Measuring the Impact of COVID-19 on Attitudes towards SOPs: A Study of Smart Lockdown across Generations in Pakistan

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Abstract

Countries all across the world are struggling to prevent a pandemic caused by a novel coronavirus called COVID-19. However, for a country like Pakistan, which already faces challenges such as an economic shutdown, a shortage of healthcare financing, and prevalent false beliefs, the only known approach to stop the spread of COVID-19 is through prevention and social isolation. Since public awareness of COVID-19 is essential to its containment, a survey was designed to assess its people's level of information and attitudes towards SOPs and smart lockdown across generations during COVID-19. The general population of Pakistan was asked to fill out an online questionnaire that has been pre-validated. SPSS v18 was used for the statistical analysis of descriptive data. Scores of > 4 (range: 0-8) were given for adequate knowledge, and scores of > 3 (range: 0-5) were given for good perception. To determine what elements contribute to having sufficient understanding, a logistic regression analysis was conducted. There was a wide diversity of ages and levels of education among the 102 people from selected three generations who filled out the survey. The majority of respondents had good perceptions and a sufficient level of knowledge. Gender, age, education, income and occupation of the participants, all showed statistically significant variations in knowledge and perception. Multivariate analysis revealed that higher levels of education and female were significant predictors of sufficient knowledge regarding the disease and perception. Thus, adherence to preventative protocols and accurate information dissemination depends on the success of educational activities that emphasize the cure of the disease and relevant evidence about the disease.

Keywords: *COVID-19, Global Outbreak, Pakistan, Attitudes, Beliefs, Knowledge, and Generational Differences*

Introduction

First identified in December 2019 in Wuhan, China, COVID-19 is a respiratory illness brought on by a recently discovered coronavirus (WHO, 2020). Besides, WHO (2020) announced that coronavirus was an international public health emergency, and on March 11, 2020, it was officially declared a pandemic. Communities, healthcare systems, and individuals are all affected in the short and long term by this condition (Jiang et al., 2020). Physical and mental health issues have been reported as a result of the uncertainty around the nature of this worldwide epidemic, social limitations, preventative measures, and lockdowns (Horby et al., 2020).

In addition to quarantine regulations, WHO (2020) stresses the importance of social isolation and proper cleanliness in the fight against COVID-19. One should avoid close contact with others by maintaining a safe distance of at least one meter, covering one's mouth and nose with a tissue while coughing or sneezing, often washing one's hands, and avoiding certain areas. Managing stress and anxiety is also helpful in preventing this disease (Zhong et al., 2020). Disease prevention also requires investments in a healthy and safe environment at the workplace, employee corporeal health, proper ventilation system in confined places, and attaining exact health information (Latif, 2020).

Therefore, in the case of Pakistan, there have been over 5,000 fatalities and 260,000 recorded cases as of July 17, 2020, despite the government's tight enforcement of efforts to prevent the disease. Unfortunately, conservative clerics and religious activists fought back against the provincial governments' statewide lockout in early March, insisting that people should go to mosques, as usual, to worship in congregation. Several incidences of mass meetings have been reported across the country during this pandemic, indicating a lack of awareness of the epidemic. Many people can become infected with the highly contagious COVID-19 virus very quickly. Acute respiratory difficulties and death are among the many tragic results of this condition. Although a cure or vaccine has not yet been produced for this illness, preventative measures are still strongly recommended (Mubeen et al., 2020). To better organize health promotion initiatives, we can use health behaviour theories to better understand the elements that contribute to protective behaviours.

Originally proposed by Rogers in 1975, the Protection Motivation Theory (PMT) is the most suitable framework for anticipating safe actions (ibid, 2020). Protective behaviour against health

risks is thought to be motivated by individual concerns, according to PMT. This is why the researchers have used The Protection Motivation Theory (PMT) to inquire about people's attitudes, perceptions and behaviours across selected three generations during COVID-19. Furthermore, "how to persuade parents to wear masks" web search phrases trended on main social media platforms like Instagram and Facebook during the beginning of the COVID-19 outbreak. Many children and teens felt that their parents gave little consideration to this disease and shared similar stories about this problem. Some people said things like, "We might not understand how difficult it is to communicate with our parents if it weren't for this pandemic" (ibid, 2020). They still don't wear masks when they go out, and they make fun of us for worrying. Moreover, studies have shown that during a COVID-19 outbreak, young people are more inclined to take extreme preventative measures and voice their opinions online (Moser and Freeman, 2014). Some academics refer to these disparities in health behaviour between generations as "intergenerational battles" (Tang, 2020). Why do we see changes in health habits across the decades? How do different generations differ, and what causes these differences? These are the key hypotheses that the research will test.

Significance of the Study:

This study aims to identify the attitudes and perceptions of people across three different generations regarding the smart lockdown situation and following SOPs during COVID-19 in the case of Pakistan. The study shows both positive and negative attitudes of people across three selected generations and it was revealed that Gen Z positively reacted towards SOPs whereas, Gen X and Y negatively reacted towards it due to anxiety and fear. Therefore, this kind of study will enable policymakers to identify potential solutions based on different generations' views to deal with future pandemic situations. Furthermore, educational institutions, teachers, parents, administration, and educational boards will benefit from this research.

Research Objectives:

1. To study the generational behaviour towards smart lockdown and following SOPs during COVID-19.
2. To examine the perceptions of Generation X, Y and Z regarding smart lockdown and following SOPs during COVID-19.
3. To investigate the attitudes of people from generations X, Y and Z towards the disease.

