the understanding of the role of social media and civic engagement.

5.3 Social Media Use and Civic Engagement

Consistent with past studies,^[38,39,40,44,45,46] our study also found social media, PSE, and PCE have positive, but varying effects on civic engagement which highlight the mediating role of social media in inducing civic engagement. Past studies have found a positive significant effect of PSE and PCE on civic engagement. Efficacy beliefs about one's own capability (PSE) and the group's capability (PCE) to make positive changes are strong determinants in inducing civic engagement among the public.

Interestingly, however, the result of this study found weak effects of PSE ($\beta = .079$, $p < .05$) and PCE ($\beta = .078$, $p < 0.001$) and a strong effect of social media use ($\beta = .281$, $p < .001$) on civic engagement. This implies that in the digital age, civic and social movements are extensively triggered and prompted by social media use, mediating the paths from PSE and PCE, to civic engagement, respectively. Our post-hoc analysis confirms this interpretation. When social media use was removed on the paths between PSE and PCE and civic engagement from the model, the effects of PSE and PCE were increased significantly (for PSE, $\beta = .239$, $p < 0.001$ and for PCE, $\beta = .141$, $p < 0.001$). These findings indicate that mediating effect of social media use to connect efficacy and civic engagement is strong enough to offset the direct effects of those efficacies on civic engagement.

We also have noted the importance of social media use in generating civic engagement as a major driver. The current civic engagement is characterized by excessive use of social media. Social media have become the most useful and critical tool and space to read and share news about social issues, to educate people about their rights and alternative actions, to connect people and create alliances among various groups, and to mobilize and organize collective actions online and offline. Given that our measure of civic engagement encompasses various online and offline actions, the result of this study confirms that social media undoubtedly has the potential to support collective actions of all sorts.

Our study has a few theoretical implications. To the best of our knowledge, this research is the first to demonstrate that KSE is an important predictor of social media use in civic engagement. No studies have explored the specific efficacy belief that reflects the unique characteristics of social media use and consequential effects such characteristics render. We believe civic

engagement research can be benefited by incorporating KSE concepts to reflect the changing nature of civic engagement in a social media context. Our study also contributes to the civic engagement research by elaboration on the mechanism through which the three efficacy beliefs, namely PSE, PCE, and KSE, and social media use facilitate civic engagement. The findings show that in the digital environment, PSE and PCE, through the mediation of KSE, influence social media use, which, in turn, increases civic engagement.

The study moves beyond examining political engagement as a major form of civic engagement. We note that major drivers in yielding civic engagement might differ from political engagement. The latter tends to be motivated by political leaning and ideology, but the former is based rather on altruism and ethical consumerism, including a wider range of social behaviors such as charitable donations, ethical consumerism to punish companies perceived as immoral, and so on.

Further, we propose and validate a comprehensive measurement of civic engagement across online and offline platforms. As noted, civic engagement largely is prompted by various types of online campaigns and, in turn, such engagement often leads to offline movement and participation creating social change. Accordingly, we expect our exhaustive measurement items of civic engagement encompassing offline and online activities would contribute to the further examination of civic engagement.

Taken together, the findings suggest that the technological characteristics of social media have significantly changed the nature of civic engagement, making it more interactive, complex, and dynamic, which tests one's confidence about knowledge sharing capability. We believe that our research approach focusing on the different types of efficacy belief can give insights to civic engagement in a new media landscape.

Appendix

1. Political self-efficacy (9 items)

How much would you say you agree with each of the following statements? Please select the answer that best represents your interest level in politics.

I consider myself to be well qualified to participate in politics.

(1) Generally speaking, I feel that I have a pretty good understanding of the important political issues facing our country.

(2) I feel that I can do as good a job in public office as most other people.

(3) I think that I am better informed about politics and the government than most people.

(4) Sometimes politics and government seem so complicated that a person like me can't really understand what's going on.

(5) People like me don't have any say about what the government does.

(6) I don't think public officials care much about what people like me think.

(7) I believe having elections makes the government pay attention to what the people think.

(8) I think the government pays attention to what people think when it decides what to do.

2. Political collective efficacy (11 items)

How much would you say you agree with each of the following statements? Choose an option that best represents your answer.

(1) A dramatic change could occur in this country if people banded together and demanded change.

(2) If enough people banded together and demanded change, politicians would take the steps to enact change.

(3) Organized groups of citizens can have much impact on the political policies in this country.

(4) Politicians would respond to the needs of citizens if enough people demanded change.

(5) Politicians would listen to homeless and poor people if we pressured them to.

(6) As people in this country, we can all band together in order to achieve political goals.

(7) We are definitely able to accomplish something positive since we are a competent group of people.

(8) As a people, we can cooperatively develop and carry out programs to benefit us all, even when difficulties arise.

(9) We, as one people, are able to struggle together in order to achieve political goals.

(10) Since we are all competent in engaging in collective action, we can forward our political demands successfully.

(11) We can work together to promote important political goals even if we face difficulties.

3. Knowledge sharing efficacy (5 items)

How much would you say you agree with each of the following statements? Choose an option that best represents your answer.

(1) I am confident in my political knowledge that is valuable to others (in our society, in my social networks, in my personal network).

(2) I have the expertise required to provide valuable knowledge for others (in our society, in my social networks, in my personal network).

(3) It does not really make any difference as to whether or not I share my knowledge with others (in our society, in my social networks, in my personal network).

(4) I believe that my knowledge will be appreciated by others.

(5) I am confident that my knowledge is useful.

4. Civic participation (15 items)

(1) I have attended a meeting of discussion or dialogue organized by the residents' committees, community centres, or the government.

(2) I have participated in events for a cause or a charity (e.g., Hair for Hope, Yellow Ribbon Prison Run, etc.).

(3) I have worn or put a badge, a sticker, or a ribbon on me or on my possessions such as phones, notebooks, bags, bicycles, or cars to express my support for a cause or a charity.

(4) I have joined or volunteered for welfare/charitable organizations or other nongovernmental organizations.

(5) I have donated money to welfare/charitable organizations or other nongovernmental organizations.

(6) I have deliberately purchased certain products or services for political/ethical/environmental reasons.

(7) I have boycotted certain products or services for political /ethical/environmental reasons.

(8) I have "liked" the contents about political and social issues on social media sites such as Facebook or Twitter.

(9) I have shared political and social issues with other people on social media such as Facebook or Twitter.

(10) I have written about political or social issues on social media such as Facebook or Twitter.

(11) I have written to the newspapers, the government, or a member of Parliament.

(12) I have taken part in the discussion about politics or social issues on websites such as online forums or blogs.

(13) I have taken part in the discussion about politics or social issues on social media such as Facebook or Twitter.

(14) I have signed an online petition about a local, national, or international issue.

(15) I have worked together with others in online groups to try to deal with a local issue or a problem.

5. Social Media Use (2 items)

The next set of questions asks about your use of media for searching for news on politics, public issues, and government policy. Please provide your answer in five-minute intervals (from 5 to 100+). Usually, on a typical

day, how many minutes a day do you spend on reading or listening to the following?

- (1) Facebook
- (2) Twitter

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ARTICLE

Anti-Asian Racism in the Shadow of COVID-19 in the USA: Reported Incidents, Psychological Implications, and Coping Resources

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ABSTRACT

Racism, which has been a deeply rooted feature of so many human societies across the world for centuries, has become rampant in the shadow of the COVID-19 pandemic. In the past racism was thought to be as somehow “natural” or “biological.” Later on, sociologists recognized “race” as a socially and culturally constructed ideology, which exists in a society at both the individual and institutional levels. Further down the timeline, psychologists viewed racism as an individual or a collective psychological defensive mechanism generated by feelings of fear, insecurity, and anxiety in the face of imminent or presumed internal or external threat. No matter how it is described, racism has become rampant in the shadow of COVID-19, manifested in the incidents of racial slurs and verbal abuse, online bullying, physical attacks, vandalism, and others. It took the forms of white supremacy, xenophobia, Sinophobia, and institutional and aversive racism. It was institutionalized, politicized, and religionized. Given this increasing occurrence of racism triggered by COVID-19, this paper tried to trace the historical roots of racism, followed by the analysis of the specific incidents of anti-Asian racism and discrimination related to COVID-19 in the United States. This paper also sketched the psychological implications of racism and some coping mechanisms for the victims.

1. Introduction

The COVID-19 pandemic is assessed to have begun in December 2019 in the city of Wuhan, Hubei province of China^[1]. Like any major crisis that could raise people’s concern for personal safety and heighten their anxiety, one serious behavioral act and psychological effect of the COVID-19 pandemic has been the intensified bias and discrimination against certain groups of people, particularly against the people of East Asia in the United States. Since its outbreak,

there has been an increase in acts and displays of racism, discrimination, and xenophobia, particularly Sinophobia, a sentiment against China, its people, culture, and traditions. The virus was initially termed as the “Wuhan virus” or “Chinese virus,” terms that closely associate the Chinese communities with the virus, leading to a particular process of racialization, including Sinophobia, general xenophobia, and racism.

Naming a virus or disease in a particular way has no rhyme or reason. For example, Swine flu emerged in Mexico, Mad Cow disease in the United Kingdom, and

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the “Spanish flu” has been believed to have not emerged in Spain at all. Thus, using the “Wuhan coronavirus” or “Chinese virus” designation only served to further racism, bias, and discrimination, particularly prejudice against the people with East Asian background ^[2]. Although the current virus is now officially named as COVID-19, individuals of East Asian or Asian background have been unfairly targeted in the United States, forcing them to deal with acts of racism, such as accusing the culture, victim-blaming, dealing with slurs or glares, being physically attacked and removed from public places. Consequently, these victims of racism and xenophobia are more likely to experience negative implications of mental health and well-being.

Therefore, in the following pages, this paper presented the rise of racism in the shadow of COVID-19, starting with a brief description and components of racism, stages of the psychological mechanism of racism, and a brief historical background and linkages to racism in the event of an epidemic threat. Then, some significant incidents of racism and xenophobia in the USA that have occurred during COVID-19 were described. Finally, some psychological implications of racism and relevant coping mechanisms, particularly in the light of the current COVID-19 pandemic, were explored.

