

Exposure to Pandemic News on Mainstream Media: A Study of Risk Perception and Perceived Stress

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Abstract

This study delves into the disproportionate impact of the pandemic on citizens of lower-middle-income countries, with a particular focus on Pakistan. Recognizing the potential for heightened risk perceptions and stress induced by mainstream media coverage, the research aims to establish a nuanced understanding of the interplay between exposure to pandemic news, risk perceptions, and perceived stress. The study involved 354 respondents aged 18 and above, reflecting diverse demographics across Pakistan. Utilizing a survey questionnaire, the researcher explored socio-demographic factors, mainstream media consumption, risk perception, and perceived stress during the ongoing pandemic. Employing a CCRPM model-based scale, the assessment of risk perception was complemented by a modified perceived stress scale to quantify the stress levels among the general public. Notably, the findings revealed a gender distribution of 58.5% females and 41.5% males among the participants. Contrary to expectations, the research identified a negative relationship between mainstream media news exposure and stress and risk symptoms. During the upsurge of the pandemic in Pakistan, spending more time on mainstream media was associated with lower levels of perceived stress and risk perception among the public. This study provides valuable insights into media exposure, stress, and risk perception during a pandemic, shedding light on the potential mitigating effects of informed media engagement on public well-being.

Introduction

Mainstream media, television, newspapers, and radio are considered the dominant means of mass communication, with professional journalists functioning primarily as disseminators of news and information broadcast. Conversely, managing pandemic outbreaks needs an effective and timely method that informs people of what to do without creating mental health hardship (Konnolly & Cowper, 2020). People worldwide increasingly rely on credible news sources through this pandemic. Citizens want reliable statistics about how the lockdown is affecting their lives, such as how many people have lost their jobs, how many have been ill, and how many have died. The mainstream media are regarded as a significant tool for disseminating information to the public in general (Parvin et al., 2020). For example, CNN interviewed recent pandemic patients in a news report describing their perception of risk, severity, and stress (CNN, 2020). However, prolonged exposure to risk-framed information may adversely affect the mental health of viewers (Seabrook, 2016). Therefore, the mental health consequences of media attention on pandemics are vital to explore.

The mainstream media has played an important role in inculcating fear, risk, and stress about the pandemic (COVID-19) crisis in Pakistan. Pandemic-related psychological problems are commonly reported (Lima et al., 2020). This global lockdown is causing stress, fear, instability, and tension in the general public.

With the arrival of the recent pandemic in Pakistan, people who are quarantined or isolated at home are under physical and mental pressure. Furthermore, many people lost their employment

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and live in challenging circumstances. Psychological disorders and stress are often known to cause widespread mental disorders such as stress and depression in other parts of the world (Dar et al., 2017).

Those who also have pre-existing health conditions, such as anxiety and depression, and the elderly who live in loneliness and solitude are the most susceptible to psychological disorders (Adams et al., 2004). According to recent television broadcasts, the public has been made to think that the pandemic and psychological problems are not central issues in News coverage. They plan promotions for every event, not for the pandemic (COVID-19), which could impact about a third of the global population. Since the Pakistani population depends heavily on the media for information about everything, the media in Pakistan covers festivals and social activities by organizing numerous campaigns. Special reporting of events such as Ramadan, Eid, Women's Day activities, and sports coverage (Latif & Bashir, 2020). There is a general agreement that entertainment is essential at this time of fear, but what about the media's constructive role in informing people about psychological well-being during the pandemic outbreak? (McKibbin & Fernando, 2020). In our country, Pakistan, media programs must discuss the public's psychological wellness, and specialized broadcasts with healthcare providers and experts are desperately required to provide guidance and direction to the citizens about how to deal with the current crisis (Ali & Gatiti, 2020). Pakistani media maintains a significant level of television independence and significantly influences the general public's daily lives. The present crisis generally requires that they play a constructive role in this crucial situation for the public's well-being.

As a result, mass media coverage of disasters has the potential to expand the disaster's boundaries and transmit passive feelings among the general public, raising psychological distress. Exposure to distressing media material is enough to elicit negative feelings (Chao, 2020).

During the recent pandemic (COVID-19), media exposure often contained a range of stress-inducing factors, such as rumors, misinformation, and fear messages, especially video graphic images, which all put the population under much mental stress. As a result, it is reasonable to assume that pandemic-related stress reactions will be aided by disease outbreak media exposure (Wang & Zhao, 2020).