Research Questions:

1. Why do people of different ages have such different health habits and perceptions towards smart lockdowns and SOPs during COVID-19?

2. What were the characteristics of the COVID-19 smart lockdown scenarios, what were the causes for them, and how did people of different generations view them?

3. Which attitude, either positive or negative impacted the choices of people towards smart lockdown and overall health during COVID-19?

Hypothesis Development

Based on the literature reviewed and theoretical framework, the hypothesis developed for the present study are:

- H1: There is a significant difference in attitudes towards COVID-19 containment measures among Generation X, Y and Z.

- H2: Subjective norms have a positive impact on attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H3: Perceived barriers towards compliance negatively affect attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H4: Behavioral intentions towards the COVID-19 crisis positively influence attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H5: Threat appraisal has a positive impact on attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H6: Coping appraisal positively influences attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H7: Religious coping contributes to positive attitudes towards COVID-19 containment measures across Generation X, Y and Z.

- H8: Resilience has a positive influence on attitudes towards COVID-19 containment measures across Generation X, Y and Z.

Literature Review

The present study reviews the literature based on the themes to be generated, i.e., knowledge, attitude and perceptions of people across three generations during COVID-19 regarding the disease. At the end of the reviewed literature and theoretical underpinnings, the hypothesis will be developed to analyze the data quantitatively.

Behavioural Health Predictions Based On Social and Cognitive Factors

For the present study, Protection motivation theory (PMT) which is an extension of social cognitive theory is the suitable framework that postulates that two independent cognitive and partially emotional processes influence the intention to engage in protective behaviour. The first is the evaluation of potential threats to one's safety, known as "threat appraisal". There were two components to the threat analysis: "severity and susceptibility". Self-efficacy and response efficacy are the two main components of an individual's coping appraisal when faced with a potentially harmful situation. "Perceived vulnerability, perceived severity, response efficacy, and self-efficacy" are hypothesized to have a positive effect on health-related behaviour (Prentice-Dunn & Rogers, 1986). Empirical studies have shown that the protection motivation theory has a high degree of validity for predicting engagement in preventative health behaviours like exercise, cancer screening, and abstinence from addictive substances (Ranjit et al., 2021).

The Influence of Media on Health-Related Attitudes, Beliefs, and Actions Among Three Generations

Bandura (1998) outlined a "triadic interaction model" for understanding the interplay between an individual's attitudes, behaviour and physical environment. Both the natural and human-made environments are taken into account in social cognitive theory. In addition, it has been argued that the PTM overlooks environmental influences in favour of examining the impact of internal factors on health behaviour. Media coverage is a major determinant of social and environmental context. Health-related attitudes and actions are profoundly influenced by the media (Morgul et al., 2021). Okuhara & Kiuchi (2020) found that people's behaviour changed for the better after seeing a health message in the media. Laranjo et al., (2014) conducted a meta-analysis to find that using social media significantly increases the likelihood that an individual will alter their behaviour. Therefore, this study combines social cognitive theory with PTM to inquire into how media exposure affects health behaviour using innate cognitive mechanisms.

Differences across Generations

A generation is defined as "a group of people who share a common birth year, age range, and significant life experiences across formative years" (Kupperschmidt, 2000). People close to one another tend to think and act similarly since they have had similar life experiences. This is another way in which the generations are differentiated from one another. Therefore, generational disparities are defined as distinctions across generations in terms of how they think, feel, and act. Previous research by Carey et al., (2022) indicates that there are just four generations: the Baby Boomers (1943–1960), Generation X (1961–1981), Generation Y (1982–2002), and Generation Z (2003–present). Understanding the responses of various generations to adversity is complicated by the lack of study into generational cohorts in Pakistan. Therefore, the purpose of this research was to evaluate differences between generations X, Y, and Z in terms of COVID-19-related information retention, processing, and application. Information about each of these generations can be further explored using the features summarized in Figure 1.

Figure 1
The Generational Cohorts
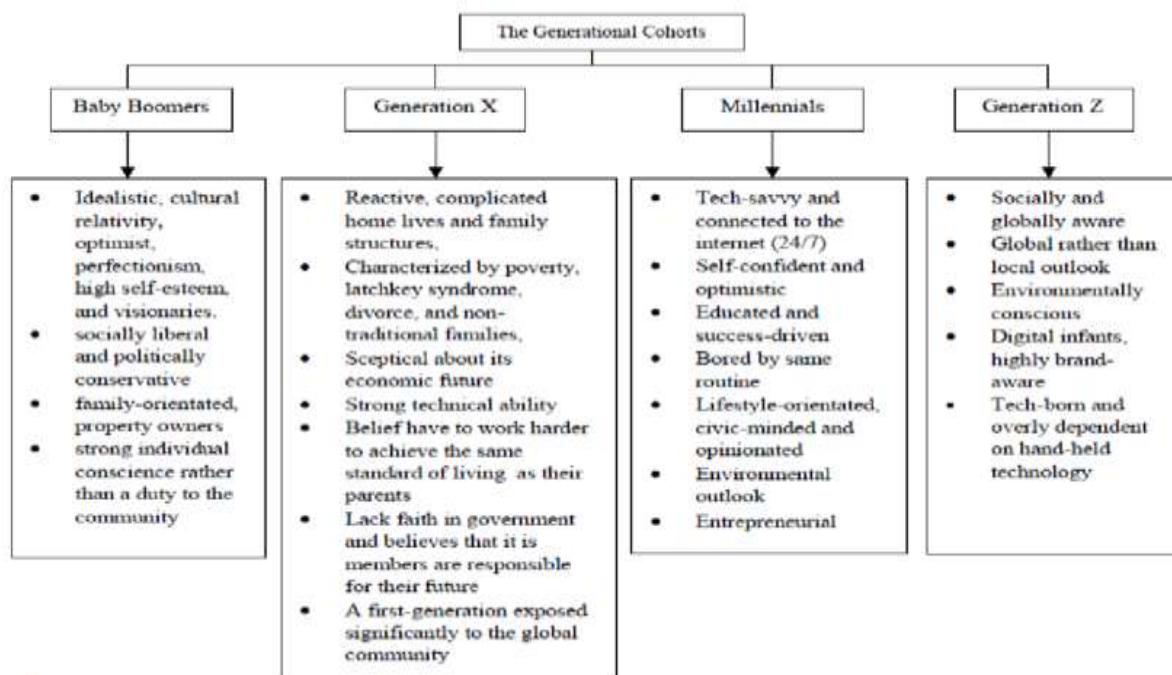
Therefore, it is impossible to say whether or not people of different ages have similar reactions to risky information concerning the COVID-19 pandemic as a result of media coverage. Media exposure and health behaviours are linked, showever, the authors of this study predict that the