2. Understanding Racism

2.1 Description of Racism

Unfortunately, racism has been such a prominent feature of so many human societies across the world that it might be tempting for many people to think of it as somehow “natural” or “innate” ^[3]. Traditionally, racism was understood as a biological trait. It was described as the collective belief and social perception that distinct groups of people possess shared inheritable traits and different innate capacities which are exhibited through variant social behaviors corresponding to their physical appearance or biological differences. In this sense, racism could be ranked as superior or inferior, leading to discrimination and prejudice based on the superiority of one race over another ^[4,5].

In contrast, sociologists and behavioral scientists, in general, recognize “race” as a socially and culturally constructed ideology that exists in a society at both the individual and institutional levels. This means that any conclusions drawn about race are heavily influenced by social and cultural ideologies. Thus, sociologists and behavioral scientists broadly define racism as to encompass individual and group prejudices and acts of discrimination that result in certain advantages conferred

on a majority or dominant social group ^[6].

Psychologists view racism as an individual or a collective psychological defensive mechanism generated by feelings of fear, insecurity, and anxiety in the face of imminent or presumed internal or external threat ^[3]. In other words, racism is a general response to a sense of insignificance, unease, or inadequacy. When people face threats, they feel anxious and insecure, and they respond to these feelings by becoming more prone to materialism, greed, status, prejudice, and aggression by generally conforming to socially and culturally accepted attitudes, which are usually identified with their national or ethnic groups.

Taylor identified five possible aspects of racism as psychological defense mechanisms, which could also be seen as different stages (see Figure 1), moving towards more extreme versions of racism ^[3]. The first stage can be called *group affiliation*, which occurs when people feel insecure or lack in identity, they may be inclined to affiliate themselves with a group to strengthen their sense of identity and find a sense of belonging. Consequently, this may lead to the second stage, *ingroup favoritism*, which happens when the members of a group withdraw empathy for other groups to maintain their identity and group cohesiveness, limiting their concern and compassion to their group members. There is nothing wrong with these stages in and of themselves.

However, under certain circumstances, this group affiliation and favoritism may lead to a third stage, *outgroup hostility*, which is becoming hostile towards other groups. This is closely related to a fourth aspect, *group prejudice*, which is the homogenization of individuals belonging to other groups, wherein people are no longer perceived in terms of their personalities or behavior but generalized prejudices and assumptions about the group as a whole. And finally, the generalized prejudices may turn into the most dangerous and extremely destructive form of racism, called *projected racism*, in which people may project their psychological flaws and their failings onto another group. Here, other individuals or groups become scapegoats, who are punished, and even attacked or murdered.

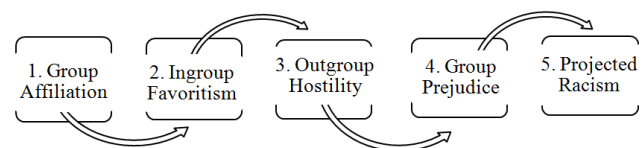


Figure 1. Stages of Psychological Defense Mechanism in Racism

Of course, defense mechanisms operate at both

interpersonal and organizational or institutional levels. Institutions or organizations may be even more sensitive to threats than individuals. As a consequence, institutions are more likely to rigidly persist in employing various defense mechanisms, which are described by Morgan ^[7] as “psychic prisons.” Said differently, institutions or organizations are established, sustained, and even trapped by conscious and unconscious processes, which resist change.

2.2 Components of Racism

No matter whether racism is seen as a biological trait or socially constructed ideology or psychological mechanism, for many decades, researchers in social and psychological sciences, while attempting to understand racism in all of its forms, have developed some sort of technical terminology to describe racism’s various aspects. Machery ^[8] and colleagues suggested three components that are often correlated, which include: *stereotyping*, *prejudice*, and *discrimination* (see Figure 2). Stereotyping is considered as the cognitive component of racism (e.g., the belief that all the members of group X are violent). Stereotyping is typically thought to be responsible for the internal biases and cognitive distortions in information gathering or memory^[9]. The second component, prejudice represents emotional component (e.g., fear of group X members), and it is thought to be responsible for all the affective aspects of emotional reactions to outgroup or ingroup members ^[8].

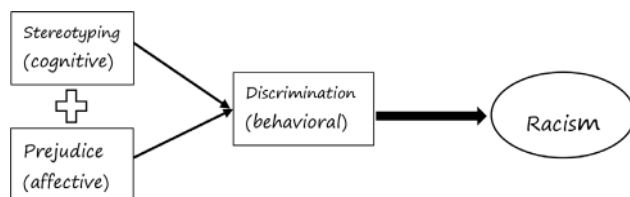


Figure 2. Components of Racism

Both stereotyping and prejudice are thought to have a downstream effect on the final component, discrimination, which is the overtly behavioral component (e.g., avoiding interactions with X group members). Social psychologists have discovered that the first two components, i.e. stereotypes and prejudices, can operate implicitly and influence people’s discriminatory behaviors. In other words, discriminatory acts can result from implicit cognitive and affective biases even despite people’s best efforts.^[8]

2.3 Forms of Racism

The 1965 United Nations (UN) International Convention on the Elimination of All Forms of Racial Discrimination^[10] said that the term “racial discrimination”

shall mean any distinction, exclusion, restriction, or preference based on race, color, descent, or national or ethnic origin that has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms in the political, economic, social, cultural or any other field of public life.

Hence, in line with the UN description of “racial discrimination,” it could be said that there are many forms of racism in operation, such as *white supremacy* or *white privilege* ^[11,12], which means beliefs and ideas purporting natural superiority of the white-skinned or lighter-skinned human races over other racial groups. *Color blindness*,^[13] which means disregarding the racial characteristics in social interaction, for example, the rejection of affirmative action, as a way to address the results of past patterns of discrimination.

Other forms of racism include cultural racism ^[14], which is manifested as societal beliefs and customs that view the traditions and artifacts of a given culture as superior to those of other cultures, and xenophobia ^[15], which is often characterized by the fear of and even aggression toward the members of an outgroup by the members of an ingroup. Another form of racism is institutional racism ^[16], which is also known as structural or systemic racism. Institutional racism is racial discrimination by governments, corporations, religions, or other large organizations with the power to influence the lives of many individuals.

Implicit in all these forms of traditional and overt racism is the form of aversive racism ^[17], by which a person is influenced by unconscious negative evaluations of other racial groups and thus persistently avoids interacting with other racial and ethnic groups. Aversive racism is characterized by more complex, ambivalent expressions and attitudes. Finally, similar in implications to the concept of aversive racism is symbolic or modern racism ^[18], which is also a form of implicit, unconscious, subconsciously biased, or covert attitude which results in unconscious forms of discrimination. Modern racism is characterized by outwardly acting unbiased and unprejudiced toward other racial groups or individuals while inwardly maintaining biased and prejudiced attitudes.

3. Racism in the Shadow of COVID-19

3.1 The COVID-19 Pandemic

Scientists suspect that the COVID-19 pandemic, which started in December of 2019 in the city of Wuhan, Hubei province in China, is of being zoonotic in origin ^[19]. As

of May 26, 2020, over 5.7 million people worldwide have been confirmed as having the virus, over 357,400 deaths were confirmed globally, and both the infection and death rate continue to grow daily ^[20]. On January 30, 2020, the World Health Organization ^[21] designated the COVID-2019 outbreak a “public health emergency of international concern.”

Since the origin of the virus, epidemiologists have been working to elucidate the characteristics of the virus transmissibility, death rate, and origin. Scientists have been working to discover a vaccine. Public health officials have been communicating critical information to the public so that they could take necessary and appropriate precautions. Governments and policymakers have been planning to contain the virus ^[22]. The COVID-19 pandemic not only led to an unprecedented social crisis and economic fallout in many countries of the world but also has shown implications for downstream effects on the physical and mental health of communities and individuals ^[19].

Paradoxically, while the experts in various fields and the public health officials in various nations and regions continue to work to contain the virus and mitigate its deleterious effects on the worldwide populations, a related threat of psychological distress appears to be resulting from repeated media exposure to the outbreak ^[19]. The negative effects of COVID-19 are ripping through every segment of society. It is hypothesized that the virus will likely exacerbate existing mental health disorders and contribute to the onset of new stress-related disorders for many people, including loss and grief, fear and uncertainty, and stress and trauma ^[23].

The COVID-19 pandemic also has led to an increasing display of various forms of racism. White ^[24], in an article on historical linkages to epidemic threat, economic risk, and xenophobia indicated that the xenophobic responses that have been occurring in response to the COVID-19 pandemic can be traced back to a long history covering a span of countries. While social distancing and quarantine practices date back to 14th century Europe, the spread of epidemic diseases emerged in the 19th century as a problem that required an internationally coordinated response. For example, European colonial expansion brought smallpox and other diseases to the Americas and Africa in the 1800s. During the Napoleonic Wars, the vulnerability of European colonizers contacting diseases in their colonial domains, and the capacity of these diseases to spread to Europe was exposed. Epidemics of plague and cholera claiming a huge number of lives not only in South Asia and elsewhere, but also in Europe, became a concern.

Many conferences were held to standardize international regulations for the quarantine measures and the sanitary management of plague, cholera, and yellow fever. Due to their focus on the colonial trade from Asia, the early international conventions led to the rise of a particular bias against people of Asian descent, especially Chinese and Indians traveling around the world. In the late 19th century the colonial administrators abandoned all trade with India to avoid the threat of plague arriving with migrant workers from the subcontinent. Such a move also gave birth to some sort of xenophobic responses carried out in the name of health controls. In 1901, an epidemic of bubonic plague in South Africa resulted in the forced quarantine of most of the city's black African population to a racially segregated quarantine camp.^[24]

3.2 COVID-19 and Anti-Asian Racism in the USA

The USA has a history of anti-Chinese sentiment in response to epidemics. For instance, during the outbreak of bubonic plague, Honolulu quarantined areas that encompassed Chinese but not of White Americans. When the public health authorities burned contaminated buildings, the fires went out of control and burned down most of the Chinese residences. Anti-Chinese responses also occurred in San Francisco during the plague epidemic of 1900-04.^[24] In the current pandemic of COVID-19, we see increasing racist and xenophobic responses, including prejudice, discrimination, and violence in the United States and around the world, particularly against people of East Asian and Southeast Asian descent and appearance.