The study aimed to investigate the general public's risk perceptions and perceived stress during the recent Pandemic in Pakistan. The researchers discovered the relationship between media consumption and their perceptions of the pandemic. George Gerbner claimed that the media has powerful cultivating effects (Baran & Davis, 2011). Following in the footsteps of Gerbner (1969, 1970), it was attempted to determine how the media is cultivating the minds of consumers about the pandemic and how the cultivation effect differed for heavy and light users of media be strongly related to preventive behaviors such as social distance and rinsing (Wang & Zhao, 2020).

The recent pandemic can cause mental pain like uneasiness and misery. It is essential to decide on mental elements that can be useful in overseeing and alleviating the effect of the pandemic on the working of humans. It has been shown that segment contrasts mental components are fundamentally connected with commitment in defensive practices (Bish & Michie, 2010).

Objectives

1. To examine the risk perception among the public during the pandemic through News on mainstream media in Pakistan.
2. To investigate how news on mainstream media affects the stress level of the public during the pandemic in Pakistan.
3. To examine the role of demographic variables (gender, income level, education) concerning the study variables.

In light of the previous investigations, the following hypotheses have been proposed in the context of Pakistan:

Study Hypothesis

H1: The more significant the exposure to pandemic News, the greater the effect on viewers' stress and risk perception.

H2: Women are more likely to experience more significant stress than men as a result of exposure to pandemic News on mainstream media.

H3: Women are more likely to perceive risk than men due to exposure to pandemic News on mainstream media.

H4: Viewers from low-income classes are more likely to experience more significant stress than those from high-income levels as a result of exposure to pandemic News on mainstream media.

H5: Viewers from the low-income class are more likely to perceive risk than those from the high-income level due to exposure to pandemic News on mainstream media.

H6: Viewers from high education backgrounds are more likely to experience more excellent risk perception than those from lower education backgrounds due to exposure to pandemic News on mainstream media.

H7: Viewers from high education backgrounds are more likely to experience more tremendous stress than those from lower education backgrounds as a result of exposure to pandemic News on mainstream media.

Significance of Study

This current investigation looked into the general public's risk perception and perceived stress during the recent pandemic outbreak in Pakistan, one of the most significant infectious disease outbreaks in the last 100 years. Many scholars work on how social media affects psychological well-being during the recent pandemic. However, in Pakistan, there needs to be more work done on it in the context of mainstream media. This study will determine to what extent people perceive risk and stress through news on mainstream media during the recent pandemic in Pakistan. This study will help lawmakers, media persons, and medical staff cope with stress and risk perception during any pandemic.

Literature Review

Risk Perception During Pandemic

The world was under attack from an outbreak of the COVID-19 pandemic. The pandemic has affected many people. Several researchers look at the virus's essence and suggestions for how to stop it from transmitting (Chinazzi et al., 2020). Pandemics like SARS, COVID-19, and N1H1 have the potential to cause severe respiratory problems such as respiratory infection syndrome.

Right now, there is hardly proof of the mental elements impacting preventive practices towards the pandemic. A few investigations showed that apparent individual risk, dread, and weakness are identified with a commitment to preventive measures (Wu, Lam, & Fielding, 2019). Despite segment contrasts, the individuals who accepted they were powerless, saw a high chance of contamination and dreaded infection, were bound to take part in preventive practices, recommending that building up the capacity of an individual to adapt to the effect of the pandemic can support selection of preventive practices (Yildirim, 2020). Significance of human mental and behavioral features in overseeing pandemics. It is urgent to survey the mental and behavioral impact on the situation and decide how seen hazard is connected to commitment in defensive practices (Wise, 2020).

While a few investigations have accentuated the job of danger discernment, overwhelmingly the belongings of the disease (in terms of probability and seriousness of contamination for the person), on precaution practices, these frequently occur either fully expecting an episode or long after its rise (Wise, 2020). It should likewise be valued that there is a "stream up" impact of danger discernment, as the general population advises policymakers, who somewhat should cling to the solicitations and views of their constituents. Thus, the public's view of risk illuminates' policymakers, who depend intrinsically on a more extensive sociocultural setting when conveying and reacting to data (Abrams & Szeffler, 2020). Apparent danger is likely to influence people's conduct during a pandemic. However, people are regularly poor at seeing danger.