role played by the aforementioned intrinsic cognitive processes in this mediation would differ over generations, as seen in Figure 2.

Figure 2
The Moderated Mediation Model examines how different generations may moderate the connection between media consumption and health-related behaviours.
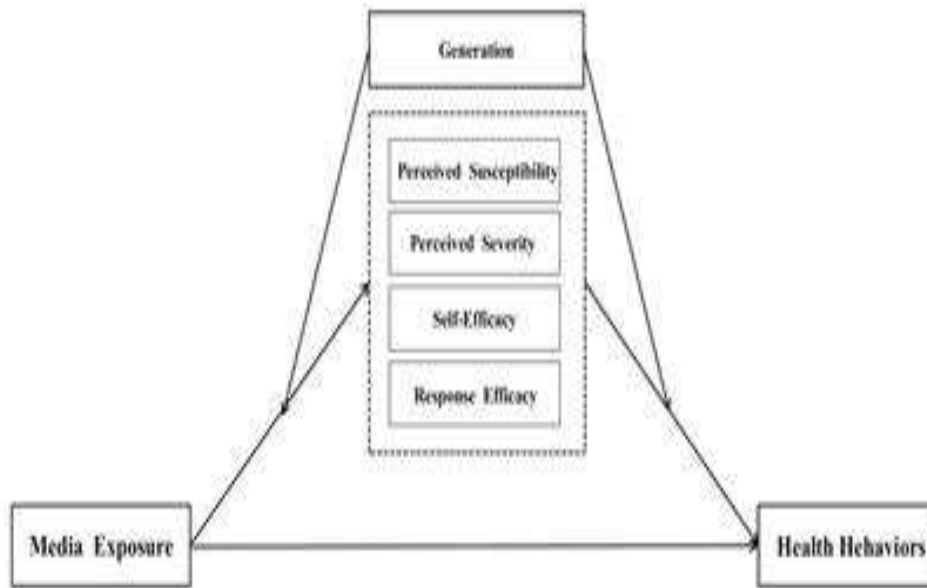

Theoretical Framework

In this study, we use the well-established behavioural theory, i.e., the Protection Motivation Theory (PMT) to examine how different generations' attitudes toward COVID-19 containment strategies vary depending on a variety of factors. The voluntary and non-voluntary control behaviours were predicted by independent factors.

COVID-19 is a highly contagious virus that has the potential to infect large numbers of individuals quickly. This condition has devastating consequences, including acute respiratory difficulties and death. There is currently no cure or vaccination available for this condition; consequently, preventative measures appear crucial (Mubeen et al., 2020). Planning effective health promotion initiatives requires an understanding of the elements that contribute to protective behaviours, and this is where healthy behaviour theories come in. Rogers's Protection Motivation Theory (PMT), first proposed in 1975, is a popular theoretical framework for anticipating protective actions (Fitzsimon and Lanos, 2022). According to PMT, one's level of intrinsic motivation to take precautions against potential health risks is a key factor in determining whether or not one does so.

Threat and coping appraisals are cognitive processes that are explained in PMT, and they are used to predict and motivate protective behaviours (ibid, 2022). Appraisals of dangers and ways to cope might lead to either healthy adaptations or harmful maladaptation (Alzoubi et al., 2020). Perceived severity of the problem, perceived vulnerability to contracting the disease, and perceived rewards from engaging in risky behaviours make up the three parts of threat appraisal in the prevention, mitigation, and treatment (PMT) framework. As a result, a combination of high perceived severity and vulnerability and low perceived benefits increases the motivation to participate in health-promoting behaviours. One's appraisal of coping strategies in PMT includes three components: one's belief in one's ability to manage "protective behaviours" (self-efficacy), one's estimation of the costs (including money, time, and energy) and efforts to perform "protective behaviours" (perceived response cost), and one's evaluation of the protective behaviour's efficacy in "coping with the threat" (response efficacy). Overall, we anticipate that the response efficacy and self-efficacy will strengthen coping evaluation while the response cost will reduce (Fig. 3) (Abdelhafiz et al., 2020).