In order to assess the extent of anti-Asian racism during the current COVID-19 pandemic, electronic social media content analysis and interpretation were used for this paper. Various forms of electronic media are recognized as playing an important role, perhaps a key role, in the daily lives of the public for both acquiring and disseminating information. The methodology for this paper primarily included collecting and analyzing online information from multimedia sources, such as online newspapers, correspondent reports, TV channels, YouTube videos, and Wikipedia.

First of all, to locate the list of COVID-19 related incidents of racial discrimination and xenophobia^[1], relevant news and media links were browsed in order to find the information related to the incidents of racism amid COVID-19 in the United States. Besides, the search engine was also used to gather information from online newspapers and view online news channels and videos about racism during the COVID-19 pandemic. The time parameters included about five months, i.e. from the end of December 2019 to the end of May 2020. The keywords

used for locating the relevant content were the Wuhan virus, China virus, Coronavirus, COVID-19, racism, xenophobia, discrimination, stereotyping, prejudice, and Sinophobia.

Due to the specific focus of this paper on the content directly related to various forms of racism in the United States during this COVID-19 pandemic, only the locations in the United States were included and the information not related to racism and discrimination against the Asians was excluded. That is, incidents and news related to the aspects of epidemiology and science, medicine and vaccine, economy and politics, virus treatment and prevention policies were excluded.

Some of the relevant results are presented in the following pages. BBC research ^[25] suggested that there have been about 1,710 anti-Asian incidents reported to Asian American and Pacific Islander (AAPI) agency between March 19 and April 29, 2020. As indicated in Figure 3, about 69% of these incidents occurred in the form of verbal harassment, about 15% involved physical assault and being coughed or spat on, and 4.3% cases were of online discrimination.

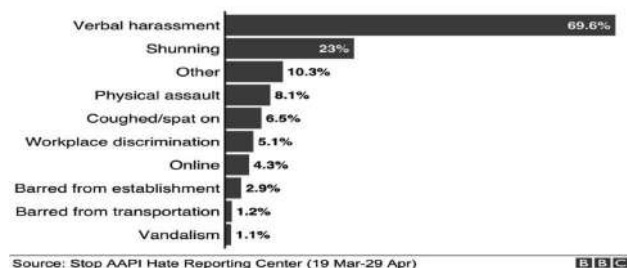


Figure 3. Types and Percentage of over 1,700 Reported Anti-Asian Incidents Related to COVID-19

There were more than 100 individual racist incidents related to COVID-19 reported in the media. Some selected incidents are indicated in Table 1. The targeted population included the people of various Asian descents, predominantly Chinese. President Donald Trump frequently used the term “Chinese Virus,” triggering many incidents of Sinophobia and xenophobia ^[26].

In a self-posted video, a rapper was seen bullying an elderly woman by chasing her with hand sanitizer while shouting, “Sanitize your ass!” ^[27] A Chinese woman was spat upon by a man yelling, “Fuck China.” ^[28] Racism had tones of anti-Semitism when some extremists encouraged one another to spread the virus to police officers and the Jews. ^[29] In California, an elderly man was attacked with an iron bar. A supermarket in Texas witnessed an Asian family, including a two-year-old and six-year-old, being stabbed. ^[25]

Table 1. Selected Incidents of Anti-Asian Racism in the USA During the COVID-19 Pandemic

Target	Incident
Chinese	The University of California normalized racism ^[30] .
Jews	Extremists were encouraging one another to spread the virus to police officers and the Jews ^[29] .
Koreans	Hesitated to wear masks in public amid reports of hate crimes and racism towards Asians who wore masks ^[31] .
People of color	Surgeon General J. Dams claimed that people of color were “socially predisposed” to coronavirus exposure ^[32] .
Thai	A woman on the Los Angeles subway captured footage of a man screaming racist comments and expletives about coronavirus ^[33] .
Asians	Several bullying incidents and assaults against the Asian-American community, including a middle-schooler being beaten and hospitalized ^[34] .
Chinese	A Chinese woman crossing a street was spat upon by a man yelling, “Fuck China”, and “run them all over” as a bus crossed in her direction ^[28] .
Asian	A 16-year-old boy was physically attacked by bullies in high school who accused him of having the virus. ^[35]
Vietnamese	Two students from a high school were seen in videos bullying Vietnamese-American students ^[36] .
Chinese	A Chinese restaurant received racist phone calls threatening to shoot the owners ^[37] .
Chinese	A rapper posted a video of himself bullying an elderly woman by chasing her with hand sanitizer while shouting, “Sanitize your ass!” ^[27]
Chinese	A 60-year old man was attacked by two women ^[38] .
Korean	A doctor was kicked out of a gas station ^[39] .
Asian	A threatening racist note was left on the home of a couple with statements such as “We’re watching you” as well as “take the Chinese virus back to China.” ^[40]
Asian	A group of teens surrounded a woman, yelled racial slurs, and punched the woman in the back of the head ^[41] .
Korean	Someone yelled “Where is your corona mask, you Asian bitch?” then punched her, dislocating her jaw ^[42] .
Chinese	A man walking with his 10-year-old son was harassed by a person yelling, “Where the fuck is your mask? You fucking Chinese” before being hit over the head ^[43] .
Asian	A woman was spat upon, and had her hair pulled out by a woman who blamed her for coronavirus ^[44] .
Asian	A woman wearing a face mask was punched and kicked by a man who called her “diseased” ^[45] .
Asian	A man was sprayed with an unknown substance ^[46] .
Asian	A woman was robbed of her cellphone by a man who swung a punch at her and told her, “Go back to China”, “You are dirty.” ^[47]
Chinese	New York State Assembly member Mathilde Frontus urged citizens to avoid Chinese businesses ^[48] .
Asian	An Asian couple was attacked by a group in Philly ^[49] .
Asian	A 19-year-old stabbed 2 adults and 2 children, thinking they were Chinese spreading the coronavirus ^[50] .
Koreans	Two students placed coronavirus posters on a Korean student’s dormitory door as a racist prank ^[51] .
Chinese	Windows were shattered at Jade Garden restaurant in Seattle’s Chinatown-International District ^[52] .
Chinese	Minado Buffet building was spray-painted with hate speech saying, “Take the corona back you chink” ^[52] .
Chinese	Graffiti written, “It’s from China #chinesevirus” ^[52] .

The recent research study ^[25] by BBC reported about 120 anti-Asian incidents that took place in the United States between January and May, 2020. Out of 120

incidents, 69 are directly related to COVID-19 and the results are reported in Table 2. As can be seen from Table 2, most of the states have reported some kind of anti-Asian racist and discriminatory incidents during the period of January to May 2020. The months of March and April reported a higher number of incidents. Overall, New York state had the highest number of incidents. The nature or type of racism incidents included physical attacks, verbal slurs, online harassment, and vandalism.

Table 2. Media Reported Anti-Asian Incidents Linked Directly to COVID-19 in the USA

Month	State	Number of Incidents	Type of Incidents
January	Indiana	1	Discrimination
	Washington	1	Physical, Verbal
February	California	5	Physical, Verbal, Written
	Indiana	1	Discrimination
	New York	4	Discrimination, Physical, Verbal, Online
	Oregon	1	General
	Utah	1	Online
	Washington	1	Discrimination
March	California	4	Discrimination, Verbal, Vandalism
	Connecticut	1	Discrimination
	Illinois	4	Verbal, Physical, Vandalism
	Indiana	2	Discrimination, Online
	Kansas	1	Discrimination
	Maryland	1	Verbal
	Michigan	1	Verbal
	Minnesota	2	Verbal, Written
	New Mexico	2	Vandalism
	New York	10	Physical, Verbal, Written
	North Carolina	1	Online
	Texas	1	Online
	Washington	2	Vandalism, Verbal
	DC	2	Physical
April	California	2	Online, Physical, Verbal
	Connecticut	1	Verbal
	Iowa	2	Verbal
	Kansas	1	Controversy
	Massachusetts	1	Online
	Minnesota	1	Physical, Verbal
	Missouri	1	General
	New Jersey	1	Physical, Verbal
	New York	2	Physical, Online
	Pennsylvania	1	Verbal
May	New York	1	Physical
	Washington	1	Physical
	Wisconsin	1	Verbal
Unclear	Kansas	1	Online
	Pennsylvania	2	Verbal
	New York	1	Verbal
TOTAL		69	

4. Consequences of Anti-Asian Racism in the USA During COVID-19

Amid the growing spread of the COVID-19, there has also been a surge in the anti-Asian racist and xenophobic incidents in the United States. Individuals and groups of people with Asian backgrounds are being threatened, harassed, and discriminated against. They are being referred to with racial slurs, spat on, or verbally and physically attacked. Their properties are vandalized. Statements by public officials referring to the virus with particular labels may be exacerbating the scapegoating and targeting of the Asian communities in the United States. All these various forms of anti-Asian incidents left the targeted population feeling a sense of threat and danger, leading to some sort of psychological consequences.

4.1 Psychological Implications

Major crises in any form raise people's concern for personal safety, elevate fear, increase stress, and heighten anxiety.^[2] Inter-Agency Standing Committee^[53] listed common mental health and psychological responses of people to COVID-19. Some of them include fear of becoming infected; fear of falling ill and dying; fear of losing loved ones because of the virus; fear of being separated from the loved ones; feelings of helplessness and boredom, loneliness, and depression due to being isolated, and fear of socially excluded because of being associated with the origins of the virus and physical appearance. For example, a victim of racism, Ms. Liu said that "When I first came here five years ago, my goal was to adapt to American culture as soon as possible. Then the pandemic made me realize that because I am Asian, and because of how I look like or where I was born, I could never become one of them"^[25].

WHO's Regional Office for Europe^[54] said that the rapidly spreading COVID-19 pandemic is also inducing a considerable degree of fear, worry, and concern in the population at large. These concerns are even higher among certain groups of people, such as older adults, care providers, and people with underlying health conditions. The main psychological impact of COVID-19 is elevated rates of stress or anxiety. Also, as new measures, such as quarantine and lockdown are introduced, affecting many people's usual activities and normal livelihoods, it is expected that levels of loneliness, depression, harmful alcohol and drug use, and self-harm or suicidal behavior may also increase.