Stress During Pandemic and News Media

On March 11, 2020, the COVID-19 pandemic was declared an epidemic (Cucinotta & Vanelli, 2020). As a result, citizens in many nations have been encouraged to stay at home and exercise "physical or social separation." Pandemics like N1H1, SARS, and Covid-19 caused considerable stress (Bao, 2020). According to the latest survey of general population in China, 8.1 percent of respondents indicated mild to extreme stress levels (Wang, 2020). China's population is estimated to be about 112 million people. Similarly, according to a national poll, 27.2% of Italians (16.2 million people) recorded moderate to very high stress levels during the pandemic (Mazza et al., 2020).

Long-term depression is linked to a higher risk of death, adverse mental health conditions, and a poorer quality of life (Marshall et al., 2008). Therefore, understanding how to handle stress is essential, specifically during a disease outbreak. *Stress* is a term used to describe an individual's response to internal or external problems (Tosevski, 2011). The result of a person's judgment of a source of stress as dangerous or non-threatening, as well as his or her coping skills, is perceived stress (e.g., perceived effectiveness or ability to deal with the threat). One of the factors that can influence stress perception and response is personality.

Citizens must address new emotional difficulties, particularly tension, stress, and fear. Pandemics significantly threaten one's health and well-being (Levkovich et al., 2020). People's fears of being ill or dying, either for themselves or anyone close to them, can have psychological consequences. Fear and helplessness, as well as warnings about medical supply shortages, are likely to increase tension (Levkovich et al., 2020). A pandemic outbreak can be traumatic for people. Lack of certainty and fear over a lethal virus and what might happen can be frightening and trigger strong emotions in adults and teenagers. Individuals can feel alienated and lonely due to public health, such as social distancing, which can increase fear and tension. News organizations play an essential role in disseminating information about public health emergencies, and media coverage have both negative and positive effect on public conduct. On the one hand, media reports could raise public awareness of the pandemic and protective measures. On the other hand, exaggerated news stories will trigger public outrage, tension, and anxiety (Li et al., 2020).

Theoretical Framework

During lockdown, people are accessible at home, and consumption of news media is high as compared to regular working days; heavy users of media perceive more risk towards outbreak as compared to light users; in the political and social sciences, cultivation theory (Gerbner et al., 1994) has been widely adopted to understand how mass media, particularly television, can influence people's perceptions of reality. The current investigation was supported by George Gerbner's notion of cultivation analysis. "People who spend much time watching TV tend to see the world via the most common and repeated concepts of the TV world."

Cultivation theory, which focuses on how TV watching, in particular, is linked to our observed social reality, is among the most analytical ways of explaining media's social and cultural consequences created in the previous 50 years. Cultivation is one of the three most significant theories of media communication research in major scholarly articles published from 1956 to 2000, along with agenda-setting (McCombs & Shaw, 1972) and uses and gratifications (Katz et al., 1973). Cultivation was the most mentioned concept in an analysis of media effect research published in 16 publications from 1993 to 2005 (Bryant & Myron, 2004). Much research is still being conducted within the "context" of cultivation.

According to the research, after a pandemic has struck, the media will convey upsetting and hazardous material (Bomlitz & Brezis, 2008). When citizens are exposed to this information through the media, they become terrified. People's fear of illness significantly affects the disease's prominence (Setbon & Raude, 2010; Altheide & Michalowski, 1999). Investigated people's media use and their anxiety about becoming infected with H1N1Mesch, Schwirian, and Kolobov (2013).

The media helps to spread and maintain fears. The least efficient method of creating fear is directly exposed. The world has changed from a "scary lifestyle to a life of fearsome media". As per risk research, fear has become more widespread in everyday life. The media's portrayal of news contributes significantly to the rise in danger and conflict in society (Furedi, 2007). People must comprehend the psychology of social media information, since only then can we avoid disinformation, especially in emergencies like the one the globe is presently facing (Khan et al., 2021).

The researcher adopts a theory-based approach to risk perception study in this study. Linden (2015, 2017) climate change risk perception model encourages the use of groups of factors that correspond to the cognitive, emotional, and experiential traditions, as well as the sociocultural paradigm, in an attempt to combine more than 50 years of risk perception studies. This "comprehensive" approach to modeling risk perception determinants avoids dependence on a single system, relieves worries about single-item constructs' dependability and has been applied in recent disease outbreak investigations (Prati & Pietrantonio, 2016).