Figure 3
The framework of the Protection Motivation Theory (PMT)
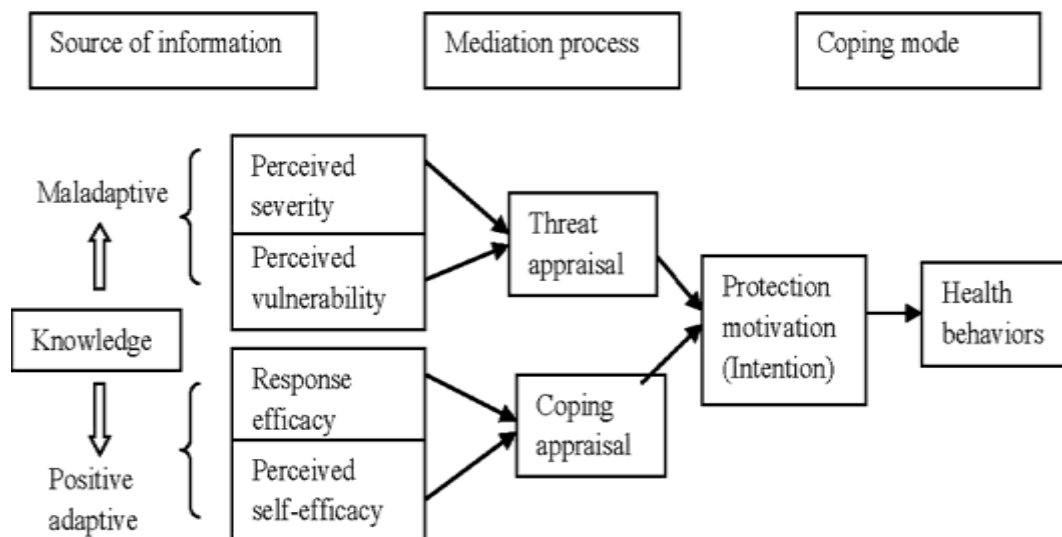
Fear typically plays a mediating role between these three factors (vulnerability, threat severity, and threat evaluation). A person's level of dread increases and their motivation to undertake a preventative or protective activity grows if they believe they are particularly susceptible to a major health hazard. People suffer worry and anxiety during worldwide pandemics like the

COVID-19 pandemic because they know there is no cure for the disease. People's stress and mental health issues have all been exacerbated by the fear of increased patient morbidity and mortality (Azlan et al., 2020). Therefore, integrating coping and threat evaluation processes creates a protective drive. Preventive behaviour change is a strong predictor of PMT (Schmidt, 2020). To date, PMT has been used to examine a wide range of behaviours, including vaccine administration, H1N1 pandemic prevention, sun protection and cancer prevention, SARS prevention, and infection and skin cancer prevention (Cao et al., 2020). In this study, however, PMT was used to inquire into how people of different ages react to smart lockdowns and standard operating procedures in the wake of fresh coronavirus outbreaks.

Research Methods

Study Design

The present study is qualitative in nature. For a wider range of respondents across age groups, the survey was made available via the online Google Docs platform. People in Pakistan ranging in age from 18 to 50 (Gen X, Y and Z) were specifically targeted. All questions were completed willingly, and participants' time and effort were acknowledged on the first page.

A self-employed questionnaire constructed specifically for this study was used to collect information. We used the content validity technique to determine the reliability of this survey. All of the questions on the survey were taken directly from published works such as books and scholarly journals. It was also given the green light by a panel of three experts (experts in health education and promotion) after the required qualitative and quantitative adjustments were made. The specialists were tasked with giving their opinions on the items based on their word choices, the items' presentation order, and their overall scores.

The questionnaire changed in response to their suggestions. The survey was split into two sections. In the first section, participants filled out questionnaires about themselves, including questions about their age, gender, marital status, and level of education. The second section is concerned with PMT models. A five-point Likert scale (range: 1-5) from "strongly disagree" to "strongly agree" was used to score all PMT components.

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Data Analysis

After carefully providing theoretical foundations and designing the questionnaire, the data was analyzed quantitatively using a Statistical tool, SPSS 18 version and required tests were done to show the relationship between dependent and independent variables and to interpret the results.

Results/ Findings

Out of a total of 150 questionnaires sent out, 102 were filled out by respondents, for an 84 per cent response rate. As shown in Table 1, the sample consisted of 43 male participants (42.2%) and 59 female participants (57.8%) who were part of the present study.

Table 1
Gender of the Participants

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Male	43	42.2	42.2	42.2
	Female	59	57.8	57.8	100.0
	Total	102	100.0	100.0	

The majority of the respondents were female, representing a higher proportion compared to male participants. Table 2 represents that most of the population was aged between 18 to 32 years (82.4%, n = 84).

Table 2
Age of the Participants

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	18-32	84	82.4	82.4	82.4
	33-8	16	15.7	15.7	98.0
	49-above	2	2.0	2.0	100.0
	Total	102	100.0	100.0	

This shows that the majority of the respondents belonging to Gen Z participated voluntarily. In terms of educational qualifications, the largest group of participants had a bachelor's degree (47.1%), followed by an intermediate level (25.5%) and a master's degree (13.7%). An equal percentage of participants (13.7%) held an MS/PhD degree (Table 3).

Table 3
Qualifications of the Participants

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Bachelors	48	47.1	47.1	47.1
	Intermediate	26	25.5	25.5	72.5
	Masters	14	13.7	13.7	86.3
	MS/PhD.	14	13.7	13.7	100.0
	Total	102	100.0	100.0	

Besides, regarding employment status, 33.3% of the respondents were employed, while the

majority (66.7%) were unemployed at the time of the study (Table 4).