Dealing with racism and xenophobia may further increase the levels of psychological distress. The Asian American Psychological Association^[55] released a

public statement on COVID-19, saying that “all of us - regardless of our race, ethnicity, national origin, or citizenship - are striving to cope with anxiety and fear brought on by the COVID-19 pandemic and the social isolation precautions needed to reduce its spread. As an organization whose mission is to advance the mental health and well-being of Asian American communities, we draw attention to the additional stressors faced by our communities who are contending with increased stigma, racism, and xenophobia.” For example, many people may feel reluctant to leave their homes because of fears over contracting the virus. But for many racially targeted groups, their added fear is that they may be attacked, verbally or physically, because of who they are or how they look. Hence, many people, especially East Asians, are increasingly becoming anxious about dealing with racist incidents, which can lead to negative mental health effects^[56]. For instance, a 37-year old Asian man in Philadelphia, who was sworn and yelled at and spat on, said that he felt “really down for a day or two”^[25].

Balvaneda, et al.^[2] say that one of the effects of these aggravated thoughts and feelings of anxiety and worry is that it can intensify racial discrimination and xenophobia, as it is evident from the COVID-19 pandemic. Ao^[56] reported that according to the American federal law enforcement data, the number of hate crimes against Asian Americans has been decreasing for 15 years, but with the onset of COVID-19, law enforcement began to warn communities that hate crimes against Asian Americans would increase.

A growing body of research indicated a link between racial discrimination and mental health issues. A systematic review by Priest and colleagues^[57] of 121 studies found that the research participants who experienced discrimination were most likely to suffer from various mental health problems, most commonly reported problems like depression and anxiety, followed by behavior problems. Ao's^[56] interview with psychologist Kevin Nadal suggested that it's important to acknowledge the fear of experiencing racism as very real. The interview report further indicated that “Even if people aren't experiencing direct incidents, just the knowledge of it can cause them to feel anxious, depressed, or hypervigilant, which can lead to other mental health issues. It's a collective trauma — the anticipation comes from people of your shared identity having experienced violence.” Weedon and colleagues^[58] also emphasized the psychological toll that people are facing due to racism triggered by COVID-19. They predict that many people may have to bear the psychological consequences of racism in the days, weeks, and even years after they occur.

4.2 Coping Resources for Victims of Racism during COVID-19

Various experts suggested the following ways^{[55],[2],[56],[53]} for the victims to cope with racism:

(1) Recognize that experiences of racism are real: If you feel you have been targeted by prejudice and discrimination during this pandemic, it is important to recognize that racism is real that takes a toll on your mental well-being.

(2) Take moments to care for yourself: While recognizing that racism exists and if you have been a victim of it, remembering that you have the right to be visible, supported, helped, and served is very important. Also, when hurt by discrimination, try to set aside some time and specific moments to care for yourself and others.

(3) Reject attacks on your values: Identify and select information sources and communities that offer accurate and sensitive information on the outbreak, and reject those that inappropriately attack your values.

(4) Recognize the strength of your communities and hold together in solidarity: Communities hold many strengths in terms of cultural values and support systems, traditional practices and spiritual resources, and social contributions. Utilize these strengths in the face of racism to hold together in solidarity, for in the face of racism, individuals and systems with racist beliefs and behaviors may attempt to drive your communities apart. Through solidarity and upholding values, try to stand together in the fight against racism to anyone.

(5) Reach out for support from friends, family members, community leaders, religious workers, and mental health professionals.

5. Conclusion

The racism that is deeply rooted in the human societies for centuries took an explicit shape during this COVID-19 pandemic in all its components of stereotyping (cognitive), prejudice (affective), and discrimination (behavioral). Many racist and xenophobic incidents have already taken place and continue to occur as the pandemic spreads around the world. As it is seen in the analysis of the incidents, the forms of racism and discrimination included racial slurs, verbal abuse, online abuse, physical attacks, vandalism, rejection, and so on. More specifically, they were of white supremacy, white privilege, cultural racism, xenophobia, Sinophobia, institutional racism, and aversive and symbolic racism. Some of the incidents were politicized, religionized, and institutionalized.

The people who were involved in the racist and xenophobic incidents included some political leaders,

entertainers, and the public. Also, different aspects of psychological stages of racism were exhibited, including the longing for group affiliation, favoring the members of the ingroup, expressing hostility toward outgroup members, engaging in group prejudice by labeling a certain ethnic group as a target for racism, and finally, projecting racism onto others through scapegoating and avoiding responsibilities.

Social media, both in print and electronic or digital forms, has come to play an important role in the public's perceptions of the pandemic, and has a significant role in arousing and instigating racism and discrimination. Hate speech, unverified news, cartoons and photos, racial slurs and verbal abuse, reports, etc., all emboldened people to act on their racist beliefs and further lead to an increase in the incidents of racism and xenophobia during COVID-19. Consequently, psychological implications and mental impact of racism instigated by the virus have been on the rise. Concerns for personal safety, elevated fear, heightened anxiety, and feeling powerless and lonely have been increasing.

Given these circumstances, we all have the duty to help victims of racism and discrimination by encouraging them to recognize racism as real, recognize the strength of their values and community solidarity, and reach out for support from various sources, including mental health professionals. The media also should play its positive and significant role by presenting facts and educating people about the impact of racism on the well-being and mental health of the people. Finally, we all should, both individually and collectively, ask the question that Medlock^[59] posited, "COVID-19 will pass. Will we be able to say the same about the racism it has illuminated?"

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REVIEW

Network Group Psychological Education of College Students

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ABSTRACT

Based on the perspective of psychology, this paper analyzes the causes and characteristics of college students' network mass incidents, explores the psychological factors of college students' network mass incidents, and puts forward the educational strategies to solve college students' network mass incidents:

No.1. Adhere to humanism and take appeals as the center;

No.2. To improve the campus network public opinion guidance mechanism under the guidance of relevant social cognition theories;

No.3. Strengthen communication and improve communication skills;

No.4. Promote information disclosure and transparency, and eliminate uncertainty and ambiguity.

1. Foreword

In recent years, with the frequent occurrence of mass incidents and related reports in various parts of China, People pay more and more attention to network group events, With the popularization and application of the network, the network mass incidents of college students have become an important work to maintain the stability of the university.

But what is an online group event? How is it related to mass incidents?

What are the similarities and differences? What is the psychological mechanism of college students' network group events? What can we do in the face of college students' network group events? This paper makes a summary of the related research on college students' network group events, and discusses the research results and future development direction of this phenomenon.

The concept of network group incidents is a localization, there are also called network cluster

behavior, network group events is formed under the background of a certain social network community is a social phenomenon and social issues of mutual interest focus in the discussion, through the network publishing, disseminating information and manufacturing network public opinion, make the development of social events conform to the collective behavior of his desire.

Correspondingly, we understand the network group behavior of college students as a collective behavior of campus problems and phenomena of common concern of college students, which is published and disseminated through the network, participates in the discussion, creates network public opinion, and makes the development of events conform to their own wishes.

This paper analyzes the causes and characteristics of network group events in colleges and universities from the perspective of psychology-related theories, and discusses the educational strategies of network group events in line with the psychological characteristics of contemporary college students.

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2. Definition

In the database of China journal net, it is the work of university teachers and students or researchers engaged in news, communication, law, network and so on. Communication, sociology and politics are based on people's concern about public power in the period of social transition.

Although the search results of the major web portals and search engines have been experts, authoritative opinion voice in, but mainly reflect the position of all Internet users and views.

To sum up, there are two main definitions of network group events:

(1) "Click rate" is used as the expression form of network group events, and "hot issues on the Internet" are formed and participated in by clicking, Posting, following, forwarding and voting, and "hot issues on the Internet", "network comments" and "expression of public opinion" are regarded as "network group events".

Their common characteristics are: millions of hits, netizens agree with the results of participation, far-reaching impact.

Some researchers believe that the definition of hot public events as "network mass incidents" at least means that the managers do not regard network public opinions as the normal expression of public opinions, and they lack respect for real public opinions.

As long as a new perspective, the network public opinion hot spots as a normal expression of the public, the situation will change.

On the one hand, the event reflects the awakening of the people's awareness of rights, on the other hand, it also shows the enthusiasm of the people to participate in social governance, which is exactly what the society expects.

(2) Network group event is a special group event, which is the response of real group event on the network, or the embodiment of network's influence on group event.

This view is the appeal of the masses, which is reflected in the governance inquiry of the ruling party. It involves three kinds of incidents such as "involvement in corruption", "involvement in wealth" and "involvement in power" of public departments and public officials, emphasizing violence, destructiveness and negative influence.

Some researchers believe that network mass disturbance is a special form of group disturbance that some groups release and disseminate information on a large scale to vent their dissatisfaction and create public opinion in order to achieve a certain purpose.

Others believe network group incidents is a new kind of special form of mass incidents, it is to point to in a certain

society under the background of formation of the Internet population for common interests or other related purpose, use of network organization, and in the real central normal gathered, disturb social order, and may even occur crowd violence to social and political stability.

To give all people the opportunity and platform to express their opinions, and to promote social harmony through benign communication and communication, this paper only defines network group events as a special form of mass disturbance, and restricts network group events from four aspects, and regards them as a necessary but not sufficient condition for "public opinion hot spot", "speech expression" and "network public opinion" :

① The influence of the Internet on the incitement and organization of mass incidents;

② Information response in each stage of formation of network mass incidents;

③ It emphasizes that the influence on mass incidents is caused by network groups, which leads to the formation or expansion of real groups;

④ Internet users and real groups play a role in the occurrence of mass incidents.

To sum up, this paper defines college students' network group events as college students' use of the network platform to express appeals and exchange information on hot issues caused by reality or network events, and to form online or offline group gathering actions in a specific space and time.

3. The Causes of Network Mass Incidents among College Students

(1) There is a gap between school management services and students' needs, and the way of expressing students' opinions is missing or not smooth.

Network group events are mostly related to students' vital interests, such as campus life, their own property, their own safety, resource ownership, health, etc. According to maslow's hierarchy of needs theory, these needs are at a low level, but they are aspirations that everyone can strive to achieve.

When these basic conditions cannot be met, students will strive for them, but in reality, the way to achieve them is just missing or only exists in form.

(2) The school's information management mechanism is not sound, and the release of information is not timely, objective and transparent.

Students do not get the correct information and do not see the expected response.