The researchers will measure the extent to which people perceive risk. To their knowledge, the researcher will publish a national review of pandemic risk perception among N = 354 participants assessed nationally between 2020 and 2021 in the current study.

Methodology

Using the survey methodology, the researcher used a Quantitative Analysis Design. The questionnaire was distributed to individuals aged 18 and above (n = 354). Respondents were asked to fill out a questionnaire on the impact of mainstream media during the recent pandemic on stress and risk perception. It is a convenient sampling method to use. An online questionnaire was generated using Google Forms and sent to contacts via e-mails, WhatsApp, and other social media applications. The respondents were told to roll the survey out to as many people as possible.

Survey

The study questionnaire contains four segments: demographics, mainstream media exposure, and perceived stress scale (Cohen, 1994). Respondents are asked to rate questions with 1 = never 2 = almost never 3 = sometimes 4 = fairly often 5 = very often. And climate change risk perception model-based scale used by Jahangiry (2020). Each item was evaluated using a 5-point Likert scale because major demographic variables are expected to influence pandemic perceptions of risk and stress and media intake; the researcher obtained key demographic factors for statistical control (e.g., age, underlying conditions). The following pertinent socio-demographic variables, such as age (continuous variable), gender, and education, were asked

of participants. The socioeconomic status parameters were household income in PKR (less than 50000, 50,000-100,000, 101,000-150,000, 151,000-200,000, and 200,000 and above).

Media Exposure

Primary stream Media exposure is measured by asking three questions to respondents in Q1 and Q2 to measure central stream media exposure. Answers stated, "How frequently do you use television for acquiring recent pandemic information? Moreover, in Q2, how frequently do you get information on pandemic news from news channels? Moreover, asked them to rate from 1: never to 5: consistently. The third question is about time spent on TV during lockdown, which is asked in Q3. On average, how many hours do you dedicate to television during lockdown, and asked respondents to rate it from less than 1 to more than 4 hours.

Perceived Stress Screening

The most widely used psychological instrument for measuring perceived stress is The Perceived Stress Scale (PSS) (Cohen, 1994). It is a grading system for determining how stressful various events in one's life are. The items were picked to demonstrate how unexpected, chaotic, and overburdened the respondents' lives are. The scale also includes a variety of other questions about current stress levels. The questions are straightforward, as are the response alternatives. Furthermore, the questions are broad in scope, probing feelings and thoughts from the recent pandemic.

Risk Perception

The CCRPM is a risk perception model and theory (Linden, 2015)—the Risk Perception survey questionnaire based on van der Linden's paradigm. In several pandemic studies, this scale is used to assess risk perception. Researchers using this scale (Risk perception related to pandemic among the Iranian general population: an application of the extended parallel process model, 2020).

Findings and Discussion

The Statistical Package for Social Science, Version SPSS 25, was used to conduct the data analysis; table 1 displayed the sample demographics, their age, gender, education, and income levels.

Table 1 Sample demographics

	<i>M</i>	<i>f</i>	<i>%</i>
Gender	Male	147	41.5
	Female	207	58.5
Age	18-30	254	71.8
	31-40	49	13.8
	40- above	51	14.4
Education	Under grad	40	11.3
	Graduation	169	55.4
	Post grad	118	33.3
Income	Less than50,000	73	20.6
	51000-150000	186	52.5
	151000-250000	95	26.8

The sample as a whole was relatively young ($M = 1.426$, $SD = .730$). 71.8% of the sample was between 18- 30 years. In terms of education the sample as a whole was relatively graduate (M

= 2.2203, SD = .6315). 55.4% of the sample was graduate. In terms of socio-economic background, the sample as a whole was relatively middle class (M = 2.0621, SD = 0.68709). 52.5% of the sample has house hold income between 51000-150000.

Table 2 Correlations for H1

		Risk perception	Stress	Media exposure
Media exposure	Pearson Correlation	.025	-.008	1
	Sig. (2-tailed)	.645	.880	
	N	354	354	354

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

Examining H1, the Pearson correlation revealed a negative association between media exposure, perceived stress (-.008), and risk perception (.025).