Table 4
Employment of the Participants

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Employed	34	33.3	33.3	33.3
	Unemployed	68	66.7	66.7	100.0
	Total	102	100.0	100.0	

In addition, when considering income levels, the largest proportion of participants (57.8%)

reported earning less than 25,000, followed by 18.6% in the range of 25,000-50,000. Only a

small percentage of participants fell into the higher income brackets (Table 5).

Table 5
Income of the Participants

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Less than 25000	59	57.8	57.8	57.8
	25,000-50,000	19	18.6	18.6	76.5
	50,000-70,000	4	3.9	3.9	80.4
	75,000-100,000	7	6.9	6.9	87.3
	100,000-Above	13	12.7	12.7	100.0
	Total	102	100.0	100.0	

Overall, the demographics of the study show that most of the people from Gen Z participated in

the study. Further, the descriptive statistics provide an overview of the variables included in the

study.

Descriptive Statistics
Table 6 shows the descriptive statistics which provide an overview of the variables included in

the study. It includes information about the mean, minimum, maximum, and standard deviation

of each variable.

Table 6
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Attitudes towards COVID containment measures	102	1.00	5.00	3.6549	.86764
Subjective norms	102	1.00	5.00	3.3980	.81520
Perceived Barriers towards Compliance	102	1.00	5.00	2.9618	.79254
Behavioural intentions towards the COVID Crisis	102	1.00	5.00	3.6216	1.09577
Threat appraisal	102	1.00	5.00	3.4971	1.10511
Coping appraisal	102	.90	5.00	3.4588	1.09737
Religious coping	102	1.00	5.00	3.4137	1.27583
Resilience	102	1.00	5.00	3.3284	1.16418
Gender	102	1.00	2.00	1.5784	.49625
Age	102	1.00	3.00	1.1961	.44587
Qualifications	102	1.00	4.00	1.9412	1.07927
Employment	102	1.00	2.00	1.6667	.47373
Income	102	1.00	5.00	1.9804	1.43493
Valid N (list-wise)	102				

These statistics help understand the central tendency and variability of the variables. The dependent variable, attitudes towards COVID-19 containment measures, has a mean of 3.6549 with a standard deviation of 0.86764. This indicates that, on average, the participants' attitudes towards COVID-19 containment measures fall around the midpoint of the scale, suggesting a moderate level of agreement or disagreement.

Besides, among the independent variables, subjective norms have a mean of 3.3980, indicating a moderate level of perceived social influence. Perceived barriers towards compliance have a mean of 2.9618, suggesting that participants perceive some obstacles or challenges in adhering to COVID-19 containment measures. Behavioural intentions towards the COVID-19 crisis have a mean of 3.6216, indicating a moderate level of planned actions and efforts to address the pandemic. Threat appraisal, reflecting participants' evaluation of the severity and personal susceptibility to COVID-19, has a mean of 3.4971. Coping appraisal has a mean of 3.4588, suggesting a moderate level of perceived ability to cope with the challenges posed by the pandemic. Religious coping has a mean of 3.4137, indicating that participants moderately rely on religious beliefs and practices to cope with the COVID-19 crisis. Resilience has a mean of 3.3284, reflecting a moderate level of participants' ability to bounce back and adapt in the face of adversity.

Correlation

The correlation matrix shows the relationships between the variables. It calculates Pearson correlation coefficients to measure the strength and direction of the linear relationship between

pairs of variables. The matrix indicates the correlation coefficients between attitudes towards
COVID-19 containment measures and other variables such as subjective norms, perceived
barriers towards compliance, behavioural intentions, threat appraisal, coping appraisal, religious
coping, and resilience. The correlations between variables are measured using Pearson
correlation coefficients, which range from -1 to 1 (Table 7). A positive correlation indicates a
positive relationship between two variables, while a negative correlation indicates a negative
relationship.

Table 7: Correlation Matrix

		Attitudes towards COVID containment measures	Subjectiv e norms	Perceived Barriers towards Complian ce	Behaviou ral Intentions Towards COVID Crisis	Threat appraisal	Coping appraisal	Religious coping	Resilien ce
Attitudes towards COVID containment measures	Pearson Correlation	1	.787**	.314**	.662**	.646**	.640**	.581**	.582**
	Sig. (2-tailed)		.000	.001	.000	.000	.000	.000	.000
	N	102	102	102	102	102	102	102	102
Subjective norms	Pearson Correlation	.787**	1	.385**	.566**	.524**	.566**	.478**	.499**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	102	102	102	102	102	102	102	102
Perceived Barriers towards Compliance	Pearson Correlation	.314**	.385**	1	.290**	.280**	.336**	.345**	.290**
	Sig. (2-tailed)	.001	.000		.003	.004	.001	.000	.003
	N	102	102	102	102	102	102	102	102
Behavioural intentions towards the COVID Crisis	Pearson Correlation	.662**	.566**	.290**	1	.900**	.850**	.757**	.788**
	Sig. (2-tailed)	.000	.000	.003		.000	.000	.000	.000
	N	102	102	102	102	102	102	102	102
Threat appraisal	Pearson Correlation	.646**	.524**	.280**	.900**	1	.844**	.709**	.749**
	Sig. (2-tailed)	.000	.000	.004	.000		.000	.000	.000
	N	102	102	102	102	102	102	102	102
Coping appraisal	Pearson Correlation	.640**	.566**	.336**	.850**	.844**	1	.804**	.812**
	Sig. (2-tailed)	.000	.000	.001	.000	.000		.000	.000
	N	102	102	102	102	102	102	102	102
Religious coping	Pearson Correlation	.581**	.478**	.345**	.757**	.709**	.804**	1	.786**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	102	102	102	102	102	102	102	102
Resilience	Pearson Correlation	.582**	.499**	.290**	.788**	.749**	.812**	.786**	1
	Sig. (2-tailed)	.000	.000	.003	.000	.000	.000	.000	
	N	102	102	102	102	102	102	102	102

Besides, the positive correlations between the independent variables (subjective norms, behavioural intentions, threat appraisal, coping appraisal, religious coping, and resilience) and the dependent variable (attitudes towards COVID-19 containment measures) indicate that these variables are positively associated with favourable attitudes. The negative correlation between perceived barriers towards compliance and attitudes also supports the hypothesis that perceived barriers negatively influence attitudes.