In the face of some emergencies, colleges and universities tend to ignore the correct release of relevant

instructions in the process of intervention, but take a relatively simple and crude approach.

For example, delete students' speeches and questions in online posts, criticize the education of students who post, lack of sincere explanation, and the school shows an attitude of evading or deliberately covering up, which intensifies the contradiction between students and the school.

(3) College students have increasingly strong legal concepts, independent consciousness and awareness of safeguarding their rights, and they are well aware of the pressure effect of online public opinion in reversing events.

College students are characterized by active thinking, rich knowledge and strong personality. When they find that what they are facing is contrary to their own knowledge or expectation, they tend to protect their individual rights from infringement and fight against authority.

They are the ones who go online a lot, and they tend to think that making a bigger impact will get more and higher level of attention, and the public opinion is usually in favor of the weak side.

They hope that the public opinion pressure will make the event in the direction of their expectations.

(4) Because of the anonymity of the Internet, students' opinions and emotions can be expressed in a more real or extreme way^[1].

Although students are becoming more and more aware of safeguarding their rights, they will still be afraid when they express some opinions or emotions, fearing that their words and deeds will attract retaliation and even affect their studies.

In such a psychological state, the anonymity of the Internet provides an opportunity for its real expression of opinions or emotional support.

In addition, whether it is online posts or other similar BBS forums on campus, a user can apply for multiple accounts, which to some extent can provide students with the illusion of public support.

4. The Characteristics of Network Mass Incidents of College Students

(1) The network group events in colleges and universities have strong public opinion orientation, fast propagation speed and sudden occurrence.

Since the network is not limited and the use of smart phones makes it possible for students to surf the Internet anytime and anywhere, it also makes the information transmission and access convenient and fast^[2].

In this way, students have limited access to information in limited cyberspace, and their emotions are easy to be incited to lead to mental imbalance, resulting in network violence.

(2) Network events are related to the interests of the group and have great practical significance to the group.

It is usually divided into two categories: one is related to the immediate interests of students, such as eating, drinking, using, learning and so on.

The other group is not directly related to the students involved in the online events, but they think they have the right to know.

For the former kind of problem, the purpose of network group behavior is to obtain its own favorable conditions;

For the latter type of problems, the purpose of network group behavior is to see what responsibility the school takes, what measures it takes, and what efforts it makes in this incident, so as to eliminate the inner sense of insecurity on the basis of understanding.

(3) In network mass incidents, netizens are prone to deindividuation and their anger is easily incited and intensified.

In the deindividuation situation, the behavior is regulated by external cues, the individual's self-awareness and sensitivity to evaluation are lower than the general situation, there is a stronger collective consistency, they will choose the more dangerous and unconventional behavior^[3].

In the network environment, students are easy to be affected by the network speech, judgment decline, the ability of objective analysis is reduced, plus in the young age, the angry mood is very easy to be incited and intensified, and tend to follow the network speech group.

(4) The group behavior of network mass incidents is the combination of rationality and irrationality.

The development of the Internet provides a way for students to express their emotions and attitudes.

In network mass incidents, most students do not hold the psychology of hostility and destruction, but hope to express a reasonable appeal.

However, because students are still in the stage of mental maturity and emotional instability, they often mix more irrational factors due to lack of restraint, which leads to the extreme of uncontrolled emotional expression.

5. Involves Problems and Their Psychological Mechanisms

5.1 Internet Users Individual

The 37th statistical report on Internet development in China shows that by December 2015, the number of Chinese

Internet users had reached 688 million, and half of the Chinese people were connected to the Internet.

The number of mobile Internet users has reached 620 million, and the usage rate of mobile Internet is 90.1%.

The majority of Chinese Internet users are from 10 to 39 years old, accounting for 75.1% of the total, among which 29.9% are from 20 to 29 years old.

In terms of occupational structure, the proportion of middle school students is up to 25.2%. It can be seen that college students are the main group of Internet users.

Some researchers point out that there is no code of conduct and cognitive distortion in the network virtual group of college students, such as cultural concept, educational management, moral behavior, interpersonal communication, self-cognition and network dependence^[4].

The existing literature pays more attention to the psychological effect of netizens. The psychological effect is the phenomenon that most people produce similar psychological reactions under similar circumstances. The main psychological effects are as follows:

(1) Anonymity effect: anonymity makes netizens feel more secure than in reality, which also makes online speech more emotional and intense than in real life.

(2) Primacy effect and recency effect: the information seen first and recently has greater influence;

(3) Counter psychological effect: the psychological phenomenon that when people can't get something, they need it more and more.

The more deleted information, the more people want to see, they think there must be a problem behind this deleted post, so the Internet users spontaneously reprint behavior and the network post was deleted to form a confrontation;

(4) Psychological negative effect: people pay more attention to the negative information of others than the positive information, especially when the negative information is related to other people's values or character.

(5) Actor-observer effect: an attributional bias that attributes the behavior of others to more stable personality factors and the cause of one's own behavior to external factors.

When negative information is reported by the media, it will spread faster than positive information. Under the negative effect, people pay more attention to and trust negative information.

(6) Vent anger psychology: usually the accumulation of social dissatisfaction, or even vent personal dissatisfaction;

(7) Third party effect: the tendency of the audience to believe that the information disseminated by mass media has more influence on the attitudes and behaviors of others than on their own.

5.2 Network Group

When each netizen starts to form a common concern to a certain thing, then forms the network group.

According to the literature review of group events, this paper holds that network group is a psychological group formed based on belief or opinion.

The influence of group psychology is as follows:

(1) Group polarization

What conclusions the initial opinions of a group tend to reach are reinforced by group discussion.

Netizens communicate and discuss because of their similar views, and their views will be strengthened and become more extreme in form.

The cross-regional characteristics of network communication enable netizens with the same demands to quickly gather into a temporary interest group, which covers a wide range, spreads quickly and updates timely.

Once the emergence of network hot spots, all kinds of information interwoven together, public opinion waves overwhelming.

As long as it is in line with the emotions of Internet users, it can achieve the psychological resonance effect of one call to one hundred responses. In addition, due to the psychological need of group belonging, the group discussion is influenced by psychological pressure to some extent and produces the phenomenon of conformity.

(2) Group opinion leaders

The concept of opinion leader was first proposed by Lazarsfeld. It refers to people who are active in interpersonal communication network and often provide information, opinions or suggestions to others and exert influence on others. It is these people who influence the thoughts and emotions of the group.

The incitement of group leaders in online media is the direct cause of many online violence incidents in China.

As the vast majority of Internet users are relatively silent in the network and just passively accept the information, the opinion leader's opinion will become the final conclusion, while other Internet users will attach to this conclusion, accept the opinion leader's opinion or constantly revise their opinion according to the opinion leader.

(3) Group susceptibility, group unconsciousness:

As a battle of wits, groups in networks are impulsive, volatile and impatient, and anonymity reinforces the collective unconscious.

5.3 Network Communication and Event Process

All network group events have a process of occurrence,

development and disappearance, namely the so-called outbreak period and decline period. Network communication has a far-reaching impact on the event process. This paper summarizes the relevant research.

Some researchers believe that the communication motivation of college students' network group events has the characteristics of social public welfare purpose, self-expression, following suit and self-indulgence.

With the development of the society, college students' self-will is gradually strengthened, and they dare to express their own opinions, and their awareness of safeguarding their rights is also strengthened. Meanwhile, the network provides a space and a place for catharsis.

Some researchers also believe that emotional contagion and action mobilization are the driving forces for the development of network news events to network group events.

Some researchers used questionnaire to investigate college students' cognition, support degree and emotion towards network events. They believed that group effectiveness, group identification and anger had positive prediction effects on network mass incidents, while government trust and media attitude had negative prediction effects on network mass incidents.

The government's trust and the media's attitude have a negative predictive effect on the network mass incidents.

Internet anonymity and deindividuation affect individuals to participate in network mass incidents.

Some researchers believe that Internet rumors can lead to the network mass booring, and the spread of Internet rumors plays a psychological mobilization role in the occurrence of mass disturbances, gradually arousing the emotions of the participants in the mass disturbances, and the network rumors become an accelerant for the emotional fermentation of the participants and netizens.

5.4 The Evolution Process and Mechanism of Network Group Events

Some researchers believe that network identification mechanism, network diffusion integration mechanism, network mobilization mechanism and network counseling mechanism run through the whole network group event.

A few researchers mainly focus on the role of meaning construction in the formation of events. They believe that through the process of meaning construction, specific social events can be given a general meaning and recognized, and then aroused attention and heated discussion, and upgraded to network group events.

6. Existing Problems and Development Direction

Based on the above discussion, this paper holds that the following problems still exist in the current research on college students' network group events:

(1) Insufficient understanding of network events:

The polarization of definitions can also easily lead to the recognition of attitudes towards events

The differentiation of knowledge affects our response to the university network events, so we should first form a more comprehensive and sincere understanding of them.

(2) Empirical research on psychological mechanism needs to be refined:

Based on the stability of colleges and the needs of college students' own growth, we should grasp the psychological process in the process of network events more concretely, so as to guide them timely and effectively.

Therefore, further research is needed on the early warning, treatment and response of college students' network mass incidents.

7. Psychological Analysis of College Students in Network Mass Incidents

7.1 College Students' Self-consciousness and Self-realization

On the one hand, network group events are related to students' limited thinking and irrational judgment of self-worth.

In general, students at this age have a complete and unified self and a more accurate positioning of their identity. However, in the network environment, students' real self and virtual self will be intensified to different degrees, and students will have vague positioning of the real self role, lose the responsibility of the role, and their self will be completely released, so they will no longer be restrained by the superego, and they are prone to words and deeds that do not conform to the norms of the role.

On the other hand, maslow's hierarchy of needs theory points out that people have the need of self-actualization, and it is the highest level of needs.

For students in school, there is a strong need for their individual ability to be recognized and their potential to be realized, and the Internet provides the possibility for them to realize this need.

Some students who are usually not good at verbal communication, have never been a student leader, and lack of successful experience find that releasing a campus event they have mastered through the Internet can attract the attention of Internet users, infect emotions, arouse

resonance, and get support, from which they can gain confidence and hope that they have never gained in real life.