Table 3 Correlations for H2

Variable	Male (n = 147)		Female (n = 207)		<i>T</i>	<i>P</i>	95% <i>CI</i>		<i>Cohen's d</i>
							<i>LL</i>	<i>UL</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
Risk perception	3.26	0.42	3.18	0.44	1.61	.107	-.016	.1701	0.1751
Perceived stress	3.187	.4147	3.250	.3927	-1.44	.150	-1.4777	- 1.486	0.15468

For H2, there was no significant difference between male and female perceptions of risk and media exposure, according to the research. Male viewers (M = 3.26, SD = 0.42) and female viewers (M = 3.18, SD = 0.44), $t = 1.61$, $p = 0.107$, $d = 0.1751$. H2 is not backed up by this. For H3 the findings revealed no such significant difference between male and female perceptions of risk and media exposure. The results revealed that male (M = 3.18776, SD = .414778) whereas female viewers (M = 3.25024, SD = .392759), $t = -1.44$, $p = .150$, this not backed up H3.

Table 4 One-way ANOVA Analysis result of exposure to pandemic news on different income viewers

Measure	Low		Middle		Higher		<i>F</i>	<i>p</i>	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Perceived stress	3.309	.3737	3.2268	.3984	3.1536	.4234	3.140	0.044	0.0175
Risk perception	3.09	.421	3.24	3.16	3.25	.423	3.554	0.030	0.0198

To investigate the data, a one-way ANOVA analysis was used as a result of exposure to pandemic news on mainstream media, low-income viewers are more likely to experience greater stress than high-income viewers. Participants were separated into three groups based on their household income (low, middle, higher). The three age groups had a statistically significant difference in LOT scores at the p.05 level: $F = 3.140$, $p = 0.044$. The actual difference in mean scores between the groups was fairly tiny, despite approaching statistical significance. Using eta squared, the effect size was calculated to be 0.0175.

The three age groups had a statistically significant difference in LOT scores at the p.05 level: $F = 3.554$, $p = 0.030$. The actual difference in mean scores between the groups was fairly tiny,

despite approaching statistical significance. Using eta squared, the effect size was calculated to be 0.0198. The total number of participants from lower income categories ($M = 3.9$, $SD = .421$) perceives danger as being much lower than the other two groups ($M = 3.9$, $SD = .421$). H4 and H5 is a backup.

Table 5 One-way ANOVA analysis was conducted to explore the difference between education level and perceived risk due to exposure to pandemic news

Measure	Under grad		Grad		Post- grad		<i>F</i>	p	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Risk perception	3.17	.461	3.199	.465	3.25	.396	.755	0.469	0.0043
Perceived stress	3.305	.4100	3.1938	.3959	3.2474	.4092	1.563	0.471	0.008

A one-way ANOVA analysis was conducted to explore the difference between education level and perceived risk and stress level due to exposure to pandemic news. Participants were divided into three groups according to their education level (undergrad, graduate, and post-graduation). There was statistically no significant difference at the $p < .05$ level in LOT scores for Risk perception of the three age groups: $F = .775$, $p = 0.469$. The actual difference in mean scores between the groups was relatively small. The effect size, calculated using eta squared, was 0.0043. For perceived stress, there was statistically no significant difference at the $p < .05$ level in LOT scores for the three age groups: $F = 1.567$, $p = 0.471$. The actual difference in mean scores between the groups was relatively small. The effect size, calculated using eta squared, was 0.008. The total number of participants from graduation groups ($M = 31.93$, $SD = 3.95$) substantially perceived less stress than the other two groups. It is not backup H6 and H7.

Conclusion

The current analysis focused on public perceptions of risk and stress during the pandemic in Pakistan, one of the most significant infectious disease outbreaks in the last 100 years. Because the data was obtained within eight months, the risk and stress factors differ from time to time. As a result, public responses to the pandemic were more precise than those reported afterward. Most respondents' risk and stress levels were natural during the pandemic. Most of the respondents rated their perceived risks as low to medium. One possible explanation for these findings is that most of the population was forced to isolate themselves at home, which may have decreased risk perceptions and stress associated with pandemic infection (Liu et al., 2020). Future researchers should use clinical discussions to convey a full assessment of the situation. As social media is an excellent tool for finding information these days, the next researcher can look into the effects of social media during the pandemic. The association between health literacy and psychological behaviors of different age groups should be the subject of future studies. Future research must examine the long-term impacts of pandemic exposure through mainstream and social media.

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