Regression Analysis

Attitudes toward COVID-19 containment measures serve as the dependent variable, and several independent variables (generation, resilience, perceived barriers towards compliance, subjective norms, threat appraisal, religious coping, coping appraisal, and behavioural intentions towards the COVID-19 crisis) are tested in the regression analysis. The R-squared value (0.709), which indicates the proportion of variance in the dependent variable explained by the independent variables, can be used to infer the strength of the link shown by the analysis (Tables 8, 9). The regression model is statistically significant, as shown by the F-test (with a non-zero p-value).

Table 8
Model Summary

Model				
	R	R Square	Adjusted R Square	Std. An error in the Estimate
1	.842[a]	.709	.684	.48752

a. Predictors: (Constant), Generation, Resilience, Perceived barriers towards compliance, Subjective norms, Threat appraisal, Religious coping, Coping appraisal, Behavioral intentions towards COVID crisis

Table 9: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.928	8	6.741	28.362	.000[a]
	Residual	22.104	93	.238		
	Total	76.033	101			

a. Predictors: (Constant), Generation, Resilience, Perceived barriers towards compliance, Subjective norms, Threat appraisal, Religious coping, Coping appraisal, Behavioral intentions towards COVID crisis

b. Dependent Variable: Attitudes towards COVID containment measures

As a result, a regression analysis was performed to determine which factors (subjective norms, perceived barriers to compliance, behavioural intentions in response to the COVID-19 crisis,

threat appraisal, coping appraisal, religious coping, resilience, and generation) were significantly associated with support for COVID-19 containment measures. R-squared (Table 8) is a measure of the model's quality of fit, showing what fraction of the variation in opinions on COVID-19 containment measures can be attributed to the independent variables.

The model summary shows that the regression model accounts for 70.9% of the variance in attitudes towards COVID-19 containment measures (R-squared = .709). The adjusted R-squared, which takes into account the number of predictors and sample size, is .684, indicating a good fit for the model. The standard error of the estimate is .48752, representing the average difference between the observed and predicted values.

The regression model is significant (p < .001) according to the ANOVA table (Table 9), demonstrating that the combined independent factors significantly contribute to explaining the variance in views about COVID-19 containment measures.

Examining the coefficients, we can assess the individual contributions of the independent variables to the dependent variable. The standardized coefficients (betas) indicate the relative importance of each variable in explaining attitudes towards COVID-19 containment measures (Table 10).

Interpreting the coefficients (Table 10):

Table 10
Coefficients[a]

Model 1		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	.766	.283		2.711	.008
	Subjective norms	.664	.077	.624	8.583	.000
	Perceived Barriers towards Compliance	-.062	.071	-.056	-.870	.386
	Behavioural intentions towards the COVID Crisis	.047	.117	.059	.402	.689
	Threat appraisal	.178	.108	.227	1.652	.102
	Coping appraisal	-.036	.106	-.045	-.336	.737
	Religious coping	.095	.071	.140	1.338	.184
	Resilience	-.001	.080	-.001	-.008	.993
	Generation	-.150	.115	-.077	-1.307	.194

Dependent Variable: Attitudes towards COVID Containment measures

Between-Subjects Factors

		Value Label	N
Generation	1.00	Gen Z	84
	2.00	Gen Y	16
	3.00	Gen X	2

Subjective norms (Beta = .624, p < .001) have a significant positive influence on attitudes towards COVID-19 containment measures. This supports Hypothesis 2, suggesting that stronger subjective norms lead to more positive attitudes.

Perceived barriers towards compliance (Beta = -.056, p = .386) do not have a significant influence on attitudes towards COVID-19 containment measures. Thus, we fail to support Hypothesis 3, which proposed a negative relationship between perceived barriers and attitudes.

Behavioural intentions towards the COVID-19 crisis (Beta = .059, p = .689) do not have a significant influence on attitudes towards COVID-19 containment measures. Therefore, we fail to support Hypothesis 4.

Threat appraisal (Beta = .227, p = .102) shows a positive but nonsignificant influence on attitudes towards COVID-19 containment measures. This means that Hypothesis 5, suggesting a positive relationship between threat appraisal and attitudes, is not supported.

Coping appraisal (Beta = -.045, p = .737), religious coping (Beta = .140, p = .184), and resilience (Beta = -.001, p = .993) do not have significant influences on attitudes towards COVID-19 containment measures. Therefore, Hypotheses 6, 7, and 8 are not supported.

Generation (Beta = -.077, p = .194) does not have a significant influence on attitudes towards COVID-19 containment measures. Hence, we fail to support Hypothesis 1, which proposed differences in attitudes among different generations.

In summary, the findings provide support for Hypothesis 2, indicating that subjective norms positively influence attitudes towards COVID-19 containment measures. However, the remaining hypotheses (H3-H8) are not supported by the analysis, as the corresponding independent variables do not have significant influences on attitudes. This shows that the behaviours and attitudes of people towards COVID-19 were positive as they followed precautionary measures irrespective of their age and gender and showed a positive attitude towards smart lockdown procedures to prevent themselves from this deadly disease.