7.2 Attitude Expression and Emotional Catharsis

Students in college network group events usually have a relatively consistent attitude. They think the event is unreasonable or incomprehensible, and they think their own interests are damaged in the event, and they belong to a vulnerable group. They want to express their attitude and get change.

Their attitude may itself be the bias when the truth is unknown, but in the expression of bigotry and extreme and in the network shows attacks, abuses, exaggerations, deliberately incitement and so on.

Without rational control of their emotions, they tend to make things go to extremes and affect the harmony and stability of the campus.

7.3 Pressure and Resistance

College students are under pressure from various aspects, such as economic pressure, interpersonal pressure, employment pressure, and so on. These pressures need a way to relieve.

At the same time, college students will regard some school requirements as oppression, they think it is necessary to resist, and the Internet provides them with an opportunity to relieve the pressure and resist.

The network lets them unscrupulous, at this time the function of the network for them is just like in the emotional catharsis room, they can hit at will, but what they use on the network is the text and speech as a catharsis tool.

Students are also looking for opportunities to use sudden events to create an online backlash against the school system.

7.4 Suggestion and Conformity

Psychological theories suggest that under certain conditions, the personalities of members of a group tend to disappear, as if under the influence of a magnetic field, much like that of a hypnotist, in which the brain is paralysed and willpower and judgment are lost.

Under the action of suggestion, individuals are highly susceptible to the influence of the group and unconsciously exhibit some impulsive behaviors, which are enhanced by the mutual influence of group members.

In college network group events, ordinary students have a process from identification to problem internalization for network leaders.

In the process of participating in the event, the responsibility decentralization psychology exists in the herd mentality, and the network leader makes the participation of individual students not only have the support of the team, but also have the possibility of evading responsibility, which is also the psychological condition of the university network group event.

7.5 Stereotypes and stereotypes

In the case of limited information, people tend to explain things with their own thinking reasoning and speculation;

And for a certain group or some people have already formed a general and fixed view, when the evaluation judgment will have a relatively strong subjective color.

The existence of stereotypes and stereotypes is one of the conditions for the outbreak of college network group events.

7.6 Hostility and indifference.

In a college network group event, the event itself is not directly related to the fundamental interests of the event group, the participants just hold a kind of revenge, or they have suffered injustice from the school or teachers, hoping that the impact of the event will be expanded, the relevant personnel will be punished, and their inner needs will be satisfied.

Or he just treats the event as an entertainment event. He lacks understanding and empathy for the parties involved, and participates in the incident to stir up emotions online, just hoping to have fun in the chaos.

8. Education Countermeasures

8.1 Adhere to Humanism, Appeal - Centered

In college network group events, the administrators should change their ideas, not simply define the event as student trouble, but should recognize the rationality of the appeal of students in network group events.

In the face of the occurrence of the incident, we should not avoid and suppress the practice, and we should do perspectivethinking, understand emotions, and face students' problems.

We have an in-depth understanding of the causes of the incident, put the legitimate rights and interests of students in the first place, actively deal with it, and win the recognition of the student community.

Researchers zhang shuwei and wang erping concluded that the predictive effect of group identity on mass disturbance has been proved in many fields.

Therefore, only by taking a sincere attitude can the school win the recognition of students and effectively prevent the frequent occurrence of online group events.

8.2 Guided by the Theory of Social Cognition, We should Improve the Guidance Mechanism of Campus Network Public Opinion

Nowadays, the psychological characteristics of college students determine that they are prone to cognitive bias in campus network public opinion.

After the occurrence of major campus events, if students have no channels to get the punishment they want, they will get information from online posts and other channels. These information itself is relatively one-sided, and students will make biased judgments on the events.

According to the cognitive characteristics of students in network group events, school education administrators should to the theory of social cognition, such as cognitive development theory, cognitive attribution theory, and the theory of cognitive dissonance and improve the mechanism of the campus network public opinion, to do classroom guidance and daily, let the students learn to analyze events behind their own state of mind, and healthy mindset, the right words and deeds to face problems.

8.3 Enhance Communication and Communication Skills

Communication skills are very important in network group events. When conducting ideological and moral education after the event, we should pay attention to the negative emotion of students at the individual level.

Students in this age stage have a certain rebellious psychology towards the school. If they blindly focus on political education and ignore the students' psychology, it will be counterproductive to strengthen the rebellious psychology, which is not conducive to the control and resolution of the incident.

Therefore, managers should listen attentively and put

themselves in others' shoes so that their intense emotions can be alleviated.

When the person concerned no longer faces the problem with emotion, the event has the possibility of solution.

8.4 Promote Information Transparency, Eliminate Uncertainty and Ambiguity

An important condition for people to gain a sense of control is that they can explain what has happened and predict what will happen in the future.

In life, people are usually unwilling to tolerate uncertainty and ambiguity, and always strive to eliminate uncertainty.

In college network group events, students are eager to obtain information and dispel doubts.

If the information is concealed and the truth is covered up, it will often lead to suspicion, and the suspicion with clear tendency will often lead to the expansion of the negative impact of the event.

Therefore, it is necessary to make timely and objective explanations of campus emergencies and promote the openness and transparency of information.

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REVIEW

Mental Health Issues of the Medical Workforce during COVID-19: A Review

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ABSTRACT

The COVID-19 pandemic is a public health emergency. As we write, the world counts more than 10 million positive cases and more than 500 thousand deaths. The difficult conditions faced by healthcare workers helping with the COVID-19 pandemic are leading to severe adverse mental health consequences.

The aim of this review is to summarize and analyze the mental health issues that healthcare workers are experiencing during the COVID-19 outbreak. We conduct a systematic literature review to investigate the healthcare workforce's mental health disorders. About 145 articles were retrieved for the period between January 1, 2020 and April 30, 2020. After screening, 27 articles were selected for full-text examination, 13 were included in the review. Of the studies included, 69% (9/13) and 61% (8/13) investigated depression and anxiety, respectively, although other mental health disorders such as insomnia, distress, stress, and fear were also assessed. Most of the healthcare workers in the studies reported high levels of stress, anxiety, and severe symptoms of depressions.

Caregivers are working under high levels of pressure, in a high-risk environment, and are dealing with many physical and psychological challenges. Appropriate actions and well-timed psychological support to protect medical workers' mental health should be considered.

1. Introduction

In December 2019, the Chinese city of Wuhan reported the first case of a novel pneumonia caused by coronavirus disease 2019 (COVID-19) ^[1]. Today, the virus is identified as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which differentiates from the previous coronaviruses that caused severe acute syndrome (SARS) and Middle East respiratory syndrome

(MERS) by having a much faster contagious rate. After only a few months, the novel coronavirus was spreading worldwide with an unprecedented rate and a high number of deaths, determining an alarming situation and forcing the WHO to announce the state of pandemic. As we write, the world counts more than 10 million infections and more than 500 thousand deaths ^[2]. Only in the US more than 2.5 million individuals tested positive for COVID-19, with a mortality rate of 4.9%. Higher case fatality rates

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have been observed in European countries: UK, Italy, and Spain presented a mortality rate of 13.9%, 14.4%, and 9.5%, respectively ^[2]. Despite the achievements that have been made to battle COVID-19, including determining virus information, clinical characteristics, and fast diagnosis ^[3,4,5], effective treatment is not yet available, and COVID-19 still represents a global public health emergency.

In this critical situation, healthcare workers play a leading role in the diagnosis, treatment, and care of patients affected by COVID-19. Due to the enormous increasing number of confirmed positive cases among both civilians and the medical workforce, retired doctors have been recalled, and medical students were allowed to obtain an early degree to practice during the outbreak ^[6,7]. Despite the tentative to increase the number of health professionals, medical workers still face hard working conditions. Aspects such as a shortage of adequate personal protection equipment (PPE), high risk of being infected, as well as living isolated and being exposed to dramatic life events, put doctors and nurses under intense stress and pressure, and may lead to an onset of severe mental health issues ^[8,9,10]. Previous research has shown that psychological disorders such as stress, anxiety and depression occurred in healthcare personnel engaged in the treatment of patients with SARS and MERS ^[11,12,13,14,15,16,17]. A few studies performed in the past months showed that similar mental health issues have already been evident in doctors and nurses involved in treating patients with COVID-19. This narrative review aims to investigate and summarize the studies conducted about the mental health status among healthcare workers assisting in the COVID-19 pandemic. Understanding the most common mental health issues that medical staff is facing in this period is essential for developing precautionary measures, applying appropriate strategies to manage medical staff, and providing the well-timed psychological care that healthcare professionals may need during and after the pandemic.

2. Methods and Material

We conducted a systematic search of literature and critically selected the articles that contain material that would provide evidence on mental health status among the healthcare workers during the COVID-19 pandemic. A detailed process of the searching and the selection of the articles is reported in Figure 1.

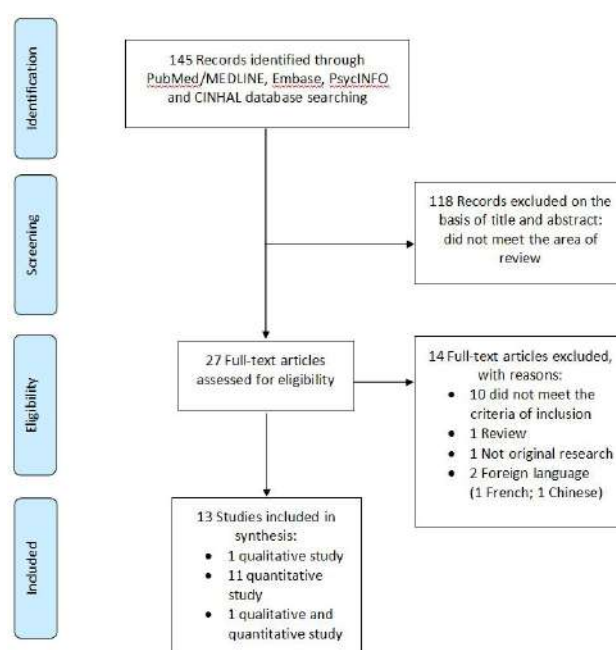


Figure 1. PRISMA Flowchart: progression of articles selection

Step 1: Literature Search

A PubMed/MEDLINE, PsycINFO, CINHAL, and Embase electronic search, conducted from January 2020 to April 2020, yielded 145 records referring to mental health disorders among medical staff dealing with COVID-19. PubMed/MEDLINE is a primary database containing articles in the biomedical and health science areas. PsycINFO is a database of abstracts for psychological literature. CINHAL is the most comprehensive database of information in nursing and health related fields. Lastly, Embase is an extensive biomedical database that contains records from academic journals as well as grey literature.

The literature search was conducted using a combination of the following key words:

(1) Mental health, mental disorders, mental illness, psychiatric symptom or disorder, well-being, psychiatric or psychological outcome, psychiatric morbidity or disability, psychological morbidity or disability, distress, stress, posttraumatic stress, PTSD, anxiety, depression, traumatic reaction.

(2) Medical staff or medical workers, hospital staff or hospital workers, healthcare staff or healthcare workers, caregivers, physician, provider, practitioner, nurse.

(3) Coronavirus or COVID-19 or severe acute respiratory syndrome.

We considered all types of publications from January 2020 to April 2020, including letters to editors, original research articles, commentary, and correspondence.

Reference lists of retrieved articles were also reviewed to search for other relevant studies. Studies were included in the present review if they reported original data (qualitative and quantitative) about mental health problems encountered by healthcare workforce involved in the SARS-CoV-2 pandemic.

From all the articles that were relevant to the topic of the review, only original research studies (including those published as letters to the editors/commentaries) that assessed mental health issues faced by healthcare workers were included in the narrative review.

Step 2: Article Selection

Of all the 145 articles that were retrieved, 118 were excluded on the base of title and abstract and 27 were selected for full text examination. After scrutinizing each paper, 14 were excluded from this review: 10 did not report a study, one commented on a study that was already included in the present review, one was a literature review, and two were written in a foreign language (one in French and one in Chinese). A total of 13 articles were included in this review.

3. Results

Among the 13 selected articles, 12 were from Chinese centers and one from Hong Kong. Eight were published as research articles and five as letters to the editor. The majority of the articles (10/13) were quantitative cross-sectional studies; one publication was a purely qualitative cross-sectional study; one article was featured research that was both qualitative and quantitative; and one article was a longitudinal study with two time points. Three studies were conducted between the end of January and the beginning of February; five studies were conducted in the month of February; one study was performed between the end of February and the beginning of March. One study compared data from the outbreak period (Jan 28-Feb 29) and the after-outbreak period (Mar 2-Mar 21). Meanwhile three studies did not report the period in which they were carried out. The sample size of the studies varied from 20 participants to 3343 participants. Depression and anxiety were evaluated in 69% (9/13) and 61% (8/13) of the studies, respectively. Other mental health disorders assessed in these studies included insomnia, distress, stress, fear, dream anxiety, and other. Studies characteristics are reported in Table 1.

Table 1. Studies characteristics

Author	Methodology	Period	Country/Region	Populations studied	Total sample size	Endpoints- Instruments
Lai et al.	Quantitative Survey	Jan 29-Feb 3	Wuhan Hubei Other region (China)	Physicians and nurses	1257	Depression- PHQ-9 Anxiety- GAD-7 Insomnia- ISI Distress- IES-R
Kang et al.	Quantitative Survey	Jan 29-Feb 4	Wuhan (China)	Physicians and nurses	994	Depression- PHQ-9 Anxiety- GAD-7 Insomnia- ISI Distress- IES-R
Sun et a.	Qualitative	Jan 20-Feb10	First Affiliated Hospital of Henan University of Science and Technology (China)	Nurses	20	Psychological Experience-Colaizzi's 7-step method
Wu et al.	Quantitative Survey	Feb 10-Feb 21	China	Medical staffs and college students	3343	Risk Awareness- Own questionnaire Physical and Mental Response- Own questionnaire Optimistic Hope- Own questionnaire
Mo et al.	Quantitative Survey	Feb 21	Hubei (China)	Nurses	180	Stress-SOS Anxiety-SAS
Li et al.	Quantitative Survey	Feb 17-Feb 21	China	General public, frontline nurses, non-frontline nurses	740	Vicarious traumatization- Vicarious traumatization questionnaire
Chung et al.	Quantitative	Feb 14-Feb24	Hong Kong East Cluster	Hospital Staff	69	Depression- PHQ-9
Lu et al.	Quantitative Survey	Feb 25-Feb 26	Fujian Provincial Hospital (China)	Medical staff and administrative staff	2299	Fear- NRS Anxiety- HAMA Depression- HAMD

Author	Methodology	Period	Country/Region	Populations studied	Total sample size	Endpoints- Instruments
Zhang et al.	Quantitative Survey	Feb 19-Mar 6	China (China)	Medical healthcare workers and Nonmedical healthcare workers	2182	Insomnia- ISI Anxiety- GAD-2 Depression- PHQ-2 Somatic symptoms- SCL-90-R OCD- SCL-90-R Phobic anxiety- SCL-90-R
Cao et al.	Qualitative and Quantitative Survey	N/A	Union Medical College Hospital (Beijing, China)	Physicians, nurses, and clinical technician	37	Depression- PHQ-9 Emotional Exhaustion- MBI-EE Depersonalization- MBI-DP Personal Accomplishment- MBI-PA
Chen et al.	Quantitative Survey	N/A	Guiyang (China)	Pediatric medical staff	105	Depression- SDS Anxiety- SAS
Liang et al.	Quantitative Survey	N/A	Fifth affiliated hospital of Sun Yat-sen University (China)	Physicians and nurses	59	Depression- SDS Anxiety- SAS
Xu et al.	Observational Study	Jan 28-Feb 29 Mar 2-Mar 21	Shanghai Shuguan Hospital (China)	Surgical medical staff	120	Anxiety Depression Dream Anxiety SF-36

Four studies did not present demographic characteristics, two studies included only the average age and gender of the participants, and seven studies reported a broader set of demographic information. In the studies that reported demographic characteristics, the average age of the population ranged between 29 and 43 years, and most of the participants were female (from 64% to 90%). About 50-80% of the population was married, and around 75-100% of the individuals received a college education.

Consistent results were observed across the majority of the studies. Lai et al.^[18] conducted a study to investigate the geographical differences and the potential factors that might affect mental health outcomes among healthcare workers in China. The survey was conducted in 34 different hospitals of which 20 were located in Wuhan, 7 in the province of Hubei, and 7 in other 7 different regions. Of the 1257 participants, who responded to the questionnaires, 493 were physicians and 764 were nurses. A high rate of participants reported depression (50.4%), anxiety (44.5%), insomnia (34.0%), and distress (71.5%). More severe mental health outcomes were observed in women, nurses, medical staff working in Wuhan, and frontline healthcare workers compared to other healthcare workers.

Similar results have been found in the studies performed by Liang et al.^[19] and by Chung et al.^[20]. Several of the 59 medical healthcare workers in Liang et al.^[19] screened positive for depressive symptoms; although no difference in scores between healthcare professionals working in COVID-19 department and other departments was observed. Chung et al. and colleagues^[20] reported that 34.8% (24/69) of the hospital

staff in Hong Kong East Cluster who completed the survey were experiencing depression. About 44.9% (31/69) of the participants expressed their concerns about the lack of personal protective equipment and the fear of contracting SARS-CoV-2.

Kang et al.^[21] examined the depression symptoms, anxiety, insomnia, and distress level of 994 caregivers (183 doctors and 811 nurses) working in Wuhan. Of those, 36.9% had low symptoms of mental health disorders, 34.4% had mild symptoms, 22.4% had moderate symptoms, and 6.2% had severe symptoms. The study found that staff with limited access to psychological advice resources such as printed brochures and digital media guidance were more likely to reveal severe degrees of mental health symptoms.

Two studies were completely focused on nurses. Mo et al.^[22] found that the sample of 180 nurses involved in COVID-19 assistance in Wuhan registered a level of anxiety higher than the standard national level. About 39.91% and 22.2% of the participants reported high stress load and severe stress load, respectively. Several factors such as being the only child, number of hours worked per week, as well as the level of anxiety, showed to be statistically significant in affecting the level of stress load of nurses engaged in taking actions against COVID-19.

In a qualitative study, Sun et al.^[23] explored the psychological feelings of 20 nurses who were assisting in treating patients with COVID-19. All the nurses expressed negative feelings: (1) fatigue and discomfort due to increased workload and the number of infected patients; (2) concern about the conditions of their patients and the lack of caregivers; and (3) fear of the pandemic's effect

on their families. About 50% of the participants declared to feel anxious due to the challenges of working in an unusual environment with lack of personal protective equipment.

Chen et al. ^[24] observed that of 105 pediatric medical staff sampled in Guiyang, 18.1% and 29.5% reported anxiety and depression, with scores significantly higher than the general national level.

Further evidence was obtained by comparing the medical healthcare workforce to the general population or to the administrative staff. The study carried out by Zhang et al. ^[25] compared the mental health status between medical healthcare workers (927, of which 680 doctors and 247 nurses), and nonmedical healthcare workers (1255). More medical health workers screened positively for insomnia, anxiety, depression, somatization, and obsessive-compulsive symptoms compared to nonmedical healthcare workers. The study found that factors such as living in rural areas, being at risk of contact with patients affected by COVID-19, being female, having an organic disease increased the risk of developing mental health disorders in healthcare workers. With an exception for having an organic disease, all the factors were statistically non-significant in the nonhealthcare worker population.

In the comparison between medical staff and administrative staff carried out by Lu et al. ^[26], medical health workers reported higher rates of moderate and severe fear, as well as higher rates of mild to moderate anxiety than administrative staff. Healthcare personnel working in departments with high-risk contact with COVID-19 patients, such as ICU, department of respiratory, and department of emergency, presented significantly more severe symptoms of fear, anxiety and depression than administrative staff, and severe symptoms of anxiety compared to medical staff working in a low-risk department.

Similarly, Cao et al. ^[27] selected 16 doctors, 19 nurses, and 2 clinical technicians. About 21.6% of participants had low appetite, and 29.7% had sleeping problems. A total of 18.9% of participants (6.3% of doctors, 31.6% of nurses, and 0% of technicians) reported depression symptoms. A total of 25% (26.7% of doctors, 20.0% of nurses, 50% of clinical technicians) of the medical staff screened positively for professional burnout. Consistent with the report of Sun et al. ^[23], nurses (52.6%) expressed negative emotions such as worrying about their family members, worrying about being infected, and feeling stressed about heavy workload.