Generational Differences

Table 11 includes the examination of the generational effect on attitudes towards COVID-19 containment measures. The between-subjects factor "Generation" has three levels: Gen Z, Gen Y, and Gen X.

Table 11
Tests of Between-Subjects Effects
Dependent Variable: Attitudes towards COVID containment measures

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.185ᵃ	2	.093	.121	.886
Intercept	220.885	1	220.885	288.310	.000
Generation	.185	2	.093	.121	.886
Error	75.847	99	.766		
Total	1438.580	102			
Corrected Total	76.033	101			

a. R Squared = .002 (Adjusted R Squared = -.018)

The tests of between-subjects effects indicate that the overall model, including the generational factor, is not statistically significant (p = .886). This suggests that there is no significant difference in attitudes towards COVID-19 containment measures among the different generations.

Further, the multiple comparisons (Tukey HSD and Bonferroni) provide insights into the pairwise comparisons between generations (Table 12). However, all the mean differences between generations are not statistically significant (p > .05) based on the observed means and the calculated standard errors. This reinforces the finding that there is no significant generational effect on attitudes towards COVID-19 containment measures.

Table 12
Multiple Comparisons
Dependent Variable: Attitudes towards COVID containment measures

|	(I) Generation	(J) Generation	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Tukey HSD	Gen Z	dimens Gen Y	-.0235	.23876	.995	-.5916	.5446
		ion4 Gen X	-.3048	.62625	.878	-1.7949	1.1854
	dimensGen Y	dimens Gen Z	.0235	.23876	.995	-.5446	.5916
	ion3	ion4 Gen X	-.2813	.65647	.904	-1.8433	1.2808
	Gen X	dimens Gen Z	.3048	.62625	.878	-1.1854	1.7949
		ion4 Gen Y	.2813	.65647	.904	-1.2808	1.8433
Bonferroni	Gen Z	dimens Gen Y	-.0235	.23876	1.000	-.6050	.5579
		ion4 Gen X	-.3048	.62625	1.000	-1.8299	1.2204
	dimensGen Y	dimens Gen Z	.0235	.23876	1.000	-.5579	.6050
	ion3	ion4 Gen X	-.2813	.65647	1.000	-1.8800	1.3175
	Gen X	dimens Gen Z	.3048	.62625	1.000	-1.2204	1.8299
		ion4 Gen Y	.2813	.65647	1.000	-1.3175	1.8800

Based on observed means.
The error term is Mean Square (Error) = .746.

In summary, the analysis does not find a significant generational effect on attitudes towards COVID-19 containment measures. The attitudes appear to be similar across Gen Z, Gen Y, and Gen X. This suggests that the attitude towards COVID-19 preventive measures and guidelines provided by the government of Pakistan were equally followed by all the people across three generations and hence helped themselves and their community to get out of this havoc. Consequently, the significant influence of subjective norms on attitudes towards COVID-19 containment measures suggests that people's perception of social expectations plays a crucial role in shaping their attitudes. However, factors such as perceived barriers, behavioural intentions, threat appraisal, coping appraisal, religious coping, resilience, and generation do not have a significant impact on attitudes, indicating that these variables may not be strong determinants of individuals' attitudes towards COVID-19 containment measures as shown in the figure below (Figure 1).

Figure 5
Dependent and Independent Variables and their Relationship with Generation X, Y, and Z
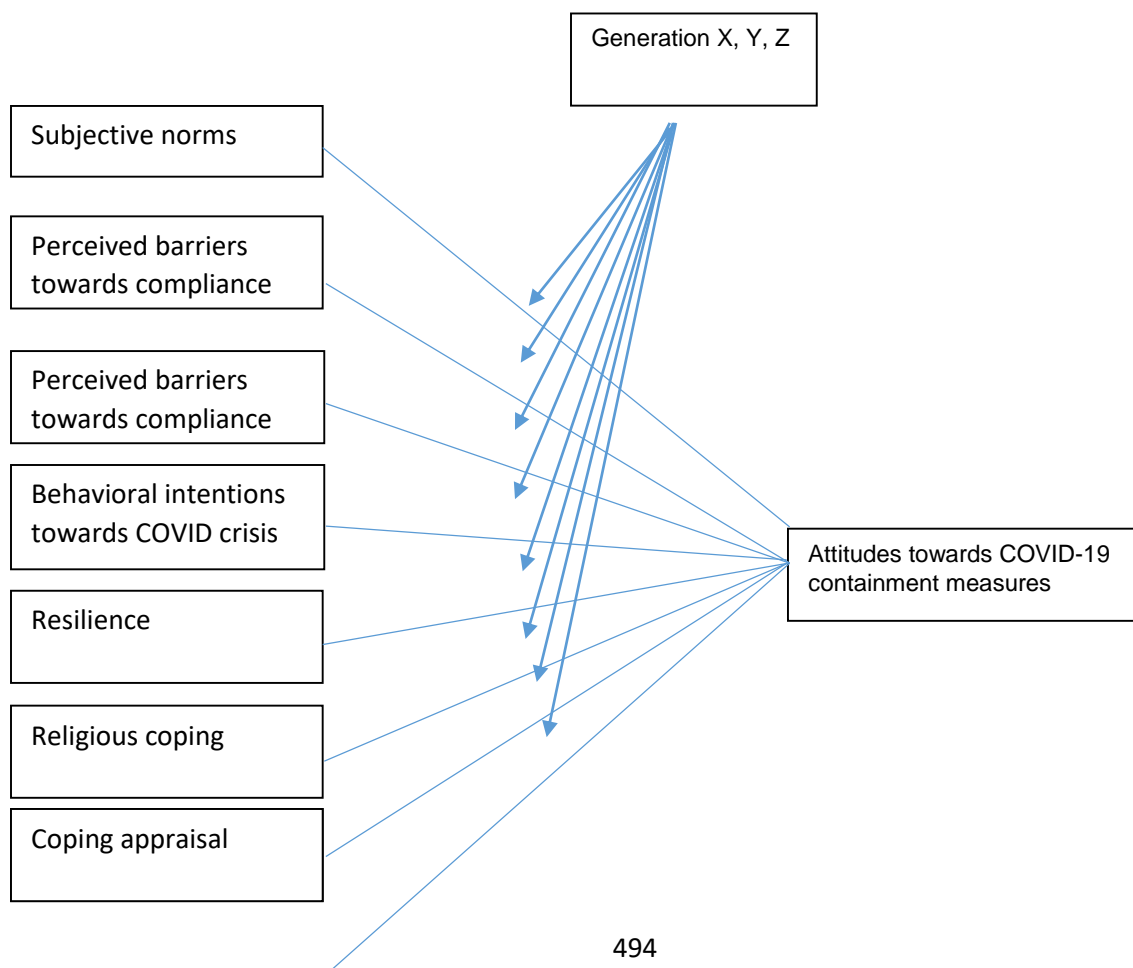
Discussion