The custom-developed questionnaire by Wu et al. ^[28] aimed to investigate the emotional state and psychological stress of medical healthcare workers and college students.

Medical staffs reported significantly higher psychological stress than college students. Moreover, medical staffs working in Wuhan presented more negative emotions such as concern for their family members, fear of being infected, need of psychological support, and low confidence in the end of the epidemic than medical staffs outside of Wuhan and college students.

On the other hand, Li et al. ^[29] found that no differences were observed between non-frontline nurses and general public in terms of vicarious traumatization. However, frontline nurses showed to suffer less from vicarious traumatization compared to the other two groups.

Lastly, Xu et al. ^[30] observed 60 subjects during the outbreak period and 60 subjects during the non-outbreak period. All the 120 individuals in the study were selected from the surgical staff of Shanghai Hospital. Surgical staff during the outbreak period scored a significantly higher anxiety score, depression score, dream anxiety score and SF-36 than the group during the non-outbreak period.

4. Discussion

The present review found that the psychological status of healthcare workers is strongly related to the experiences that they live through as workers fighting against the Covid-19. Healthcare workers involved in the COVID-19 pandemic were likely to encounter higher level of anxiety, stress, depression, and insomnia than non-medical workers ^[25].

Most common reasons for the mental health problems which medical staff are undergoing might be affected by the high likelihood of being in contact with infected patients and contracting the disease, the concern of transmitting the disease to family members, the shortage of medical protective equipment, the heavy workload, the lack of rest, and the exposure to traumatic life events, such as death. Studies have shown that being a frontline worker, a nurse, a woman, having organic disease, working in a high-risk department were also risk factors for more severe mental health outcomes ^[18,25,26]. Liang et al. ^[19] reported that medical workers under the age of 30 had worse levels of depression and of anxiety than older medical workers, although the differences were not statistically significant (p -value=0.11 and p -value=0.76, respectively).

Holding an intermediate technical title appeared to be another factor that influenced the severity of mental health outcomes ^[18]. The distress might be caused by the lack of experience and training that young and less educated staff members might have.

The fear of being infected was especially experienced by medical healthcare workers in rural area ^[25]. Rural

areas might present different medical conditions than urban areas: hospitals might lack modern equipment and sufficient personnel, and staff might not be experienced in dealing with a virus of this kind. These differences might cause difficulties in the rural areas when facing a pandemic. Conversely, Lai et al.^[18] reported that working in Wuhan was associated with a higher level of distressed than working outside of Hubei province.

In three studies^[22,23,22], healthcare workers expressed their concern about the safety of their family members. Medical staffs, especially those who lived with elderly and children, were worried about infecting their families and reported that they felt helpless and guilty. Severe degrees of stress were observed in nurses who were the only children in their families. They worried not only for the health of their family members, but also about the fact that if they died of COVID-19, their parents would lose their only child and nobody will be there to take care of their parents. Many medical workers decided to live isolated during the pandemic in order to avoid contact with their family members to protect them, although this increased their feelings of loneliness and of isolation^[26].

Mo et al.^[22] highlighted that the overwhelming circumstances, combined with long shifts, heavy workload, and the state of tension and fatigue, that medical workers experienced might lead to burnout. About 25% of medical staff in the study conducted reported “personal accomplishment” burnout, probably due to the lack of effective treatment against Sars-CoV-2.

These findings were consistent with the studies regarding healthcare workers during SARS and MERS^[17,16,11,12]. Research on the previous two outbreaks reported negative psychological reactions to these experiences, which caused long-lasting consequences even after the pandemic was over^[13,14,15].

Other studies about COVID-19, instead, have observed that emotions such as fear and anxiety in caregivers tend to decrease after the peak of the outbreak or after work adjustments have taken place^[23,30]. Providing psychological guidelines and counseling might also play an important role in experiencing less severe mental health reactions^[21]. Curiously, the vicarious traumatization score, which measures the trauma that helpers might experience as a result of empathic engagement with traumatized people, was significantly lower in frontline nurses compared to non-frontline nurses and the general population, which reported similar scores^[29]. Wu et al.^[28] speculated that the decreasing of negative emotions over time might be a consequence of what is known in psychology as “exposure effect”. “Exposure effect” is defined as a predilection for

stimulus as a result of being repeatedly exposed to that stimulus. The preference for that stimulus increases as the time of exposure to stimulus increases.

Conclusions from the studies in this review should be considered carefully. The results are affected from many sources of bias and thus should not be generalized: (1) mental health measurements were mostly self-reported; (2) samples were from specific areas/hospitals; (3) many of the studies involved only nurses and/or doctors, excluding other healthcare workers; (4) the samples size varied from 20 to 3343, with 7 out of the 13 studies featuring a sample size lower than 200; (5) the studies were mostly descriptive cross-sectional studies, therefore causal relationships between factors cannot be drawn at the moment and additional longitudinal studies should be carry out, and lastly (6), all of the studies presented missing responses, making unclear whether individuals did not respond because they were too concerned to participate or not concern at all and hence not interested in the survey.

5. Conclusions

Since the beginning of the pandemic, healthcare workers are overwhelmed, emotionally exhausted, and constantly under pressure. Rarely, the working condition are appropriate to meet the high medical treatment demands. Thousands of healthcare personnel have been tested positive for COVID-19 and many others have already died. On May 6, the International Council of Nurses (ICN) estimated that at least 90,000 healthcare workers have contracted Sars-CoV-2, and more than 260 nurses have died worldwide^[31]. The ICN highlighted that these numbers may be underestimations of the real numbers since the information they are based on is gathered from only 30 countries^[32]. As consequences of negative cognitions and emotions, and the difficult conditions under which they are forced to work, many healthcare professional demanded resignation^[33,34,35], others have started protesting^[36,37], and someone committed suicide^[38,39,40]. Although some studies claimed that fear and anxiety might decrease after the outbreak, other psychological disorders like PTSD are likely to arise after a longer period rather than in the immediate present as well as other mental health conditions/effects such as depression may last longer. Moreover, given the data from the previous studies about SARS and MERS, it is most likely that similar reactions to those observed during the previous outbreaks will be seen in the current crisis as well.

Mental health care for medical workers demands urgent attention. Caregivers are working under high

levels of pressure, in a high-risk environment, and are facing many physical and psychological challenges^[40,41]. Promoting psychological protection, providing adequate working conditions, and guaranteeing mental health support programs appear to be necessary to maintain good psychological conditions among hospitals staff and to prevent negative mental health deterioration when facing a global health crisis such as COVID19.

Conflict of Interest

Dr. Domenicano is also a Biostatistician at the West Haven, CT Cooperative Studies Program Coordinating Center, VA Office of Research and Development. The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

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Author Guidelines

This document provides some guidelines to authors for submission in order to work towards a seamless submission process. While complete adherence to the following guidelines is not enforced, authors should note that following through with the guidelines will be helpful in expediting the copyediting and proofreading processes, and allow for improved readability during the review process.

I . Format

- Program: Microsoft Word (preferred)
- Font: Times New Roman
- Size: 12
- Style: Normal
- Paragraph: Justified
- Required Documents

II . Cover Letter

All articles should include a cover letter as a separate document.

The cover letter should include:

- Names and affiliation of author(s)

The corresponding author should be identified.

Eg. Department, University, Province/City/State, Postal Code, Country

- A brief description of the novelty and importance of the findings detailed in the paper

Declaration

v Conflict of Interest

Examples of conflicts of interest include (but are not limited to):

- Research grants
- Honoria
- Employment or consultation
- Project sponsors
- Author's position on advisory boards or board of directors/management relationships
- Multiple affiliation
- Other financial relationships/support
- Informed Consent

This section confirms that written consent was obtained from all participants prior to the study.

- Ethical Approval

Eg. The paper received the ethical approval of XXX Ethics Committee.

- Trial Registration

Eg. Name of Trial Registry: Trial Registration Number

- Contributorship

The role(s) that each author undertook should be reflected in this section. This section affirms that each credited author has had a significant contribution to the article.

1. Main Manuscript

2. Reference List

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Supplementary figures, small tables, text etc.

As supplementary data/information is not copyedited/proofread, kindly ensure that the section is free from errors, and is presented clearly.

III . Abstract

A general introduction to the research topic of the paper should be provided, along with a brief summary of its main results and implications. Kindly ensure the abstract is self-contained and remains readable to a wider audience. The abstract should also be kept to a maximum of 200 words.

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Abstract and keywords should be reflected as font size 14.

IV . Title

The title should not exceed 50 words. Authors are encouraged to keep their titles succinct and relevant.

Titles should be reflected as font size 26, and in bold type.

IV . Section Headings

Section headings, sub-headings, and sub-subheadings should be differentiated by font size.

Section Headings: Font size 22, bold type

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Main Manuscript Outline

V . Introduction

The introduction should highlight the significance of the research conducted, in particular, in relation to current state of research in the field. A clear research objective should be conveyed within a single sentence.

VI . Methodology/Methods

In this section, the methods used to obtain the results in the paper should be clearly elucidated. This allows readers to be able to replicate the study in the future. Authors should ensure that any references made to other research or experiments should be clearly cited.

VII . Results

In this section, the results of experiments conducted should be detailed. The results should not be discussed at length in

this section. Alternatively, Results and Discussion can also be combined to a single section.

VIII. Discussion

In this section, the results of the experiments conducted can be discussed in detail. Authors should discuss the direct and indirect implications of their findings, and also discuss if the results obtain reflect the current state of research in the field. Applications for the research should be discussed in this section. Suggestions for future research can also be discussed in this section.

IX. Conclusion

This section offers closure for the paper. An effective conclusion will need to sum up the principal findings of the papers, and its implications for further research.

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References should be included as a separate page from the main manuscript. For parts of the manuscript that have referenced a particular source, a superscript (ie. [x]) should be included next to the referenced text.

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XI. Glossary of Publication Type

J = Journal/Magazine

M = Monograph/Book

C = (Article) Collection

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P = Patent

S = Standards

N = Newspapers

R = Reports

Kindly note that the order of appearance of the referenced source should follow its order of appearance in the main manuscript.

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XII. Others

Conflicts of interest, acknowledgements, and publication ethics should also be declared in the final version of the manuscript. Instructions have been provided as its counterpart under Cover Letter.

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