A lack of knowledge can lead to insufficiency, as demonstrated by studies showing a correlation between knowledge and effective infection control methods (Zhong et al., 2020). In comparison to earlier research conducted in Pakistan (Mubeen, 2020), our study found that most of the respondents (Gen Z) had an acceptable understanding of COVID-19. A similar poll in Tanzania found that 84.4% of respondents had an above-average level of knowledge (Rugarabamu et al., 2020). The government of Pakistan has taken every measure, including updating its website with preventive and instruction information for the public, thus these numbers are to be expected. Helpful television channels, numerous awareness campaigns by local nonprofits, and the advent of healthcare-related applications on mobile platforms have all contributed to the public's increased awareness of the illness. What's more, comparable to a Chinese study (Zhong et al., 2020), approximately 80% of the sample population held a bachelor's degree or higher, which may account for their extensive knowledge. This is supported further by the fact that there is a strong correlation between educational attainment and practical expertise. It is interesting to note that the mean knowledge score for this sample was about 82% (6.59/8), which is on par with more developed regions like the United States (Clements, 2020) and China (Zhong et al., 2020), where the mean scores are around 80% and 90%, respectively.

A Jordanian study (Alzoubi et al., 2020) found that over 84 per cent of the population there was familiar with the signs and symptoms of COVID-19 and that 79 per cent knew that the virus can only be treated with supportive care. Comparatively, only 70.5% of our group agreed that the virus spreads through air droplets and touch, although 95% of the people in Egypt were aware of this. Notably, 14% of the sample held the belief that medical masks do not provide adequate protection against infection; a separate poll revealed that 17% of healthcare workers held a similar perspective (Abdelhafiz et al., 2020). Over 80% of people in this study felt comfortable when wearing a mask, compared to 35% in an Egyptian study who felt the same way (ibid, 2020). These results provide evidence for the efficacy of the media and health organizations in raising public awareness of the pandemic's grave consequences. According to research conducted in Uganda (Olum et al., 2020), healthcare personnel there had a negative outlook on COVID-19. The people of Malaysia (Azlan et al., 2020), China (Zhong et al., 2020), and Vietnam (Hyunh et al., 2020) were optimistic about getting through the COVID-19 outbreak, according to a survey.

Multiple measures have been made by the government of Pakistan to prevent the spread of the virus. The import of one thousand ventilators and the closure of all schools until the end of June 2020 are two of the most significant measures. Although the number of reported cases increased, it was not surprising that businesses resumed normal operations after the lockdown was lifted, leading to the unlawful sale of medications and PPE at inflated prices. Positivity among citizens was also encouraged by the media by sharing news updates every hour to motivate the masses to stay home and take care of themselves. In addition, the COVID-19 illness rate and mortality rate dropped dramatically in July 2020 due to Pakistan's locality-based lockdown ('smart lockdown') as part of the country's ongoing anti-corona campaign (EurAsian Times Deask, 2020). The United Nations estimates, however, that developing countries will need emergency finance of $2.5 trillion to escape an economic and health catastrophe. Attempts to reform healthcare and revive Pakistan's sluggish economy face enormous obstacles in Pakistan, as they do in many other low- and middle-income countries.

Conclusion and Recommendations

Despite the findings of the survey of widespread awareness and understanding of the pandemic, it is clear that some groups of people are less informed than others. There is also the chance of noncompliance concerning preventative precautions, which is concerning given the recent uptick of COVID-19 cases in Pakistan. Therefore, launching extensive awareness campaigns and educational involvements that stress the importance of safe health behaviours and accurate, evidence-based information regarding this pandemic is necessary to ensure that these guidelines are followed and the correct information is disseminated. Based on the findings of the present study, it is suggested that to better understand the perception of people across generations, the mixed-method approach can be employed to test hypotheses both qualitatively and quantitatively to provide insights.

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Appendix

https://docs.google.com/forms/d/e/1FAIpQLSd3mh3AkcNXFl7oAa8YqaZT3ARSJdjec53V 2aNASijxK25NOA/viewform